

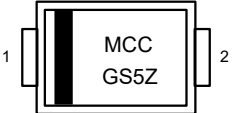
## Features

- High Surge Forward Current Capability
- For Surface Mount Applications
- Lead Free Finish/RoHS Compliant (Note 1) ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 2)
- Glass Passivated Chip Junction
- Moisture Sensitivity Level 1

## Maximum Ratings @ 25°C (Unless Otherwise Specified)

| Parameter                                                    | Symbol      | Value | Unit                 |
|--------------------------------------------------------------|-------------|-------|----------------------|
| Peak Repetitive Reverse Voltage                              | $V_{RRM}$   | 2000  | V                    |
| Working Peak Reverse Voltage                                 | $V_{RWM}$   |       |                      |
| DC Blocking Voltage                                          | $V_R$       |       |                      |
| RMS Reverse Voltage                                          | $V_{RMS}$   | 1400  | V                    |
| Average Rectified Forward Current @ $T_L=40^\circ\text{C}$   | $I_{F(AV)}$ | 5     | A                    |
| Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave     | $I_{FSM}$   | 200   | A                    |
| Non-Repetitive Peak Surge Current @ 1.0ms Half Sine Wave     |             | 350   |                      |
| Current Squared Time @ $1\text{ms} \leq t \leq 8.3\text{ms}$ | $I^2t$      | 166   | $\text{A}^2\text{s}$ |

## Internal Structure

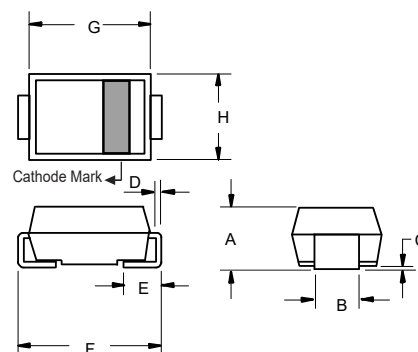
| Pin | Description | Simplified Outline                                                                  | Graphic Symbol                                                                      |
|-----|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1   | cathode     |  |  |
| 2   | anode       |                                                                                     |                                                                                     |

Note:

1. High temperature solder exemption applied, see EU directive annex 7a.
2. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

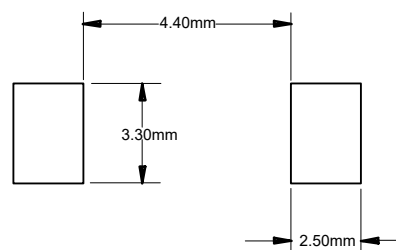
# 5 Amp General Purpose Rectifier 2000 Volts

## SMC (DO-214AB)



| DIM | INCHES |       | MM    |       | NOTE |
|-----|--------|-------|-------|-------|------|
|     | MIN    | MAX   | MIN   | MAX   |      |
| A   | 0.079  | 0.103 | 2.00  | 2.62  |      |
| B   | 0.108  | 0.128 | 2.75  | 3.25  |      |
| C   | 0.002  | 0.008 | 0.051 | 0.203 |      |
| D   | 0.006  | 0.012 | 0.152 | 0.305 |      |
| E   | 0.030  | 0.060 | 0.76  | 1.52  |      |
| F   | 0.305  | 0.320 | 7.75  | 8.13  |      |
| G   | 0.260  | 0.280 | 6.60  | 7.11  |      |
| H   | 0.220  | 0.245 | 5.59  | 6.22  |      |

## Suggested Solder Pad Layout



## Thermal characteristics

| Symbol        | Parameter                                   | Conditions | Min | Typ | Max | Unit |
|---------------|---------------------------------------------|------------|-----|-----|-----|------|
| $T_J$         | Operating Junction Temperature Range        |            | -55 |     | 150 | °C   |
| $T_{stg}$     | Storage Temperature Range                   |            | -55 |     | 150 | °C   |
| $R_{th(J-L)}$ | Thermal Resistance from Junction to Lead    | Note 1     |     | 20  |     | °C/W |
| $R_{th(J-A)}$ | Thermal Resistance from Junction to Ambient | Note 1     |     | 65  |     | °C/W |

Note:

1. Mounted on P.C.B. with 10mm\*10mm copper pad areas.

## Electrical Characteristics @ 25°C Unless Otherwise Specified

| Parameter            | Symbol | Test Conditions                                                     | Min | Typ          | Max       | Unit    |
|----------------------|--------|---------------------------------------------------------------------|-----|--------------|-----------|---------|
| Forward Voltage      | $V_F$  | $I_F=5A; T_J=25^{\circ}C$<br>$I_F=5A; T_J=125^{\circ}C$             |     | 0.96<br>0.86 | 1.10      | V       |
| Reverse Current      | $I_R$  | at Rated $V_R; T_J=25^{\circ}C$<br>at Rated $V_R; T_J=125^{\circ}C$ |     |              | 5<br>1000 | $\mu A$ |
| Junction Capacitance | $C_J$  | $V_R=4V; f=1MHz; T_J=25^{\circ}C$                                   |     | 35           |           | pF      |

