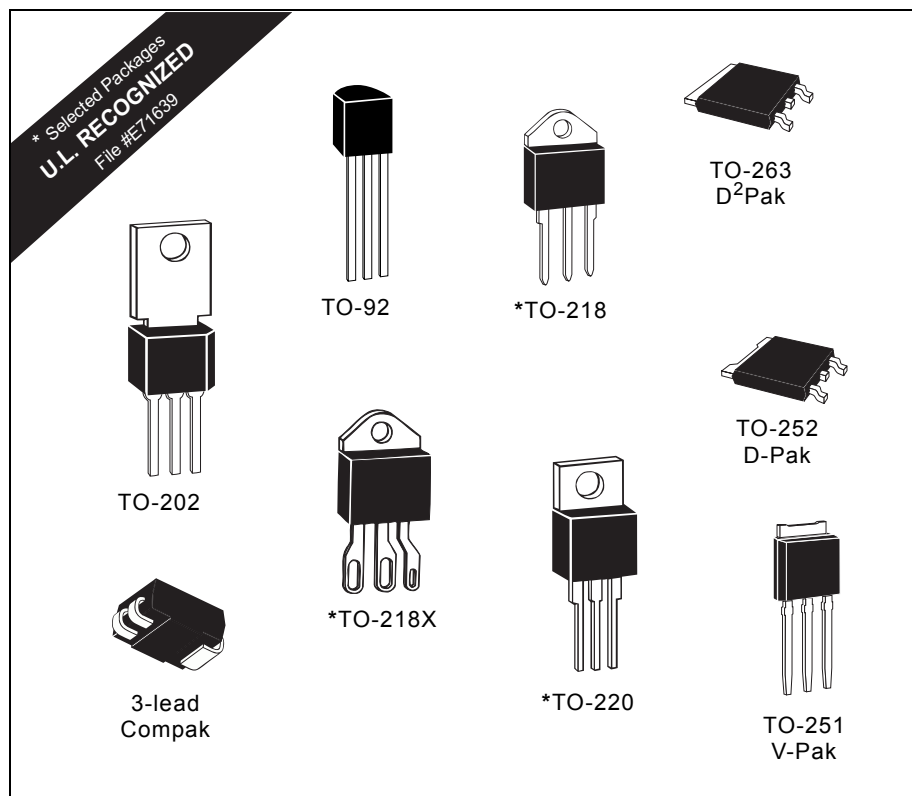


# SCRs

(1 A to 70 A) RoHS

## General Description

The Teccor line of thyristor SCR semi-conductors are half-wave, unidirectional, gate-controlled rectifiers which complement Teccor's line of sensitive SCRs. Teccor offers devices with ratings of 1 A to 70 A and 200 V to 1000 V, with gate sensitivities from 10 mA to 50 mA. If gate currents in the 12  $\mu$ A to 500  $\mu$ A ranges are required, see "Sensitive SCRs" section of this catalog.

Three packages are offered in electrically isolated construction where the case or tab is internally isolated to allow the use of low-cost assembly and convenient packaging techniques.

The Teccor line of SCRs features glass-passivated junctions to ensure long-term reliability and parameter stability. Teccor's glass offers a rugged, reliable barrier against junction contamination.

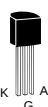
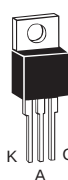
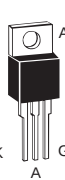
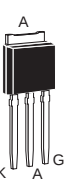
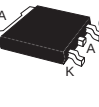
Variations of devices covered in this data sheet are available for custom design applications. Consult the factory for more information.

## Features

- RoHS Compliant
- Electrically-isolated package
- High voltage capability — 200 V to 1000 V
- High surge capability — up to 950 A
- Glass-passivated chip

## Compak SCR

- Surface mount package — 1 A series
- New small profile three-leaded Compak package
- Packaged in embossed carrier tape with 2,500 devices per reel
- Can replace SOT-223

| TYPE | Part Number                                                                                |                                                                                             |                                                                                             |                                                                                             |                                                                                                      |                                                                                             | I <sub>T</sub><br><br>(1) (2) (15)<br><br>Amps                                                        |                            | V <sub>DRM</sub><br>& V <sub>RRM</sub><br><br>Volts |      | I <sub>GT</sub><br><br>(4)<br><br>mAmps |     |
|------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------|------|-----------------------------------------|-----|
|      | <br>TO-92 | Isolated                                                                                    | Non-isolated                                                                                |                                                                                             |                                                                                                      |                                                                                             |                                                                                                       |                            |                                                     |      |                                         |     |
|      |                                                                                            | <br>TO-220 | <br>TO-202 | <br>TO-220 | <br>TO-251<br>V-Pak | <br>Compak | <br>TO-252<br>D-Pak |                            |                                                     |      |                                         |     |
|      |                                                                                            | See "Package Dimensions" section for variations. (11)                                       |                                                                                             |                                                                                             |                                                                                                      |                                                                                             |                                                                                                       | I <sub>T(RMS)</sub><br>MAX | I <sub>T(AV)</sub><br>MAX                           | MIN  | MIN                                     | MAX |
|      |                                                                                            |                                                                                             |                                                                                             |                                                                                             |                                                                                                      |                                                                                             |                                                                                                       |                            |                                                     |      |                                         |     |
| 1 A  | S201E                                                                                      |                                                                                             |                                                                                             |                                                                                             |                                                                                                      | S2N1                                                                                        |                                                                                                       | 1                          | 0.64                                                | 200  | 1                                       | 10  |
|      | S401E                                                                                      |                                                                                             |                                                                                             |                                                                                             |                                                                                                      | S4N1                                                                                        |                                                                                                       | 1                          | 0.64                                                | 400  | 1                                       | 10  |
|      | S601E                                                                                      |                                                                                             |                                                                                             |                                                                                             |                                                                                                      | S6N1                                                                                        |                                                                                                       | 1                          | 0.64                                                | 600  | 1                                       | 10  |
| 6 A  |                                                                                            | S2006L                                                                                      | S2006F1                                                                                     |                                                                                             | S2006V                                                                                               |                                                                                             | S2006D                                                                                                | 6                          | 3.8                                                 | 200  | 1                                       | 15  |
|      |                                                                                            | S4006L                                                                                      | S4006F1                                                                                     |                                                                                             | S4006V                                                                                               |                                                                                             | S4006D                                                                                                | 6                          | 3.8                                                 | 400  | 1                                       | 15  |
|      |                                                                                            | S6006L                                                                                      | S6006F1                                                                                     |                                                                                             | S6006V                                                                                               |                                                                                             | S6006D                                                                                                | 6                          | 3.8                                                 | 600  | 1                                       | 15  |
|      |                                                                                            | S8006L                                                                                      |                                                                                             |                                                                                             | S8006V                                                                                               |                                                                                             | S8006D                                                                                                | 6                          | 3.8                                                 | 800  | 1                                       | 15  |
|      |                                                                                            | SK006L                                                                                      |                                                                                             |                                                                                             | SK006V                                                                                               |                                                                                             | SK006D                                                                                                | 6                          | 3.8                                                 | 1000 | 1                                       | 15  |
| 8 A  |                                                                                            | S2008L                                                                                      | S2008F1                                                                                     | S2008R                                                                                      | S2008V                                                                                               |                                                                                             | S2008D                                                                                                | 8                          | 5.1                                                 | 200  | 1                                       | 15  |
|      |                                                                                            | S4008L                                                                                      | S4008F1                                                                                     | S4008R                                                                                      | S4008V                                                                                               |                                                                                             | S4008D                                                                                                | 8                          | 5.1                                                 | 400  | 1                                       | 15  |
|      |                                                                                            | S6008L                                                                                      | S6008F1                                                                                     | S6008R                                                                                      | S6008V                                                                                               |                                                                                             | S6008D                                                                                                | 8                          | 5.1                                                 | 600  | 1                                       | 15  |
|      |                                                                                            | S8008L                                                                                      |                                                                                             | S8008R                                                                                      | S8008V                                                                                               |                                                                                             | S8008D                                                                                                | 8                          | 5.1                                                 | 800  | 1                                       | 15  |
|      |                                                                                            | SK008L                                                                                      |                                                                                             | SK008R                                                                                      | SK008V                                                                                               |                                                                                             | SK008D                                                                                                | 8                          | 5.1                                                 | 1000 | 1                                       | 15  |
| 10 A |                                                                                            | S2010L                                                                                      | S2010F1                                                                                     | S2010R                                                                                      | S2010V                                                                                               |                                                                                             | S2010D                                                                                                | 10                         | 6.4                                                 | 200  | 1                                       | 15  |
|      |                                                                                            | S4010L                                                                                      | S4010F1                                                                                     | S4010R                                                                                      | S4010V                                                                                               |                                                                                             | S4010D                                                                                                | 10                         | 6.4                                                 | 400  | 1                                       | 15  |
|      |                                                                                            | S6010L                                                                                      | S6010F1                                                                                     | S6010R                                                                                      | S6010V                                                                                               |                                                                                             | S6010D                                                                                                | 10                         | 6.4                                                 | 600  | 1                                       | 15  |
|      |                                                                                            | S8010L                                                                                      |                                                                                             | S8010R                                                                                      | S8010V                                                                                               |                                                                                             | S8010D                                                                                                | 10                         | 6.4                                                 | 800  | 1                                       | 15  |
|      |                                                                                            | SK010L                                                                                      |                                                                                             | SK010R                                                                                      | SK010V                                                                                               |                                                                                             | SK010D                                                                                                | 10                         | 6.4                                                 | 1000 | 1                                       | 15  |
| 12 A |                                                                                            |                                                                                             |                                                                                             | S2012R                                                                                      | S2012V                                                                                               |                                                                                             | S2012D                                                                                                | 12                         | 7.6                                                 | 200  | 1                                       | 20  |
|      |                                                                                            |                                                                                             |                                                                                             | S4012R                                                                                      | S4012V                                                                                               |                                                                                             | S4012D                                                                                                | 12                         | 7.6                                                 | 400  | 1                                       | 20  |
|      |                                                                                            |                                                                                             |                                                                                             | S6012R                                                                                      | S6012V                                                                                               |                                                                                             | S6012D                                                                                                | 12                         | 7.6                                                 | 600  | 1                                       | 20  |
|      |                                                                                            |                                                                                             |                                                                                             | S8012R                                                                                      | S8012V                                                                                               |                                                                                             | S8012D                                                                                                | 12                         | 7.6                                                 | 800  | 1                                       | 20  |
|      |                                                                                            |                                                                                             |                                                                                             | SK012R                                                                                      | SK012V                                                                                               |                                                                                             | SK012D                                                                                                | 12                         | 7.6                                                 | 1000 | 1                                       | 20  |

