

Features

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

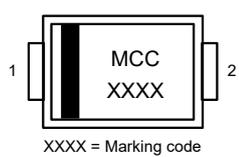
Maximum Ratings @ 25°C (Unless Otherwise Specified)

| Parameter | Symbol | Value | | | | | | | | Unit |
|--------------------------------------------------------------|-------------|---------|---------|---------|---------|---------|---------|---------|---|----------------------|
| | | GS 1A-L | GS 1B-L | GS 1D-L | GS 1G-L | GS 1J-L | GS 1K-L | GS 1M-L | | |
| Peak Repetitive Reverse Voltage | V_{RRM} | | | | | | | | | V |
| Working Peak Reverse Voltage | V_{RWM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | | |
| DC Blocking Voltage | V_R | | | | | | | | | |
| RMS Reverse Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V | |
| Average Rectified Forward Current @ $T_L=125^\circ\text{C}$ | $I_{F(AV)}$ | 1 | | | | | | | | A |
| Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave | I_{FSM} | 30 | | | | | | | | A |
| Non-Repetitive Peak Surge Current @ 1ms Square Wave | | 60 | | | | | | | | |
| Current Squared Time @ $1\text{ms} \leq t \leq 8.3\text{ms}$ | I^2t | 3.735 | | | | | | | | A^2s |

Marking code

| Part Number | Marking code |
|-------------|--------------|
| GS1A-L | GS1A |
| GS1B-L | GS1B |
| GS1D-L | GS1D |
| GS1G-L | GS1G |
| GS1J-L | GS1J |
| GS1K-L | GS1K |
| GS1M-L | GS1M |

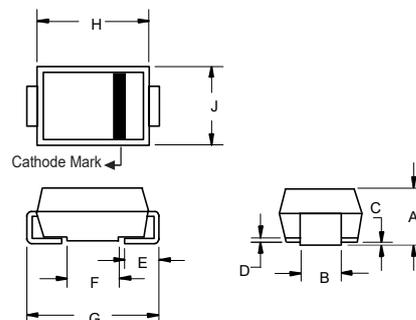
Internal Structure

| Pin | Description | Simplified outline | Graphic symbol |
|-----|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1 | Cathode |  |  |
| 2 | Anode | | |

- Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

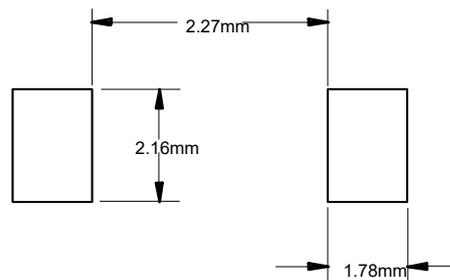
1 Amp General Purpose Rectifier 50 to 1000 Volts

SMA (DO-214AC)



| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|-------|-------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.075 | 0.096 | 1.90 | 2.44 | |
| B | 0.050 | 0.064 | 1.27 | 1.63 | |
| C | 0.002 | 0.008 | 0.051 | 0.203 | |
| D | --- | 0.020 | --- | 0.51 | |
| E | 0.030 | 0.060 | 0.76 | 1.52 | |
| F | 0.065 | 0.091 | 1.65 | 2.32 | |
| G | 0.189 | 0.220 | 4.80 | 5.59 | |
| H | 0.157 | 0.187 | 4.00 | 4.75 | |
| J | 0.090 | 0.115 | 2.25 | 2.92 | |

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 | | 25 | | °C/W |
| $R_{th(J-A)}$ | Thermal Resistance from Junction to Ambient | Note 1 | | 75 | | °C/W |

Note:

1. Mounted on P.C.B. with 5mm*5mm copper pad areas.

Electrical Characteristics @ 25°C Unless Otherwise Specified

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|-----------------------|----------|-------------------------------------------------------------------|-----|-----|---------|------|
| Forward Voltage | V_F | $I_F=1A; T_J=25^\circ C$ | | | 1.0 | V |
| Reverse Current | I_R | at Rated $V_R; T_J=25^\circ C$ at Rated $V_R; T_J=125^\circ C$ | | | 5 50 | uA |
| Junction Capacitance | C_J | $V_R=4V; f=1MHz; T_J=25^\circ C$ | | 8 | | pF |
| Reverse Recovery Time | t_{rr} | $I_F=0.5A; I_R=1.0A; I_{rr}=0.25A; T_J=25^\circ C$ | | 2 | | uS |
| Avalanche Energy | E_{AS} | $L=40mH; T_J=25^\circ C$ | | | 20 | mJ |

