

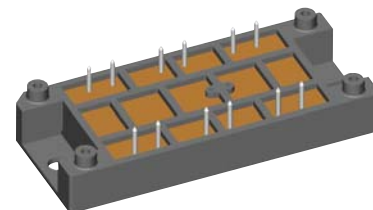
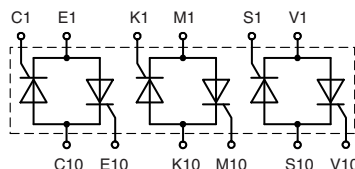
# Three Phase AC Controller Modules

$$I_{RMS} = 3 \times 83 \text{ A}$$

$$V_{RRM} = 1200-1600 \text{ V}$$

Preliminary data

| $V_{RSM}$<br>$V_{DSM}$<br>V | $V_{RRM}$<br>$V_{DRM}$<br>V | Type         |
|-----------------------------|-----------------------------|--------------|
| 1200                        | 1200                        | VWO 85-12io1 |
| 1400                        | 1400                        | VWO 85-14io1 |
| 1600                        | 1600                        | VWO 85-16io1 |



pin configuration see outlines

| Symbol         | Conditions                                                                                                                                                                       | Max. Ratings per phase           |                       |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------|
| $I_{RMS}$      | $T_C = 85^\circ\text{C}$ ; 50 - 400 Hz (per phase)                                                                                                                               | 59                               | A                     |
| $I_{RMS}$      | $T_C = 85^\circ\text{C}$ ; 50 - 400 Hz (per phase) for 10 sec.                                                                                                                   | 83                               | A                     |
| $I_{TAVM}$     | $T_C = 85^\circ\text{C}$ ; (180° sine)                                                                                                                                           | 27                               | A                     |
| $I_{TSM}$      | $T_{VJ} = 45^\circ\text{C}$<br>$V_R = 0$<br>$t = 10 \text{ ms}$ (50 Hz), sine                                                                                                    | 520                              | A                     |
|                | $t = 8.3 \text{ ms}$ (60 Hz), sine                                                                                                                                               | 560                              | A                     |
|                | $T_{VJ} = 125^\circ\text{C}$<br>$V_R = 0$<br>$t = 10 \text{ ms}$ (50 Hz), sine                                                                                                   | 470                              | A                     |
|                | $t = 8.3 \text{ ms}$ (60 Hz), sine                                                                                                                                               | 510                              | A                     |
| $I^2t$         | $T_{VJ} = 45^\circ\text{C}$<br>$V_R = 0$<br>$t = 10 \text{ ms}$ (50 Hz), sine                                                                                                    | 1350                             | A <sup>2</sup> s      |
|                | $t = 8.3 \text{ ms}$ (60 Hz), sine                                                                                                                                               | 1320                             | A <sup>2</sup> s      |
|                | $T_{VJ} = 125^\circ\text{C}$<br>$V_R = 0$<br>$t = 10 \text{ ms}$ (50 Hz), sine                                                                                                   | 1100                             | A <sup>2</sup> s      |
|                | $t = 8.3 \text{ ms}$ (60 Hz), sine                                                                                                                                               | 1090                             | A <sup>2</sup> s      |
| $(di/dt)_{cr}$ | $T_{VJ} = 125^\circ\text{C}$<br>$f = 50 \text{ Hz}$ , $t_p = 200 \mu\text{s}$<br>$V_D = \frac{2}{3} V_{DRM}$<br>$I_G = 0.45 \text{ A}$<br>$di_G/dt = 0.45 \text{ A}/\mu\text{s}$ | repetitive, $I_T = 45 \text{ A}$ | 150 A/ $\mu\text{s}$  |
|                |                                                                                                                                                                                  | non repetitive, $I_T = I_{TAVM}$ | 500 A/ $\mu\text{s}$  |
| $(dv/dt)_{cr}$ | $T_{VJ} = 125^\circ\text{C}$<br>$R_{GK} = \infty$ ; method 1 (linear voltage rise)                                                                                               | $V_{DR} = \frac{2}{3} V_{DRM}$   | 1000 V/ $\mu\text{s}$ |
| $P_{GM}$       | $T_{VJ} = 125^\circ\text{C}$<br>$I_T = I_{TAVM}$<br>$t_p = 30 \mu\text{s}$                                                                                                       | 10                               | W                     |
|                | $t_p = 300 \mu\text{s}$                                                                                                                                                          | 5                                | W                     |
| $P_{GAVM}$     |                                                                                                                                                                                  | 0.5                              | W                     |
| $V_{RGM}$      |                                                                                                                                                                                  | 10                               | V                     |
| $T_{VJ}$       | for 10 sec.                                                                                                                                                                      | -40...+125                       | °C                    |
| $T_{VJM}$      |                                                                                                                                                                                  | 150                              | °C                    |
| $T_{stg}$      |                                                                                                                                                                                  | -40...+125                       | °C                    |
| $V_{ISOL}$     | 50/60 Hz, RMS<br>$I_{ISOL} \leq 1 \text{ mA}$<br>$t = 1 \text{ min}$                                                                                                             | 3000                             | V~                    |
|                | $t = 1 \text{ s}$                                                                                                                                                                | 3600                             | V~                    |
| $M_d$          | Mounting torque (M5)                                                                                                                                                             | 2-2.5                            | Nm.                   |
|                |                                                                                                                                                                                  | 18-22                            | lb.in.                |
| Weight         | typ.                                                                                                                                                                             | 80                               | g                     |