## Specific Test Conditions

$di/dt$  — Maximum rate-of-rise of on-state current;  $I_{GT} = 150$  mA with  $\leq 0.1$   $\mu$ s rise time

$dv/dt$  — Critical rate of applied forward voltage

$I^2t$  — RMS surge (non-repetitive) on-state current for period of 8.3 ms for fusing

$I_{DRM}$  and  $I_{RRM}$  — Peak off-state forward and reverse current at  $V_{DRM}$  and  $V_{RRM}$

$I_{gt}$  — dc gate trigger current;  $V_D = 12$  V dc;  $R_L = 60$   $\Omega$  for 1 to 16 A devices and 30  $\Omega$  for 20 to 70 A devices

$I_{GM}$  — Peak gate current

$I_H$  — dc holding current; gate open

$I_T$  — Maximum on-state current

$I_{TSM}$  — Peak one-cycle forward surge current

$P_{G(AV)}$  — Average gate power dissipation

$P_{GM}$  — Peak gate power dissipation

$t_{gt}$  — Gate controlled turn-on time; gate pulse = 100 mA; minimum width = 15  $\mu$ s with rise time  $\leq 0.1$   $\mu$ s

$t_q$  — Circuit commutated turn-off time

$V_{DRM}$  and  $V_{RRM}$  — Repetitive peak off-state forward and reverse voltage

$V_{gt}$  — DC gate trigger voltage;  $V_D = 12$  V dc;  $R_L = 60$   $\Omega$  for 1 to 16 A devices and 30  $\Omega$  for 20 to 70 A devices

$V_{TM}$  — Peak on-state voltage at maximum rated RMS current

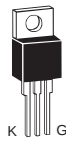
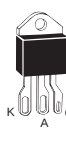
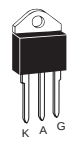
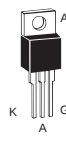
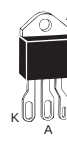
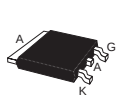
## General Notes

- All measurements are made at 60 Hz with a resistive load at an ambient temperature of +25 °C unless otherwise specified.
- Operating temperature range ( $T_J$ ) is -65 °C to +125 °C for TO-92 devices and -40 °C to +125 °C for all other packages.
- Storage temperature range ( $T_S$ ) is -65 °C to +150 °C for TO-92 devices, -40 °C to +150 °C for TO-202 and TO-220 devices, and -40 °C to +125 °C for all others.
- Lead solder temperature is a maximum of 230 °C for 10 seconds maximum;  $\geq 1/16$ " (1.59 mm) from case.
- The case temperature ( $T_C$ ) is measured as shown on dimensional outline drawings in the "Package Dimensions" section of this catalog.

| I <sub>DRM</sub> & I <sub>RRM</sub> |                            |                            | V <sub>TM</sub>           | V <sub>GT</sub>           | I <sub>H</sub> | I <sub>GM</sub> | P <sub>GM</sub> | P <sub>G(AV)</sub> | I <sub>TSM</sub> | dv/dt                      |                            | I <sup>2</sup> t      | di/dt     | t <sub>gt</sub> | t <sub>q</sub> |
|-------------------------------------|----------------------------|----------------------------|---------------------------|---------------------------|----------------|-----------------|-----------------|--------------------|------------------|----------------------------|----------------------------|-----------------------|-----------|-----------------|----------------|
| (14)                                |                            |                            | (3)                       | (8)<br>(17)               | (5) (13)       | (12)            | (12)            |                    | (6) (10)         |                            |                            |                       |           | (7)             | (9) (10)       |
| mAmps                               |                            |                            | Volts                     | Volts                     |                |                 |                 |                    | Amps             | Volts/μSec                 |                            |                       |           |                 |                |
| T <sub>C</sub> =<br>25 °C           | T <sub>C</sub> =<br>100 °C | T <sub>C</sub> =<br>125 °C | T <sub>C</sub> =<br>25 °C | T <sub>C</sub> =<br>25 °C | mAmps          | Amps            | Watts           | Watts              | 60/50 Hz         | T <sub>C</sub> =<br>100 °C | T <sub>C</sub> =<br>125 °C | Amps <sup>2</sup> Sec | Amps/μSec | μSec            | μSec           |
| MAX                                 |                            |                            | MAX                       | MAX                       | MAX            |                 |                 |                    |                  | MIN                        | MIN                        |                       |           | TYP             | MAX            |
| 0.01                                | 0.2                        | 0.5                        | 1.6                       | 1.5                       | 30             | 1.5             | 15              | 0.3                | 30/25            | 40                         | 20                         | 3.7                   | 50        | 2               | 35             |
| 0.01                                | 0.2                        | 0.5                        | 1.6                       | 1.5                       | 30             | 1.5             | 15              | 0.3                | 30/25            | 40                         | 20                         | 3.7                   | 50        | 2               | 35             |
| 0.01                                | 0.2                        | 0.5                        | 1.6                       | 1.5                       | 30             | 1.5             | 15              | 0.3                | 30/25            | 40                         | 20                         | 3.7                   | 50        | 2               | 35             |
| 0.01                                | 0.2                        | 0.5                        | 1.6                       | 1.5                       | 30             | 2               | 20              | 0.5                | 100/83           | 350                        | 250                        | 41                    | 100       | 2               | 35             |
| 0.01                                | 0.2                        | 0.5                        | 1.6                       | 1.5                       | 30             | 2               | 20              | 0.5                | 100/83           | 350                        | 250                        | 41                    | 100       | 2               | 35             |
| 0.01                                | 0.2                        | 0.5                        | 1.6                       | 1.5                       | 30             | 2               | 20              | 0.5                | 100/83           | 300                        | 225                        | 41                    | 100       | 2               | 35             |
| 0.01                                | 0.2                        | 0.5                        | 1.6                       | 1.5                       | 30             | 2               | 20              | 0.5                | 100/83           | 250                        | 200                        | 41                    | 100       | 2               | 35             |
| 0.02                                | 3                          |                            | 1.6                       | 1.5                       | 30             | 2               | 20              | 0.5                | 100/83           | 100                        |                            | 41                    | 100       | 2               | 35             |
| 0.01                                | 0.2                        | 0.5                        | 1.6                       | 1.5                       | 30             | 2               | 20              | 0.5                | 100/83           | 350                        | 250                        | 41                    | 100       | 2               | 35             |
| 0.01                                | 0.2                        | 0.5                        | 1.6                       | 1.5                       | 30             | 2               | 20              | 0.5                | 100/83           | 350                        | 250                        | 41                    | 100       | 2               | 35             |
| 0.01                                | 0.2                        | 0.5                        | 1.6                       | 1.5                       | 30             | 2               | 20              | 0.5                | 100/83           | 300                        | 225                        | 41                    | 100       | 2               | 35             |
| 0.01                                | 0.2                        | 0.5                        | 1.6                       | 1.5                       | 30             | 2               | 20              | 0.5                | 100/83           | 250                        | 200                        | 41                    | 100       | 2               | 35             |
| 0.02                                | 3                          |                            | 1.6                       | 1.5                       | 30             | 2               | 20              | 0.5                | 100/83           | 100                        |                            | 41                    | 100       | 2               | 35             |
| 0.01                                | 0.2                        | 0.5                        | 1.6                       | 1.5                       | 30             | 2               | 20              | 0.5                | 100/83           | 350                        | 250                        | 41                    | 100       | 2               | 35             |
| 0.01                                | 0.2                        | 0.5                        | 1.6                       | 1.5                       | 30             | 2               | 20              | 0.5                | 100/83           | 350                        | 250                        | 41                    | 100       | 2               | 35             |
| 0.01                                | 0.2                        | 0.5                        | 1.6                       | 1.5                       | 30             | 2               | 20              | 0.5                | 100/83           | 300                        | 225                        | 41                    | 100       | 2               | 35             |
| 0.02                                | 0.5                        | 1                          | 1.6                       | 1.5                       | 30             | 2               | 20              | 0.5                | 100/83           | 250                        | 200                        | 41                    | 100       | 2               | 35             |
| 0.02                                | 3                          |                            | 1.6                       | 1.5                       | 30             | 2               | 20              | 0.5                | 100/83           | 100                        |                            | 41                    | 100       | 2               | 35             |
| 0.01                                | 0.5                        | 1                          | 1.6                       | 1.5                       | 40             | 2               | 20              | 0.5                | 120/100          | 350                        | 250                        | 60                    | 100       | 2               | 35             |
| 0.01                                | 0.5                        | 1                          | 1.6                       | 1.5                       | 40             | 2               | 20              | 0.5                | 120/100          | 350                        | 250                        | 60                    | 100       | 2               | 35             |
| 0.01                                | 0.5                        | 1                          | 1.6                       | 1.5                       | 40             | 2               | 20              | 0.5                | 120/100          | 300                        | 225                        | 60                    | 100       | 2               | 35             |
| 0.02                                | 0.5                        | 1                          | 1.6                       | 1.5                       | 40             | 2               | 20              | 0.5                | 120/100          | 250                        | 200                        | 60                    | 100       | 2               | 35             |
| 0.02                                | 3                          |                            | 1.6                       | 1.5                       | 40             | 2               | 20              | 0.5                | 120/100          | 100                        |                            | 60                    | 100       | 2               | 35             |