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

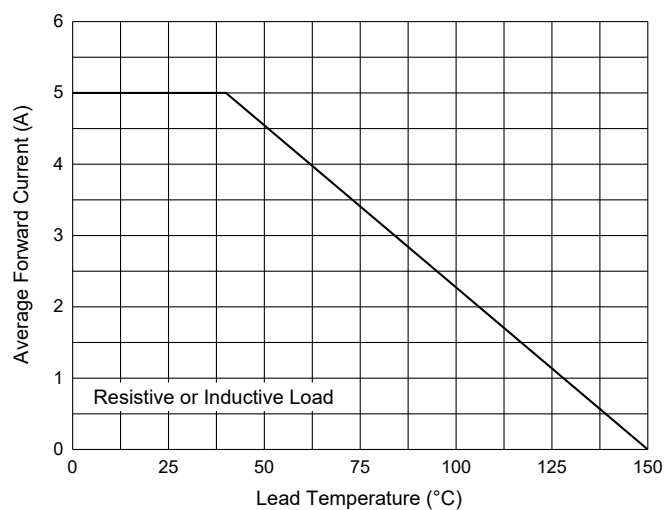


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

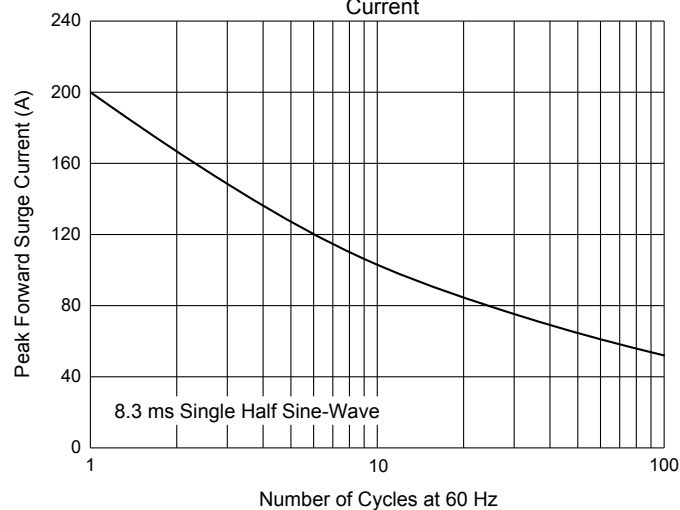


Fig. 3 - Typical Forward Characteristics

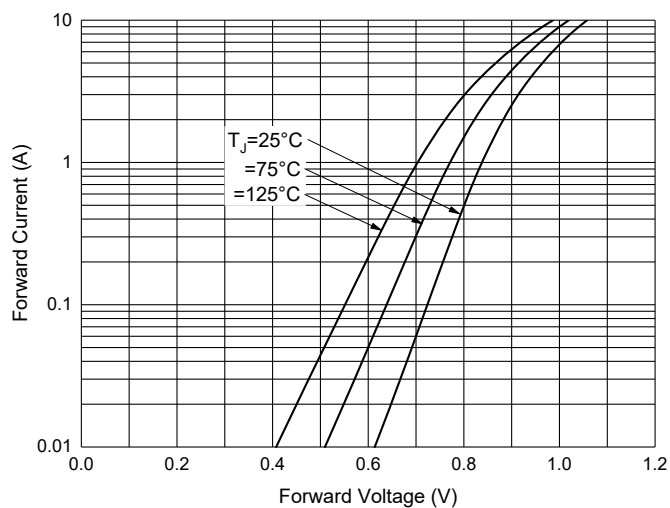


Fig. 4 - Typical Reverse Leakage Characteristics

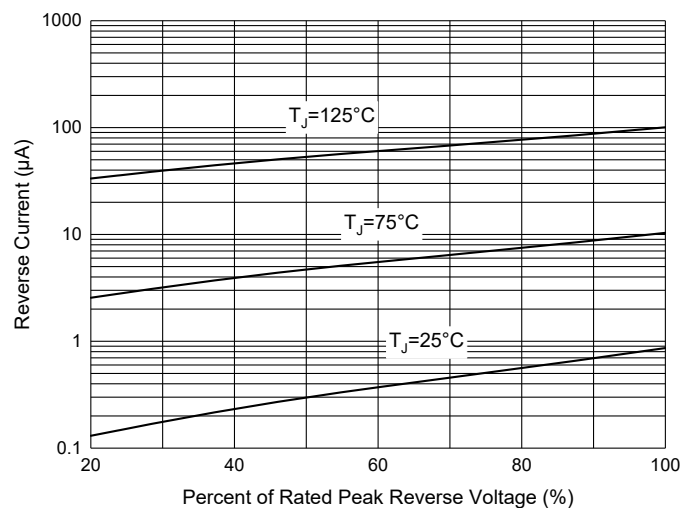
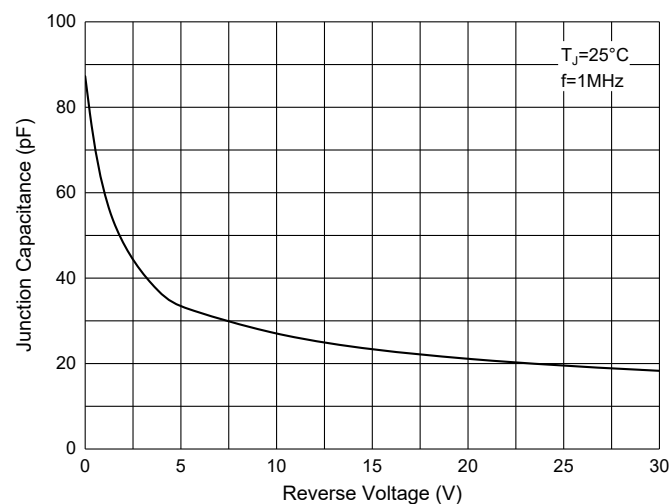


Fig. 5 - Typical Capacitance Characteristics



## Ordering Information

| Device  | Packing              |
|---------|----------------------|
| GS5Z-TP | Tape&Reel:3Kpcs/Reel |

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