



Micro Commercial Components



Micro Commercial Components  
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## S3A THRU S3M

### Features

- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- For Surface Mount Applications
- Low Thermal Resistance
- High Current Capability
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

### Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 10°C/W Junction To Lead

| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|----------------------------------------|---------------------|-----------------------------|
| S3A             | S3A            | 50V                                    | 35V                 | 50V                         |
| S3B             | S3B            | 100V                                   | 70V                 | 100V                        |
| S3D             | S3D            | 200V                                   | 140V                | 200V                        |
| S3G             | S3G            | 400V                                   | 280V                | 400V                        |
| S3J             | S3J            | 600V                                   | 420V                | 600V                        |
| S3K             | S3K            | 800V                                   | 560V                | 800V                        |
| S3M             | S3M            | 1000V                                  | 700V                | 1000V                       |

### Electrical Characteristics @ 25°C Unless Otherwise Specified

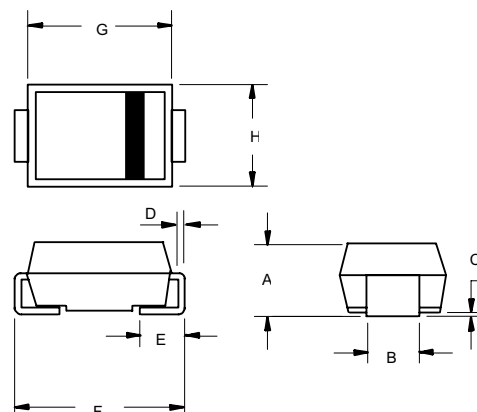
|                                                         |             |               |                                                       |
|---------------------------------------------------------|-------------|---------------|-------------------------------------------------------|
| Average Forward Current                                 | $I_{F(AV)}$ | 3.0A          | $T_a = 120^\circ\text{C}$                             |
| Peak Forward Surge Current                              | $I_{FSM}$   | 100A          | 8.3ms, half sine                                      |
| Maximum Instantaneous Forward Voltage                   | $V_F$       | 1.20V         | $I_{FM} = 3.0A$ ;<br>$T_j = 25^\circ\text{C}^*$       |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$       | 10μA<br>250μA | $T_j = 25^\circ\text{C}$<br>$T_j = 125^\circ\text{C}$ |
| Typical Junction Capacitance                            | $C_j$       | 60pF          | Measured at<br>1.0MHz, $V_R=4.0V$                     |

\*Pulse test: Pulse width 200 μsec, Duty cycle 2%

Note: 1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.

## 3 Amp Silicon Rectifier 50 to 1000 Volts

### DO-214AB (SMC)



| DIM | INCHES |      | MM    |       | NOTE |
|-----|--------|------|-------|-------|------|
|     | MIN    | MAX  | MIN   | MAX   |      |
| A   | .079   | .103 | 2.00  | 2.62  |      |
| B   | .108   | .128 | 2.75  | 3.25  |      |
| C   | .002   | .008 | 0.051 | 0.203 |      |
| D   | .006   | .012 | 0.152 | 0.305 |      |
| E   | .030   | .060 | 0.76  | 1.52  |      |
| F   | .305   | .320 | 7.75  | 8.13  |      |
| G   | .260   | .280 | 6.60  | 7.11  |      |
| H   | .220   | .245 | 5.59  | 6.22  |      |

### SUGGESTED SOLDER PAD LAYOUT

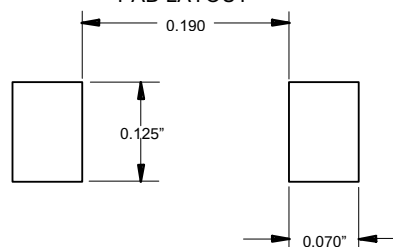
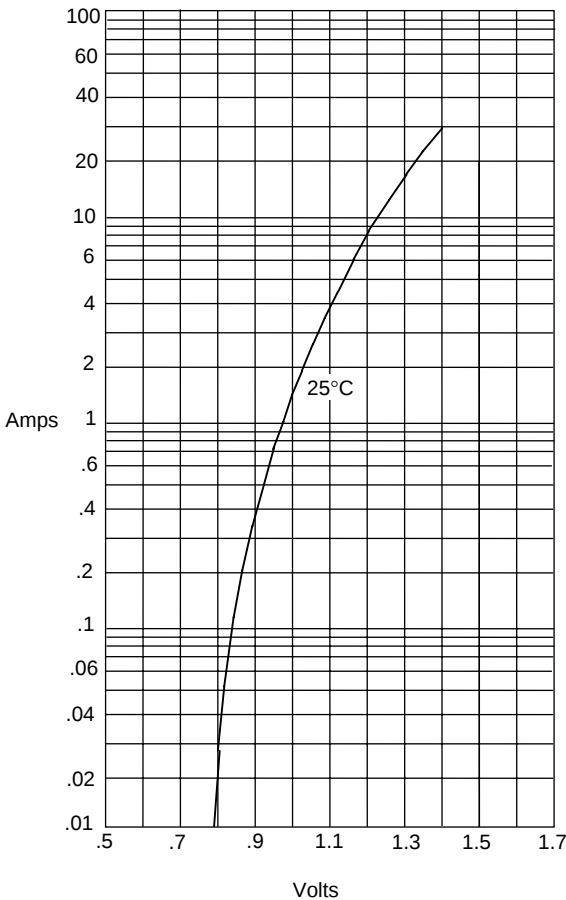
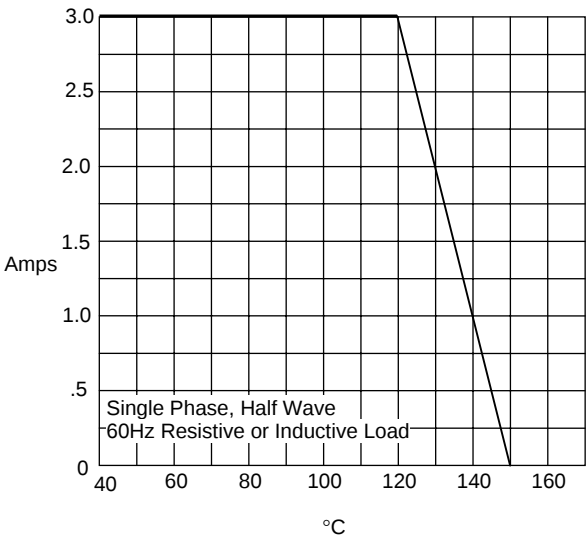