## Electrical Specification Notes

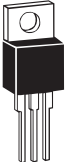
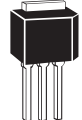
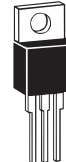
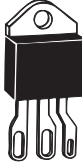
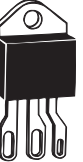
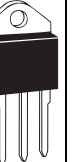
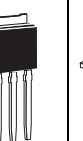
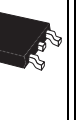
- (1) See Figure E6.5 through Figure E6.16 for current rating at specified operating case temperature.
- (2) See Figure E6.1 and Figure E6.2 for free air current rating.
- (3) See Figure E6.19 and Figure E6.20 for instantaneous on-state current versus on-state voltage (typical).
- (4) See Figure E6.18 for I<sub>GT</sub> versus T<sub>C</sub>.
- (5) See Figure E6.17 for I<sub>H</sub> versus T<sub>C</sub>.
- (6) For more than one full cycle rating, see Figure E6.23.
- (7) See Figure E6.22 for t<sub>gt</sub> versus I<sub>GT</sub>.
- (8) See Figure E6.21 for V<sub>GT</sub> versus T<sub>C</sub>.
- (9) Test conditions are as follows:
  - I<sub>T</sub> = 1 A for 1 A devices and 2 A for all other devices
  - Pulse duration = 50 μs, dv/dt = 20 V/μs, di/dt = -10 A/μs for 1 A devices, and -30 A/μs for other devices
  - I<sub>GT</sub> = 200 mA at turn-on
- (10) See Figure E6.5 through Figure E6.10 for maximum allowable case temperatures at maximum rated current.
- (11) See package outlines for lead form configuration. When ordering special lead forming, add type number as suffix to part number.
- (12) Pulse width ≤ 10 μs
- (13) Initial on-state current = 200 mA dc for 1 A through 16 A devices; 400 mA dc for 20 A through 70 A devices.
- (14) T<sub>C</sub> = T<sub>J</sub> for test conditions in off state.
- (15) The R, K, or M package rating is intended for high surge condition use only and not recommended for ≥ 50 A rms continuous current use since narrow pin lead temperature can exceed PCB solder melting temperature. Teccor's J package or W package is recommended for ≥ 50 A rms continuous current requirements.
- (16) For various durations of an exponentially decaying current waveform, see Figure E6.3 and Figure E6.4. (t<sub>W</sub> is defined as 5 time constants.)
- (17) Minimum non-trigger V<sub>GT</sub> at 125 °C is 0.2 V.

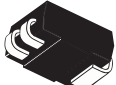
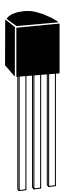
| TYPE | Part Number                                                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | I <sub>T</sub>                                                                    |                      | V <sub>DRM</sub> & V <sub>RRM</sub> | I <sub>GT</sub> |       | I <sub>DRM</sub> & I <sub>R</sub> RM |                         |                         |   |
|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------|-------------------------------------|-----------------|-------|--------------------------------------|-------------------------|-------------------------|---|
|      | Isolated                                                                          |                                                                                   |                                                                                   | Non-isolated                                                                      |                                                                                   |                                                                                   |                                                                                   |                      |                                     |                 |       |                                      |                         |                         |   |
|      |  |  |  |  |  |  |  | (1) (15)             |                                     | Volts           | (4)   | (14)                                 |                         |                         |   |
|      | TO-220                                                                            | TO-218X                                                                           | TO-218                                                                            | TO-220                                                                            | TO-218X                                                                           | TO-218                                                                            | TO-263 D <sup>2</sup> Pak                                                         | Amps                 |                                     |                 |       | mAmps                                |                         |                         |   |
|      | See "Package Dimensions" section for variations. (11)                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | I <sub>T</sub> (RMS) | I <sub>T</sub> (AV)                 |                 | mAmps | T <sub>C</sub> = 25 °C               | T <sub>C</sub> = 100 °C | T <sub>C</sub> = 125 °C |   |
|      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | MAX                                                                               |                      | MIN                                 | MIN             | MAX   | MAX                                  |                         |                         |   |
| 15 A | S2015L                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 15                                                                                | 9.5                  | 200                                 | 1               | 30    | 0.01                                 | 0.5                     | 1                       |   |
|      | S4015L                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 15                                                                                | 9.5                  | 400                                 | 1               | 30    | 0.01                                 | 0.5                     | 1                       |   |
|      | S6015L                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 15                                                                                | 9.5                  | 600                                 | 1               | 30    | 0.01                                 | 0.5                     | 1                       |   |
|      | S8015L                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 15                                                                                | 9.5                  | 800                                 | 1               | 30    | 0.02                                 | 1                       | 2                       |   |
|      | SK015L                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 15                                                                                | 9.5                  | 1000                                | 1               | 30    | 0.02                                 | 3                       |                         |   |
| 16 A |                                                                                   |                                                                                   |                                                                                   | S2016R                                                                            |                                                                                   | S2016N                                                                            | 16                                                                                | 10                   | 200                                 | 1               | 30    | 0.01                                 | 0.5                     | 1                       |   |
|      |                                                                                   |                                                                                   |                                                                                   | S4016R                                                                            |                                                                                   | S4016N                                                                            | 16                                                                                | 10                   | 400                                 | 1               | 30    | 0.01                                 | 0.5                     | 1                       |   |
|      |                                                                                   |                                                                                   |                                                                                   | S6016R                                                                            |                                                                                   | S6016N                                                                            | 16                                                                                | 10                   | 600                                 | 1               | 30    | 0.01                                 | 0.5                     | 1                       |   |
|      |                                                                                   |                                                                                   |                                                                                   | S8016R                                                                            |                                                                                   | S8016N                                                                            | 16                                                                                | 10                   | 800                                 | 1               | 30    | 0.02                                 | 1                       | 2                       |   |
|      |                                                                                   |                                                                                   |                                                                                   | SK016R                                                                            |                                                                                   | SK016N                                                                            | 16                                                                                | 10                   | 1000                                | 1               | 30    | 0.02                                 | 3                       |                         |   |
| 20 A | S2020L                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 20                                                                                | 12.8                 | 200                                 | 1               | 30    | 0.01                                 | 0.5                     | 1                       |   |
|      | S4020L                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 20                                                                                | 12.8                 | 400                                 | 1               | 30    | 0.01                                 | 0.5                     | 1                       |   |
|      | S6020L                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 20                                                                                | 12.8                 | 600                                 | 1               | 30    | 0.01                                 | 0.5                     | 1                       |   |
|      | S8020L                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 20                                                                                | 12.8                 | 800                                 | 1               | 30    | 0.02                                 | 1.0                     | 2                       |   |
|      | SK020L                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 20                                                                                | 12.8                 | 1000                                | 1               | 30    | 0.02                                 | 3                       |                         |   |
| 25 A | S2025L                                                                            |                                                                                   |                                                                                   | S2025R                                                                            |                                                                                   | S2025N                                                                            | 25                                                                                | 16                   | 200                                 | 1               | 35    | 0.01                                 | 1                       | 2                       |   |
|      | S4025L                                                                            |                                                                                   |                                                                                   | S4025R                                                                            |                                                                                   | S4025N                                                                            | 25                                                                                | 16                   | 400                                 | 1               | 35    | 0.01                                 | 1                       | 2                       |   |
|      | S6025L                                                                            |                                                                                   |                                                                                   | S6025R                                                                            |                                                                                   | S6025N                                                                            | 25                                                                                | 16                   | 600                                 | 1               | 35    | 0.01                                 | 1                       | 2                       |   |
|      | S8025L                                                                            |                                                                                   |                                                                                   | S8025R                                                                            |                                                                                   | S8025N                                                                            | 25                                                                                | 16                   | 800                                 | 1               | 35    | 0.02                                 | 1.5                     | 3                       |   |
|      | SK025L                                                                            |                                                                                   |                                                                                   | SK025R                                                                            |                                                                                   | SK025N                                                                            | 25                                                                                | 16                   | 1000                                | 1               | 35    | 0.02                                 | 3                       |                         |   |
| 35 A |                                                                                   | S2035J                                                                            | S2035K                                                                            |                                                                                   |                                                                                   |                                                                                   | 35                                                                                | 22                   | 200                                 | 5               | 40    | 0.01                                 | 1                       | 2                       |   |
|      |                                                                                   | S4035J                                                                            | S4035K                                                                            |                                                                                   |                                                                                   |                                                                                   | 35                                                                                | 22                   | 400                                 | 5               | 40    | 0.01                                 | 1                       | 2                       |   |
|      |                                                                                   | S6035J                                                                            | S6035K                                                                            |                                                                                   |                                                                                   |                                                                                   | 35                                                                                | 22                   | 600                                 | 5               | 40    | 0.01                                 | 1                       | 2                       |   |
|      |                                                                                   | S8035J                                                                            | S8035K                                                                            |                                                                                   |                                                                                   |                                                                                   | 35                                                                                | 22                   | 800                                 | 5               | 40    | 0.02                                 | 1.5                     | 3                       |   |
|      |                                                                                   |                                                                                   | SK035K                                                                            |                                                                                   |                                                                                   |                                                                                   | 35                                                                                | 22                   | 1000                                | 5               | 40    | 0.02                                 | 3                       |                         |   |
| 40 A |                                                                                   |                                                                                   |                                                                                   | S2040R                                                                            |                                                                                   | S2040N                                                                            | 40                                                                                | 25                   | 200                                 | 5               | 40    | 0.01                                 | 1                       | 2                       |   |
|      |                                                                                   |                                                                                   |                                                                                   | S4040R                                                                            |                                                                                   | S4040N                                                                            | 40                                                                                | 25                   | 400                                 | 5               | 40    | 0.01                                 | 1                       | 2                       |   |
|      |                                                                                   |                                                                                   |                                                                                   | S6040R                                                                            |                                                                                   | S6040N                                                                            | 40                                                                                | 25                   | 600                                 | 5               | 40    | 0.01                                 | 1                       | 2                       |   |
|      |                                                                                   |                                                                                   |                                                                                   | S8040R                                                                            |                                                                                   | S8040N                                                                            | 40                                                                                | 25                   | 800                                 | 5               | 40    | 0.02                                 | 1.5                     | 3                       |   |
|      |                                                                                   |                                                                                   |                                                                                   | SK040R                                                                            |                                                                                   | SK040N                                                                            | 40                                                                                | 25                   | 1000                                | 5               | 40    | 0.03                                 | 5                       |                         |   |
| 55 A |                                                                                   |                                                                                   |                                                                                   | S2055R                                                                            | S2055W                                                                            | S2055M                                                                            | S2055N                                                                            | 55                   | 35                                  | 200             | 5     | 40                                   | 0.01                    | 1                       | 2 |
|      |                                                                                   |                                                                                   |                                                                                   | S4055R                                                                            | S4055W                                                                            | S4055M                                                                            | S4055N                                                                            | 55                   | 35                                  | 400             | 5     | 40                                   | 0.01                    | 1                       | 2 |
|      |                                                                                   |                                                                                   |                                                                                   | S6055R                                                                            | S6055W                                                                            | S6055M                                                                            | S6055N                                                                            | 55                   | 35                                  | 600             | 5     | 40                                   | 0.01                    | 1                       | 2 |
|      |                                                                                   |                                                                                   |                                                                                   | S8055R                                                                            | S8055W                                                                            | S8055M                                                                            | S8055N                                                                            | 55                   | 35                                  | 800             | 5     | 40                                   | 0.02                    | 1.5                     | 3 |
|      |                                                                                   |                                                                                   |                                                                                   | SK055R                                                                            |                                                                                   | SK055M                                                                            | SK055N                                                                            | 55                   | 35                                  | 1000            | 5     | 40                                   | 0.03                    | 5                       |   |
| 65 A |                                                                                   | S2065J                                                                            | S2065K                                                                            |                                                                                   |                                                                                   |                                                                                   | 65                                                                                | 41                   | 200                                 | 5               | 50    | 0.02                                 | 1.5                     | 3                       |   |
|      |                                                                                   | S4065J                                                                            | S4065K                                                                            |                                                                                   |                                                                                   |                                                                                   | 65                                                                                | 41                   | 400                                 | 5               | 50    | 0.02                                 | 1.5                     | 3                       |   |
|      |                                                                                   | S6065J                                                                            | S6065K                                                                            |                                                                                   |                                                                                   |                                                                                   | 65                                                                                | 41                   | 600                                 | 5               | 50    | 0.02                                 | 1.5                     | 3                       |   |
|      |                                                                                   | S8065J                                                                            | S8065K                                                                            |                                                                                   |                                                                                   |                                                                                   | 65                                                                                | 41                   | 800                                 | 5               | 50    | 0.02                                 | 2                       | 5                       |   |
|      |                                                                                   |                                                                                   | SK065K                                                                            |                                                                                   |                                                                                   |                                                                                   | 65                                                                                | 41                   | 1000                                | 5               | 50    | 0.03                                 | 5                       |                         |   |
| 70 A |                                                                                   |                                                                                   |                                                                                   |                                                                                   | S2070W                                                                            |                                                                                   | 70                                                                                | 45                   | 200                                 | 5               | 50    | 0.02                                 | 1.5                     | 3                       |   |
|      |                                                                                   |                                                                                   |                                                                                   |                                                                                   | S4070W                                                                            |                                                                                   | 70                                                                                | 45                   | 400                                 | 5               | 50    | 0.02                                 | 1.5                     | 3                       |   |
|      |                                                                                   |                                                                                   |                                                                                   |                                                                                   | S6070W                                                                            |                                                                                   | 70                                                                                | 45                   | 600                                 | 5               | 50    | 0.02                                 | 1.5                     | 3                       |   |
|      |                                                                                   |                                                                                   |                                                                                   |                                                                                   | S8070W                                                                            |                                                                                   | 70                                                                                | 45                   | 800                                 | 5               | 50    | 0.02                                 | 2                       | 5                       |   |