Data according to IEC 60747 refer to a single thyristor unless otherwise stated.

## Features

- Thyristor controller for AC (circuit W3C acc. to IEC) for mains frequency
- Package with DCB base plate
- Isolation voltage 3600 V~
- Planar passivated chips
- UL applied

## Applications

- Switching and control of three phase AC circuits
- Softstart AC motor controller
- Solid state switches
- Light and temperature control

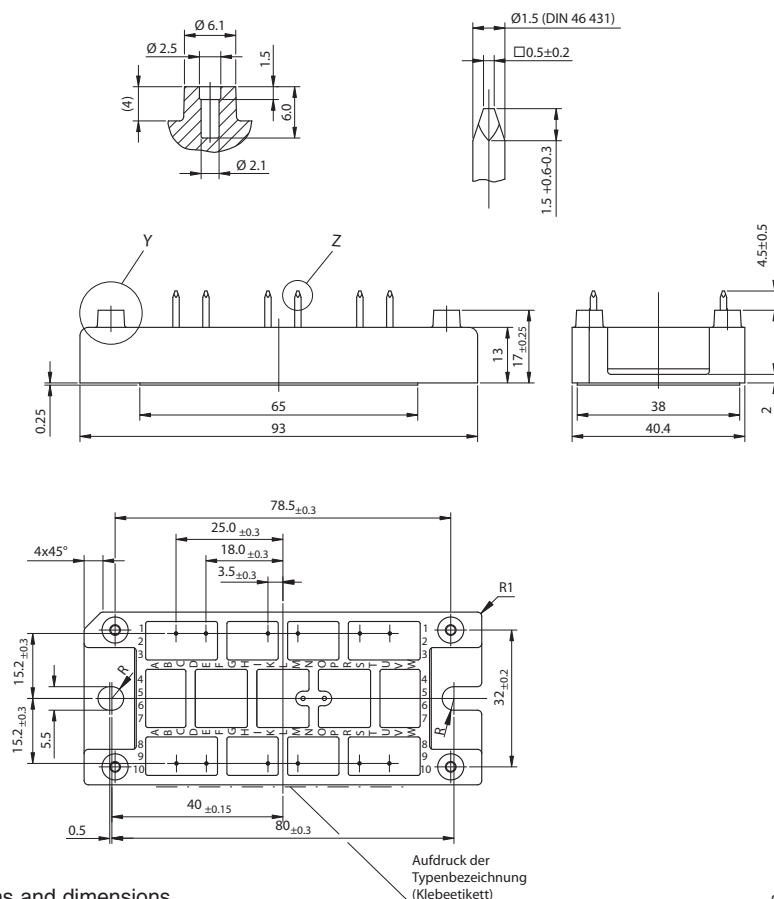
## Advantages

- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling
- High power density

**Dimensions in mm (1 mm = 0.0394")**

Detail Y M 2:1

Detail Z M 5:1



IXYS reserves the right to change limits, test conditions and dimensions.

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