Figure 1  
Typical Forward Characteristics



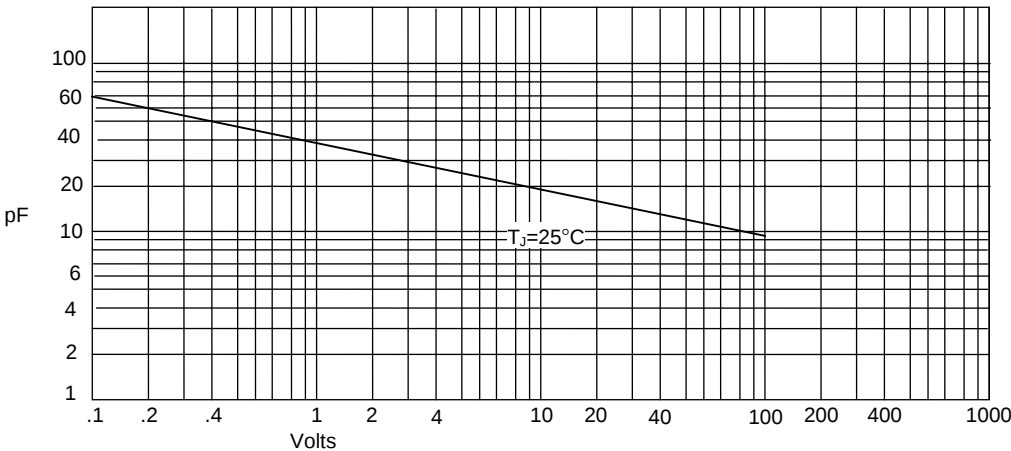
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



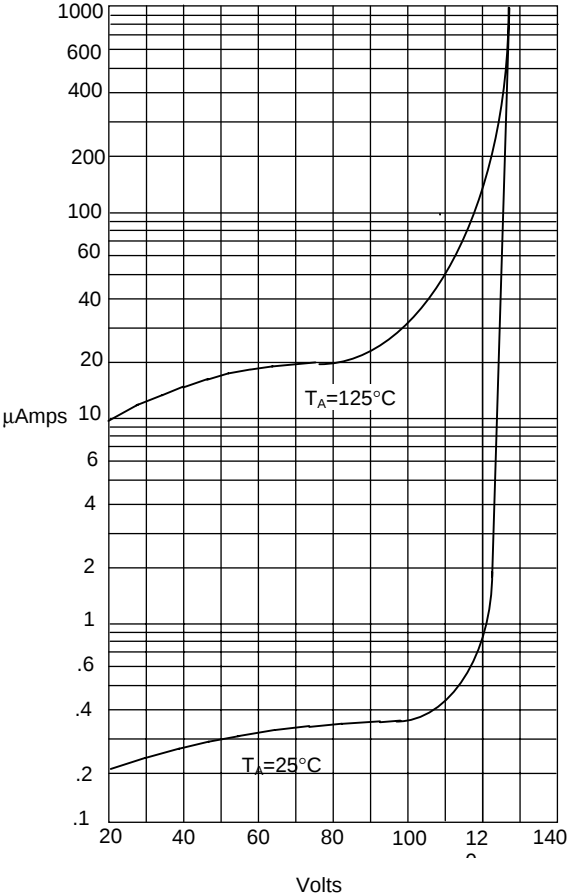
Average Forward Rectified Current - Amperes versus  
Ambient Temperature - °C

Figure 3  
Junction Capacitance

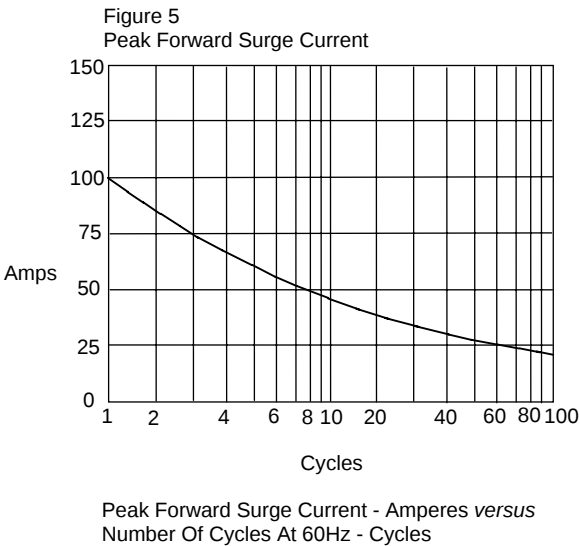


Junction Capacitance - pF versus  
Reverse Voltage - Volts

Figure 4  
Typical Reverse Characteristics



Instantaneous Reverse Leakage Current - MicroAmperes versus  
Percent Of Rated Peak Reverse Voltage - Volts



Peak Forward Surge Current - Amperes versus  
Number Of Cycles At 60Hz - Cycles

Ordering Information :

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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