See "General Notes" on page E6 - 2 and "Electrical Specification Notes" on page E6 - 3.

| V <sub>TM</sub>        | V <sub>GT</sub>        | I <sub>H</sub> | I <sub>GM</sub> | P <sub>GM</sub> | P <sub>G(AV)</sub> | I <sub>TSM</sub> | dv/dt                   |                         | I <sup>2</sup> t      | di/dt     | t <sub>gt</sub> | t <sub>q</sub> |
|------------------------|------------------------|----------------|-----------------|-----------------|--------------------|------------------|-------------------------|-------------------------|-----------------------|-----------|-----------------|----------------|
| (3)                    | (8) (17)               | (5) (13)       | (12)            | (12)            |                    | (6) (10) (16)    |                         |                         |                       |           | (7)             | (9) (10)       |
| Volts                  | Volts                  |                |                 |                 |                    | Amps             | Volts/μSec              |                         |                       |           |                 |                |
| T <sub>C</sub> = 25 °C | T <sub>C</sub> = 25 °C | mAmps          | Amps            | Watts           | Watts              | 60/50 Hz         | T <sub>C</sub> = 100 °C | T <sub>C</sub> = 125 °C | Amps <sup>2</sup> Sec | Amps/μSec | μSec            | μSec           |
| MAX                    | MAX                    | MAX            |                 |                 |                    |                  | MIN                     | MIN                     |                       |           | TYP             | MAX            |
| 1.6                    | 1.5                    | 40             | 3               | 30              | 0.6                | 225/188          | 450                     | 350                     | 210                   | 125       | 2               | 35             |
| 1.6                    | 1.5                    | 40             | 3               | 30              | 0.6                | 225/188          | 450                     | 350                     | 210                   | 125       | 2               | 35             |
| 1.6                    | 1.5                    | 40             | 3               | 30              | 0.6                | 225/188          | 425                     | 325                     | 210                   | 125       | 2               | 35             |
| 1.6                    | 1.5                    | 40             | 3               | 30              | 0.6                | 225/188          | 400                     | 300                     | 210                   | 125       | 2               | 35             |
| 1.6                    | 1.5                    | 40             | 3               | 30              | 0.6                | 225/188          | 200                     |                         | 210                   | 125       | 2               | 35             |
| 1.6                    | 1.5                    | 40             | 3               | 30              | 0.6                | 225/188          | 450                     | 350                     | 210                   | 125       | 2               | 35             |
| 1.6                    | 1.5                    | 40             | 3               | 30              | 0.6                | 225/188          | 450                     | 350                     | 210                   | 125       | 2               | 35             |
| 1.6                    | 1.5                    | 40             | 3               | 30              | 0.6                | 225/188          | 425                     | 325                     | 210                   | 125       | 2               | 35             |
| 1.6                    | 1.5                    | 40             | 3               | 30              | 0.6                | 225/188          | 400                     | 300                     | 210                   | 125       | 2               | 35             |
| 1.6                    | 1.5                    | 40             | 3               | 30              | 0.6                | 225/188          | 200                     |                         | 210                   | 125       | 2               | 35             |
| 1.6                    | 1.5                    | 40             | 3               | 30              | 0.6                | 300/255          | 450                     | 350                     | 374                   | 125       | 2               | 35             |
| 1.6                    | 1.5                    | 40             | 3               | 30              | 0.6                | 300/255          | 450                     | 350                     | 374                   | 125       | 2               | 35             |
| 1.6                    | 1.5                    | 40             | 3               | 30              | 0.6                | 300/255          | 425                     | 325                     | 374                   | 125       | 2               | 35             |
| 1.6                    | 1.5                    | 40             | 3               | 30              | 0.6                | 300/255          | 400                     | 300                     | 374                   | 125       | 2               | 35             |
| 1.6                    | 1.5                    | 40             | 3               | 30              | 0.6                | 300/255          | 200                     |                         | 374                   | 125       | 2               | 35             |
| 1.6                    | 1.5                    | 50             | 3.5             | 35              | 0.8                | 350/300          | 450                     | 350                     | 510                   | 150       | 2               | 35             |
| 1.6                    | 1.5                    | 50             | 3.5             | 35              | 0.8                | 350/300          | 450                     | 350                     | 510                   | 150       | 2               | 35             |
| 1.6                    | 1.5                    | 50             | 3.5             | 35              | 0.8                | 350/300          | 425                     | 325                     | 510                   | 150       | 2               | 35             |
| 1.6                    | 1.5                    | 50             | 3.5             | 35              | 0.8                | 350/300          | 400                     | 300                     | 510                   | 150       | 2               | 35             |
| 1.6                    | 1.5                    | 50             | 3.5             | 35              | 0.8                | 350/300          | 200                     |                         | 510                   | 150       | 2               | 35             |
| 1.8                    | 1.5                    | 50             | 3.5             | 35              | 0.8                | 500/425          | 450                     | 350                     | 1035                  | 150       | 2               | 35             |
| 1.8                    | 1.5                    | 50             | 3.5             | 35              | 0.8                | 500/425          | 450                     | 350                     | 1035                  | 150       | 2               | 35             |
| 1.8                    | 1.5                    | 50             | 3.5             | 35              | 0.8                | 500/425          | 425                     | 325                     | 1035                  | 150       | 2               | 35             |
| 1.8                    | 1.5                    | 50             | 3.5             | 35              | 0.8                | 500/425          | 400                     | 300                     | 1035                  | 150       | 2               | 35             |
| 1.8                    | 1.5                    | 50             | 3.5             | 35              | 0.8                | 500/425          | 200                     |                         | 1035                  | 150       | 2               | 35             |
| 1.8                    | 1.5                    | 60             | 3.5             | 35              | 0.8                | 520/430          | 650                     | 550                     | 1122                  | 175       | 2.5             | 35             |
| 1.8                    | 1.5                    | 60             | 3.5             | 35              | 0.8                | 520/430          | 650                     | 550                     | 1122                  | 175       | 2.5             | 35             |
| 1.8                    | 1.5                    | 60             | 3.5             | 35              | 0.8                | 520/430          | 600                     | 500                     | 1122                  | 175       | 2.5             | 35             |
| 1.8                    | 1.5                    | 60             | 3.5             | 35              | 0.8                | 520/430          | 500                     | 475                     | 1122                  | 175       | 2.5             | 35             |
| 1.8                    | 1.5                    | 60             | 3.5             | 35              | 0.8                | 520/430          | 250                     |                         | 1122                  | 175       | 2.5             | 35             |
| 1.8                    | 1.5                    | 60             | 4               | 40              | 0.8                | 650/550          | 650                     | 550                     | 1750                  | 175       | 2.5             | 35             |
| 1.8                    | 1.5                    | 60             | 4               | 40              | 0.8                | 650/550          | 650                     | 550                     | 1750                  | 175       | 2.5             | 35             |
| 1.8                    | 1.5                    | 60             | 4               | 40              | 0.8                | 650/550          | 600                     | 500                     | 1750                  | 175       | 2.5             | 35             |
| 1.8                    | 1.5                    | 60             | 4               | 40              | 0.8                | 650/550          | 500                     | 475                     | 1750                  | 175       | 2.5             | 35             |
| 1.8                    | 1.5                    | 60             | 4               | 40              | 0.8                | 650/550          | 250                     |                         | 1750                  | 175       | 2.5             | 35             |
| 1.8                    | 2                      | 80             | 5               | 50              | 1                  | 950/800          | 650                     | 550                     | 3745                  | 200       | 2.5             | 35             |
| 1.8                    | 2                      | 80             | 5               | 50              | 1                  | 950/800          | 650                     | 550                     | 3745                  | 200       | 2.5             | 35             |
| 1.8                    | 2                      | 80             | 5               | 50              | 1                  | 950/800          | 600                     | 500                     | 3745                  | 200       | 2.5             | 35             |
| 1.8                    | 2                      | 80             | 5               | 50              | 1                  | 950/800          | 500                     | 475                     | 3745                  | 200       | 2.5             | 35             |
| 1.8                    | 2                      | 80             | 5               | 50              | 1                  | 950/800          | 250                     |                         | 3745                  | 200       | 2.5             | 35             |
| 1.8                    | 2                      | 80             | 5               | 50              | 1                  | 950/800          | 650                     | 550                     | 3745                  | 200       | 2.5             | 35             |
| 1.8                    | 2                      | 80             | 5               | 50              | 1                  | 950/800          | 650                     | 550                     | 3745                  | 200       | 2.5             | 35             |
| 1.8                    | 2                      | 80             | 5               | 50              | 1                  | 950/800          | 600                     | 500                     | 3745                  | 200       | 2.5             | 35             |
| 1.8                    | 2                      | 80             | 5               | 50              | 1                  | 950/800          | 500                     | 475                     | 3745                  | 200       | 2.5             | 35             |

See "General Notes" on page E6 - 2 and "Electrical Specification Notes" on page E6 - 3.

| Thermal Resistance (Steady State)<br>R <sub>θJC</sub> [R <sub>θJA</sub> ] °C/W (TYP.) |                                                                                                         |                                                                                                                       |                                                                                                                       |                                                                                                             |                                                                                                          |                                                                                                              |                                                                                                         |                                                                                                               |                                                                                                                         |                                                                                                                          |                                                                                                                        |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Pkg. Code                                                                             | L                                                                                                       | F                                                                                                                     | F2                                                                                                                    | R                                                                                                           | J                                                                                                        | W                                                                                                            | K                                                                                                       | M                                                                                                             | D                                                                                                                       | V                                                                                                                        | N                                                                                                                      |
| Type                                                                                  | <br>TO-220<br>Isolated | <br>TO-202<br>Type 1<br>Non-isolated | <br>TO-202<br>Type 2<br>Non-isolated | <br>TO-220<br>Non-isolated | <br>TO-218X<br>Isolated | <br>TO-218X<br>Non-isolated | <br>TO-218<br>Isolated | <br>TO-218<br>Non-isolated | <br>TO-252<br>D-Pak<br>Surface Mount | <br>TO-251AA<br>V-Pak<br>Non-isolated | <br>TO-263<br>D²Pak<br>Non-isolated |
| 1 A                                                                                   | See below                                                                                               |                                                                                                                       |                                                                                                                       |                                                                                                             |                                                                                                          |                                                                                                              |                                                                                                         |                                                                                                               |                                                                                                                         |                                                                                                                          |                                                                                                                        |
| 6 A                                                                                   | 4.0 [50]                                                                                                | 4.3 [45]                                                                                                              | 9.5 [70]                                                                                                              |                                                                                                             |                                                                                                          |                                                                                                              |                                                                                                         |                                                                                                               | 1.7                                                                                                                     | 2.3 [70]                                                                                                                 |                                                                                                                        |
| 8 A                                                                                   | 3.4                                                                                                     | 3.9                                                                                                                   |                                                                                                                       | 1.8 [40]                                                                                                    |                                                                                                          |                                                                                                              |                                                                                                         |                                                                                                               | 1.5                                                                                                                     | 2.0                                                                                                                      |                                                                                                                        |
| 10 A                                                                                  | 3.0                                                                                                     | 3.4                                                                                                                   |                                                                                                                       | 1.6                                                                                                         |                                                                                                          |                                                                                                              |                                                                                                         |                                                                                                               | 1.45                                                                                                                    | 1.7                                                                                                                      |                                                                                                                        |
| 12 A                                                                                  |                                                                                                         |                                                                                                                       |                                                                                                                       | 1.5                                                                                                         |                                                                                                          |                                                                                                              |                                                                                                         |                                                                                                               | 1.4                                                                                                                     | 1.6                                                                                                                      |                                                                                                                        |
| 15 A                                                                                  | 2.5                                                                                                     |                                                                                                                       |                                                                                                                       |                                                                                                             |                                                                                                          |                                                                                                              |                                                                                                         |                                                                                                               |                                                                                                                         |                                                                                                                          |                                                                                                                        |
| 16 A                                                                                  |                                                                                                         |                                                                                                                       |                                                                                                                       | 1.3                                                                                                         |                                                                                                          |                                                                                                              |                                                                                                         |                                                                                                               |                                                                                                                         |                                                                                                                          | 1.3                                                                                                                    |
| 20 A                                                                                  | 2.4                                                                                                     |                                                                                                                       |                                                                                                                       |                                                                                                             |                                                                                                          |                                                                                                              |                                                                                                         |                                                                                                               |                                                                                                                         |                                                                                                                          |                                                                                                                        |
| 25 A                                                                                  | 2.35                                                                                                    |                                                                                                                       |                                                                                                                       | 1.0                                                                                                         |                                                                                                          |                                                                                                              |                                                                                                         |                                                                                                               |                                                                                                                         |                                                                                                                          | 1.0                                                                                                                    |
| 35 A                                                                                  |                                                                                                         |                                                                                                                       |                                                                                                                       |                                                                                                             | 0.70                                                                                                     |                                                                                                              | 0.70                                                                                                    |                                                                                                               |                                                                                                                         |                                                                                                                          |                                                                                                                        |
| 40 A                                                                                  |                                                                                                         |                                                                                                                       |                                                                                                                       | 0.6                                                                                                         |                                                                                                          |                                                                                                              |                                                                                                         |                                                                                                               |                                                                                                                         |                                                                                                                          | 0.6                                                                                                                    |
| 55 A                                                                                  |                                                                                                         |                                                                                                                       |                                                                                                                       | 0.5                                                                                                         |                                                                                                          | 0.53                                                                                                         |                                                                                                         | 0.53                                                                                                          |                                                                                                                         |                                                                                                                          | 0.5                                                                                                                    |
| 65 A                                                                                  |                                                                                                         |                                                                                                                       |                                                                                                                       |                                                                                                             | 0.86                                                                                                     |                                                                                                              | 0.86                                                                                                    |                                                                                                               |                                                                                                                         |                                                                                                                          |                                                                                                                        |
| 70 A                                                                                  |                                                                                                         |                                                                                                                       |                                                                                                                       |                                                                                                             |                                                                                                          | 0.60                                                                                                         |                                                                                                         |                                                                                                               |                                                                                                                         |                                                                                                                          |                                                                                                                        |

| Thermal Resistance (Steady State)<br>R <sub>θJC</sub> [R <sub>θJA</sub> ] °C/W (TYP.) |                                                                                               |                                                                                              |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Package Code                                                                          | C                                                                                             | E                                                                                            |
| Type                                                                                  | <br>Compak | <br>TO-92 |
| 1 A                                                                                   | 35 *                                                                                          | 50 [145]                                                                                     |

\* Mounted on 1cm<sup>2</sup> copper foil surface; two-ounce copper foil

## Electrical Isolation

Teccor's isolated SCR packages will withstand a minimum high potential test of 2500 V ac rms from leads to mounting tab over the device's operating temperature range. The following table shows standard and optional isolation ratings.

| Electrical Isolation *<br>from Leads to Mounting Tab |                    |                     |                    |
|------------------------------------------------------|--------------------|---------------------|--------------------|
| V AC RMS                                             | TO-220<br>Isolated | TO-218X<br>Isolated | TO-218<br>Isolated |
| 2500                                                 | Standard           | Standard            | Standard           |
| 4000                                                 | Optional **        | N/A                 | N/A                |

\* UL Recognized File #E71639

\*\* For 4000 V isolation, use "V" suffix in part number.

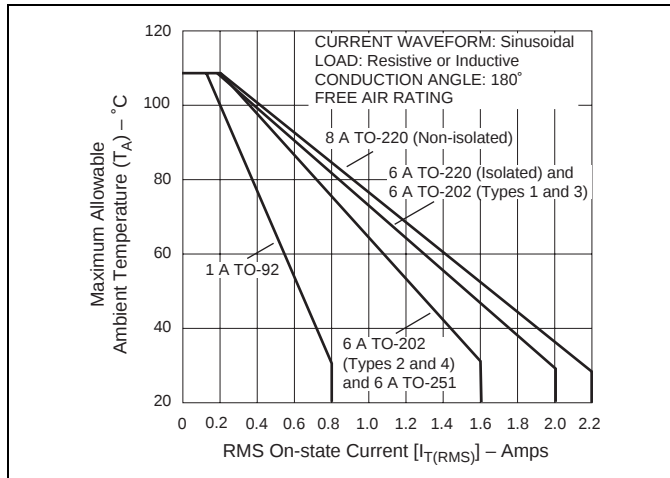


Figure E6.1 Maximum Allowable Ambient Temperature versus RMS On-state Current

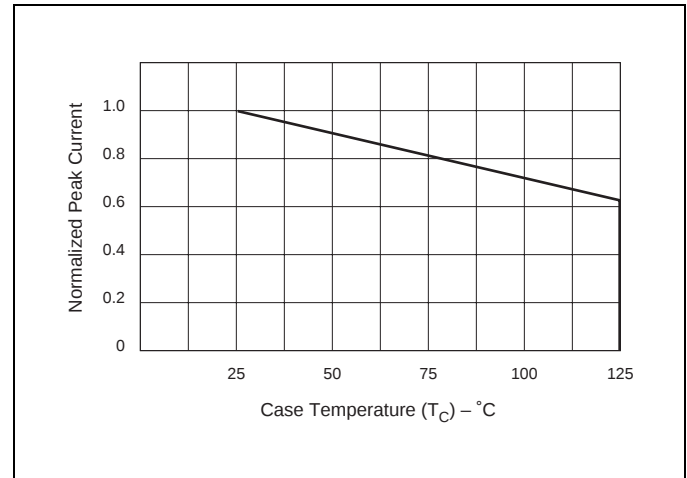


Figure E6.4 Peak Capacitor Discharge Current Derating (6 A through 55 A)

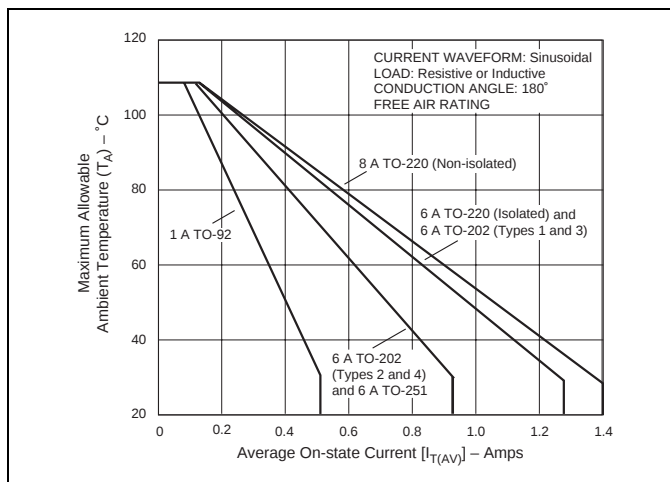


Figure E6.2 Maximum Allowable Ambient Temperature versus Average On-state Current

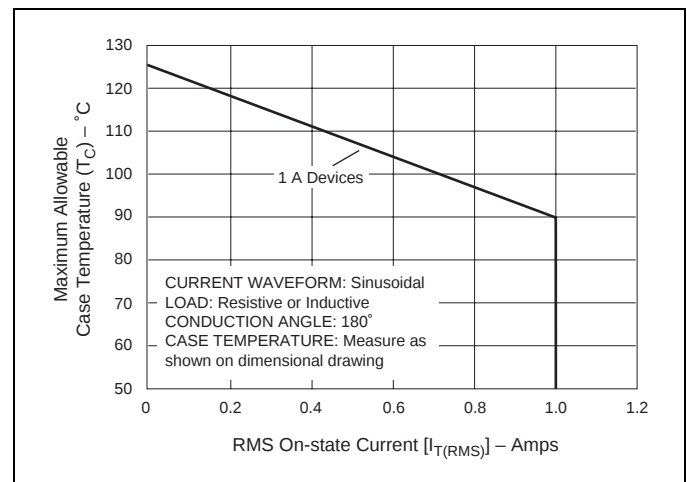


Figure E6.5 Maximum Allowable Case Temperature versus RMS On-state Current (1 A)

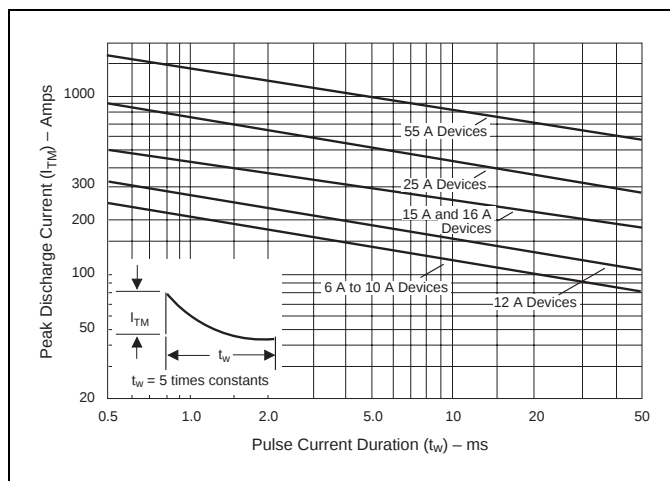


Figure E6.3 Peak Capacitor Discharge Current (6 A through 55 A)

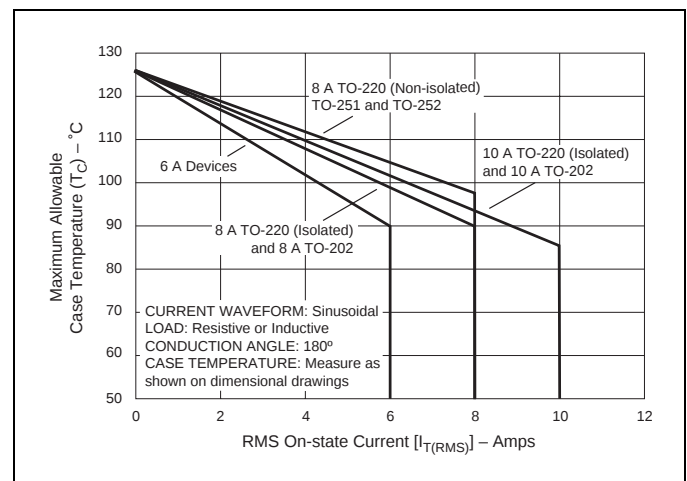


Figure E6.6 Maximum Allowable Case Temperature versus RMS On-state Current (6 A, 8 A, and 10 A)

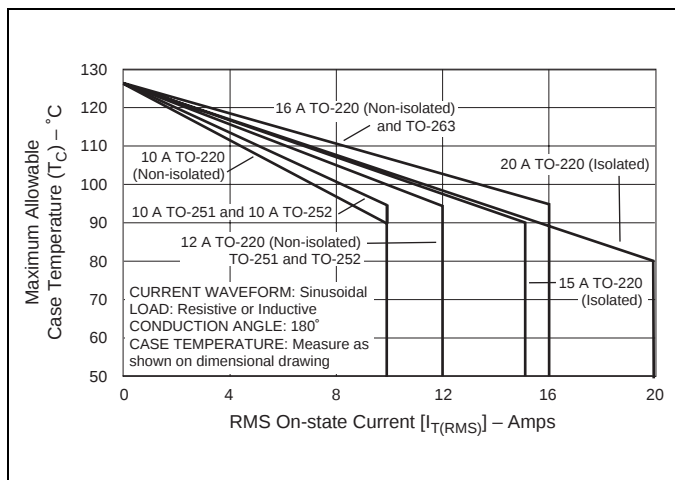


Figure E6.7 Maximum Allowable Case Temperature versus RMS On-state Current (10 A, 12 A, 16 A, and 20 A)

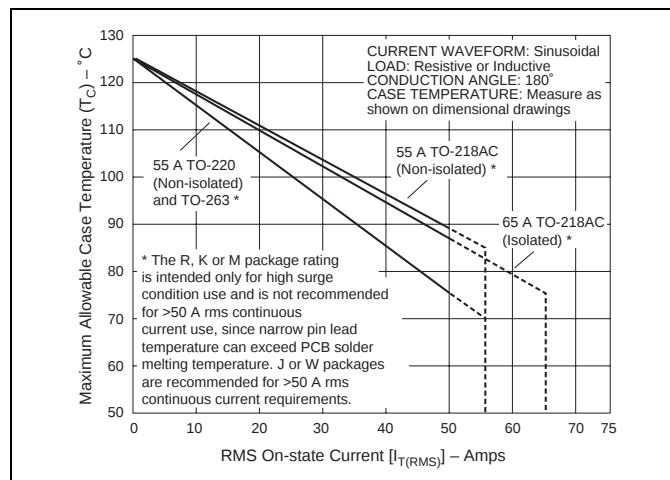


Figure E6.10 Maximum Allowable Case Temperature versus RMS On-state Current (55 A and 65 A)

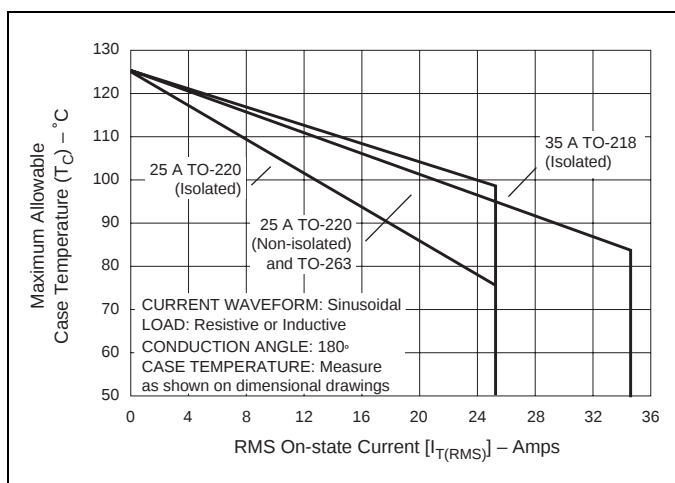


Figure E6.8 Maximum Allowable Case Temperature versus RMS On-state Current (25 A and 35 A)

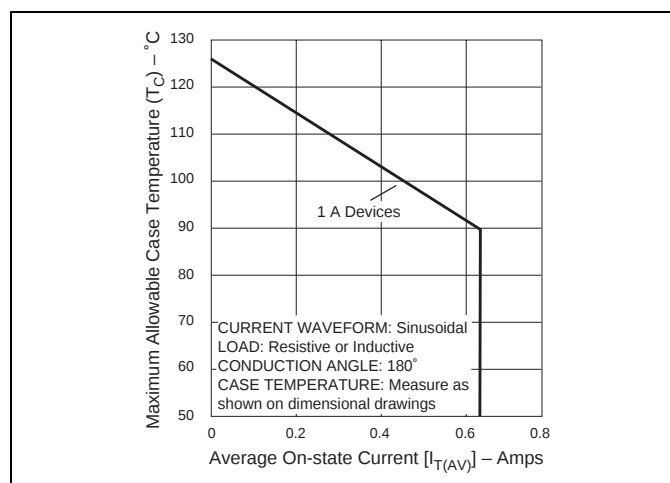


Figure E6.11 Maximum Allowable Case Temperature versus Average On-state Current (1 A)

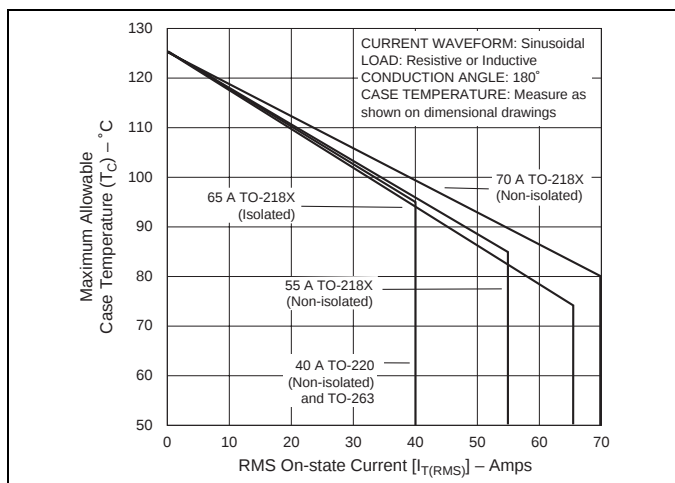


Figure E6.9 Maximum Allowable Case Temperature versus RMS On-state Current (40 A through 70 A)

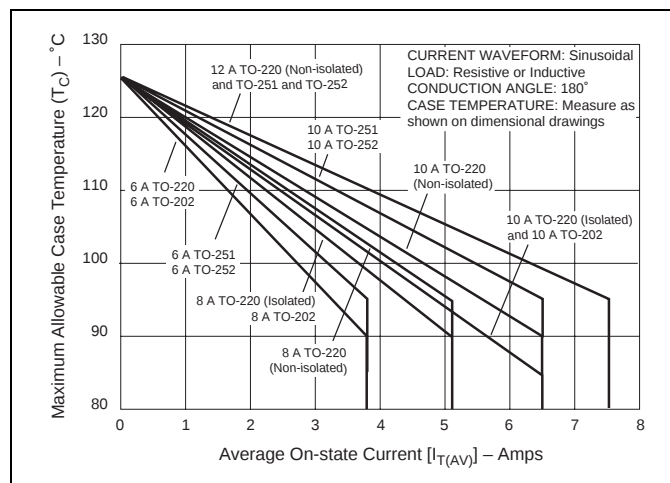


Figure E6.12 Maximum Allowable Case Temperature versus Average On-state Current (8 A, 10 A, and 12 A)

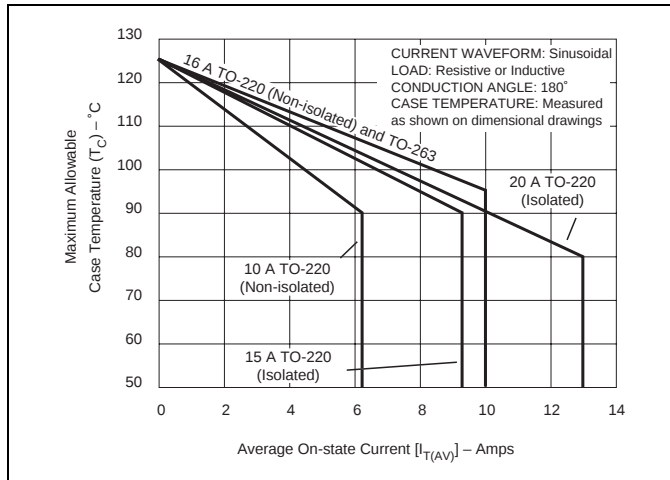


Figure E6.13 Maximum Allowable Case Temperature versus Average On-state Current (10 A through 20 A)

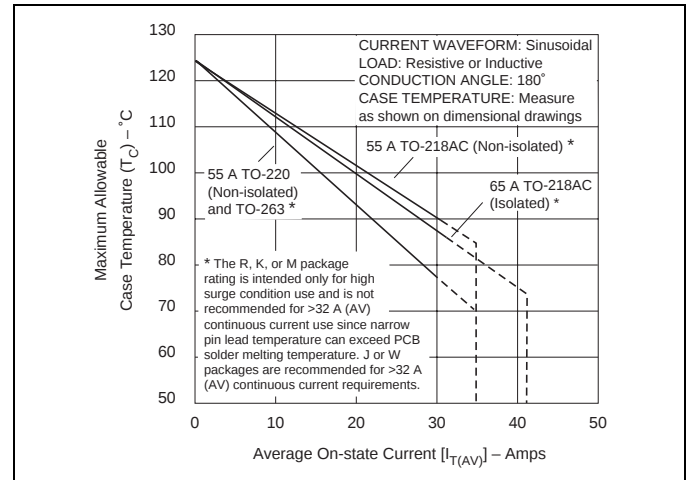


Figure E6.16 Maximum Allowable Case Temperature versus Average On-state Current (55 A and 65 A)

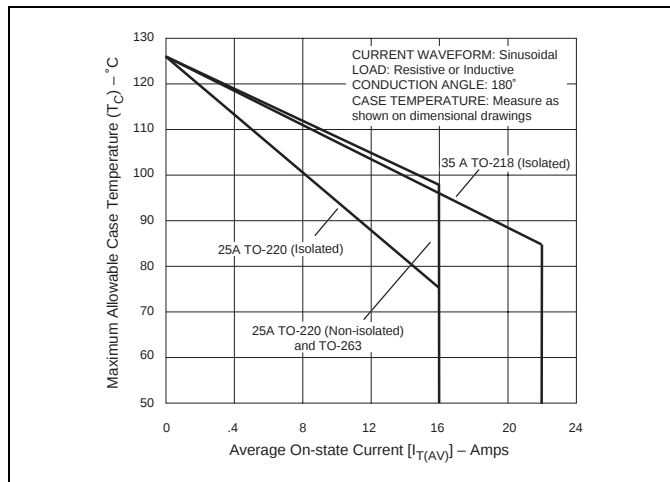


Figure E6.14 Maximum Allowable Case Temperature versus Average On-state Current (25 A and 35 A)

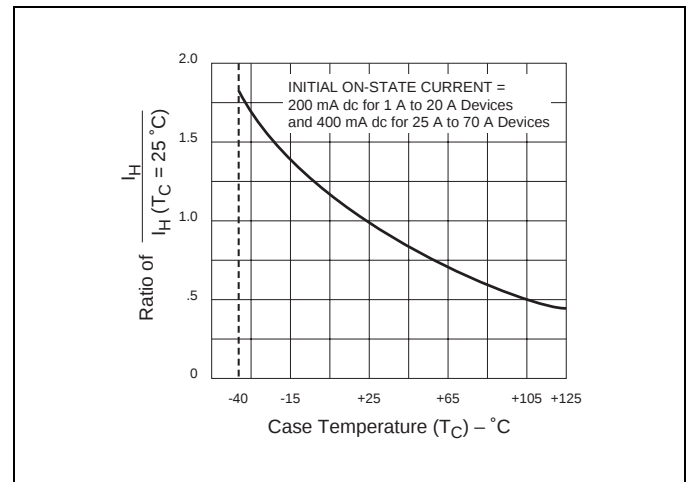


Figure E6.17 Normalized dc Holding Current versus Case Temperature

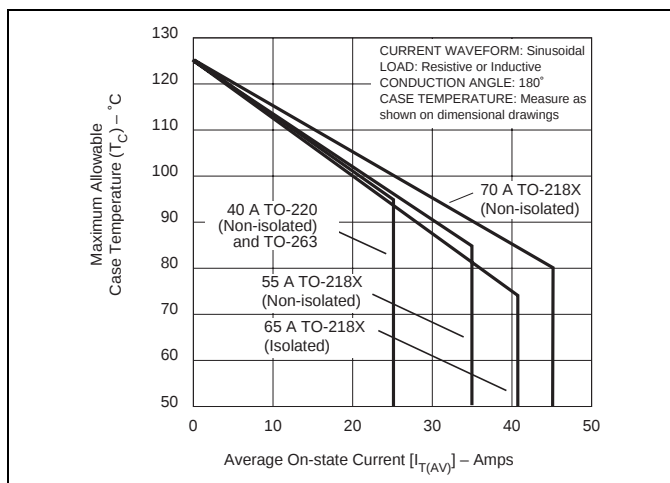


Figure E6.15 Maximum Allowable Case Temperature versus Average On-state Current (40 A through 70 A)

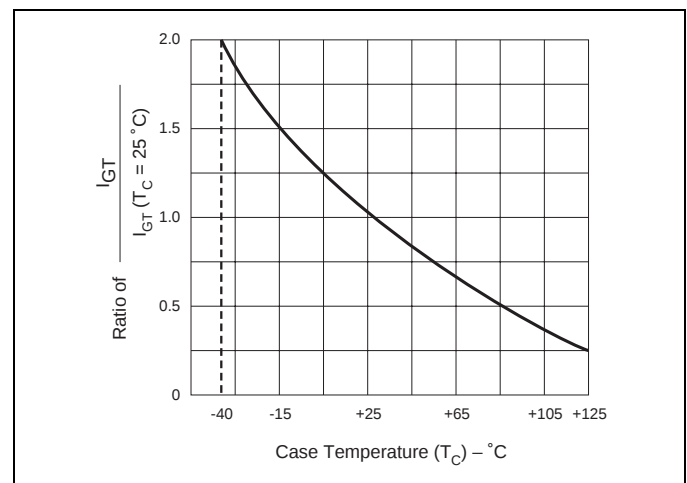


Figure E6.18 Normalized DC Gate-Trigger Current versus Case Temperature

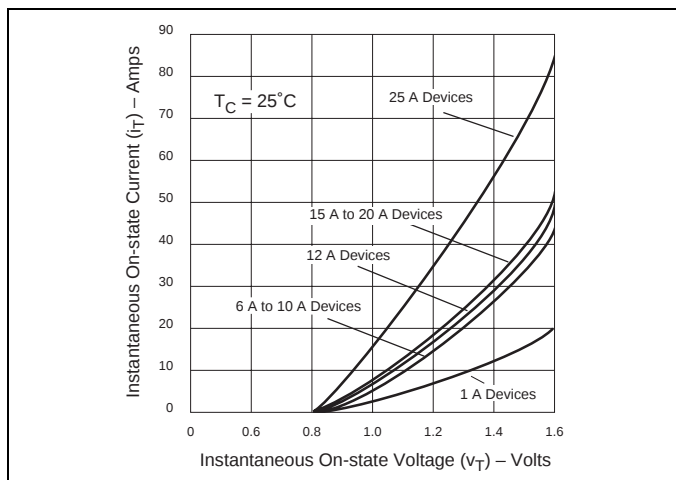


Figure E6.19 Instantaneous On-state Current versus On-state Voltage (Typical) (6 A through 25 A)

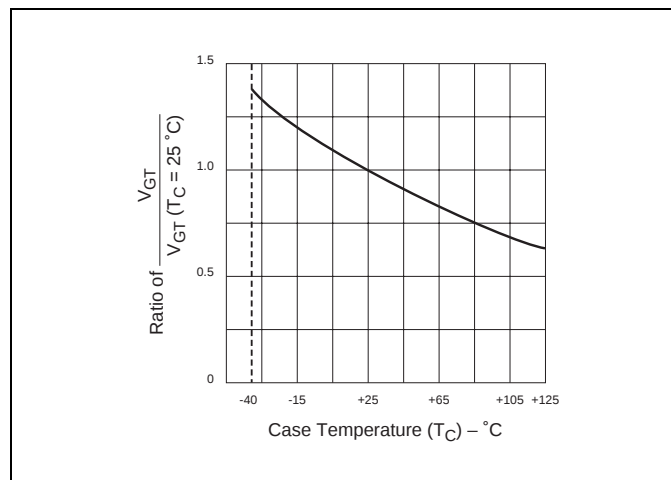


Figure E6.21 Normalized DC Gate-trigger Voltage versus Case Temperature

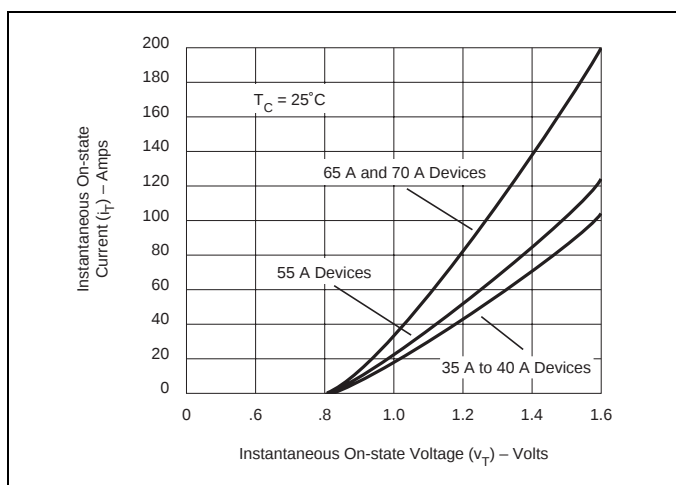


Figure E6.20 Instantaneous On-state Current versus On-state Voltage (Typical) (35 A through 70 A)

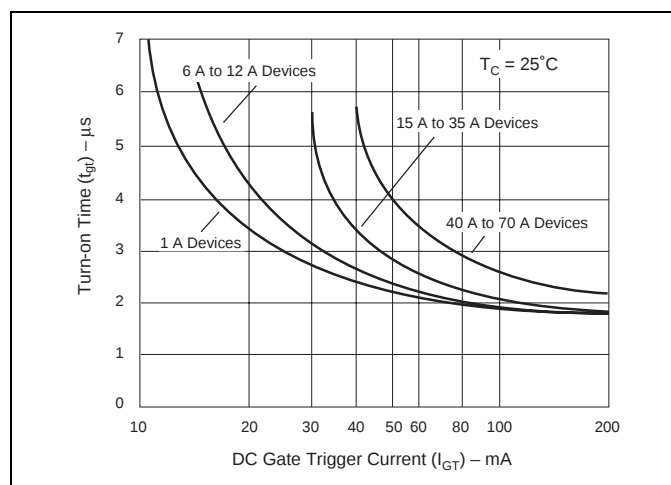


Figure E6.22 Typical Turn-on Time versus Gate-trigger Current

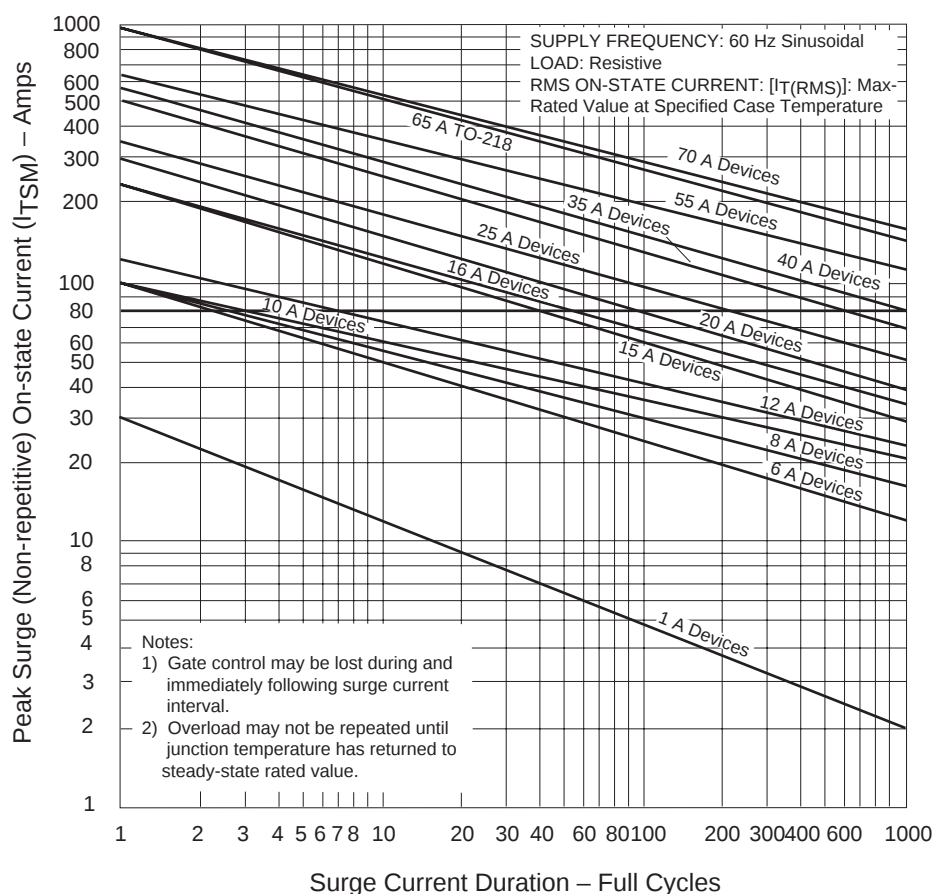


Figure E6.23 Peak Surge Current versus Surge Current Duration

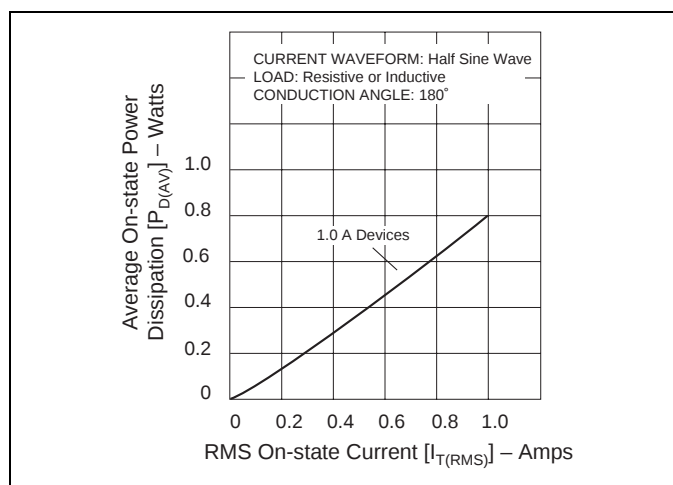


Figure E6.24 Power Dissipation (Typical) versus RMS On-state Current (1 A)

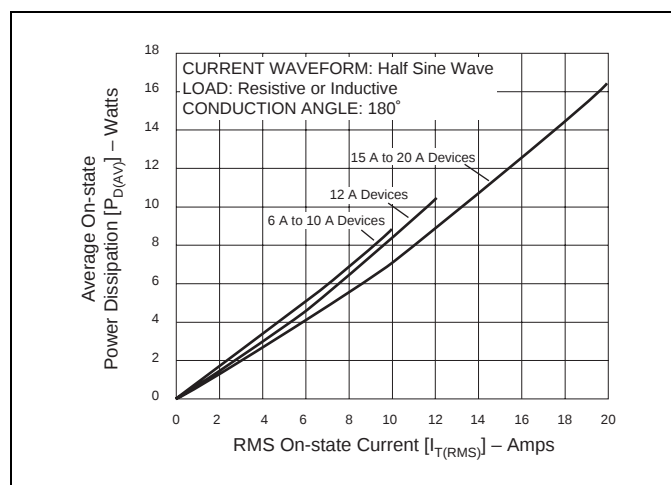


Figure E6.25 Power Dissipation (Typical) versus RMS On-state Current (6 A through 20 A)

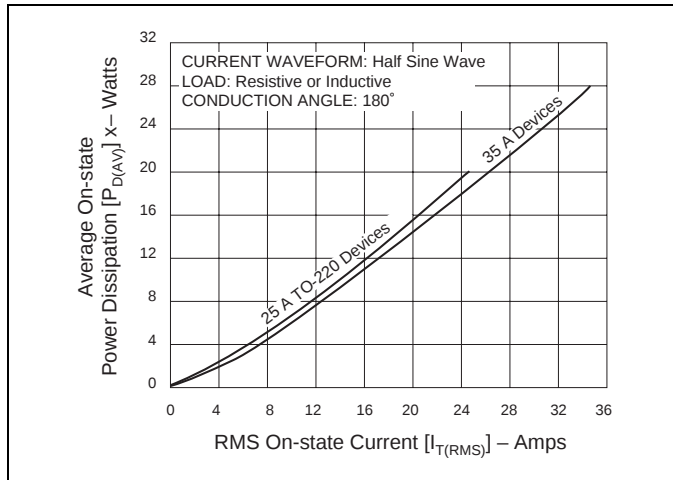


Figure E6.26 Power Dissipation (Typical) versus RMS On-state Current (25 A and 35 A)

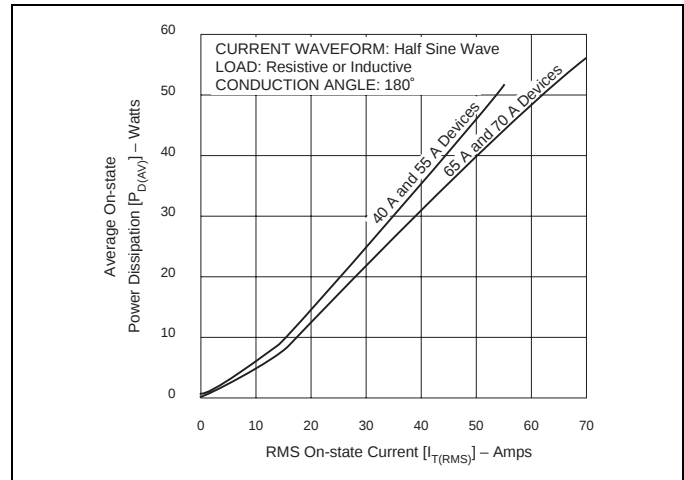


Figure E6.27 Power Dissipation (Typical) versus RMS On-state Current (40 A through 70 A)