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

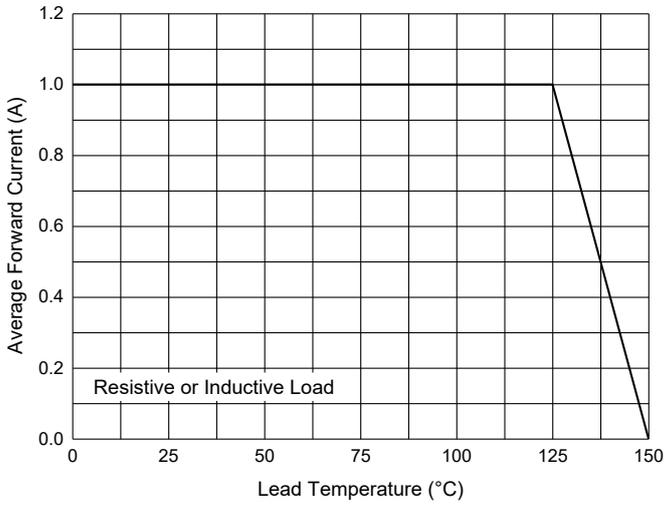


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

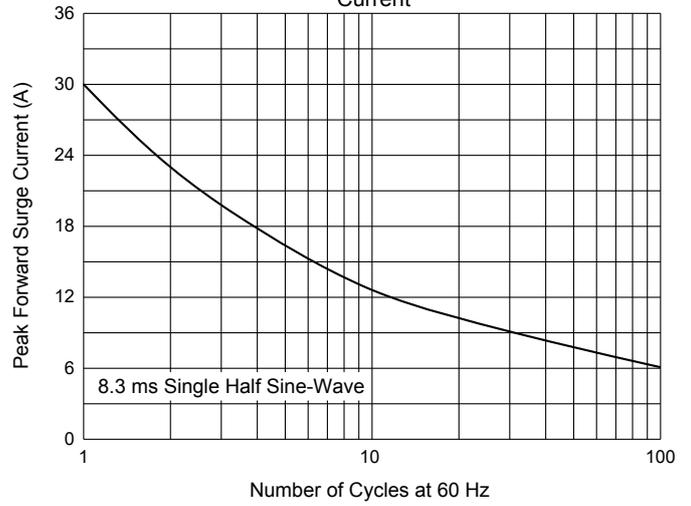


Fig. 3 - Typical Forward Characteristics

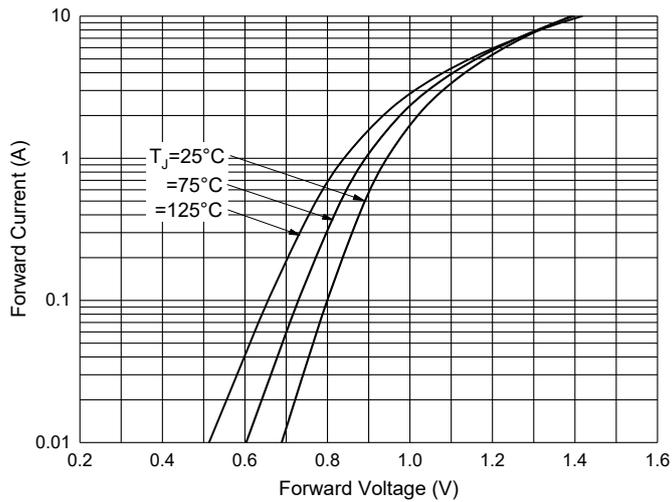


Fig. 4 - Typical Reverse Leakage Characteristics

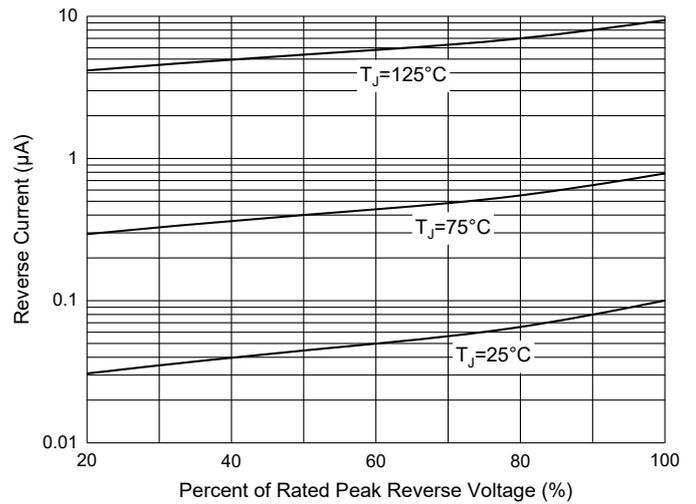
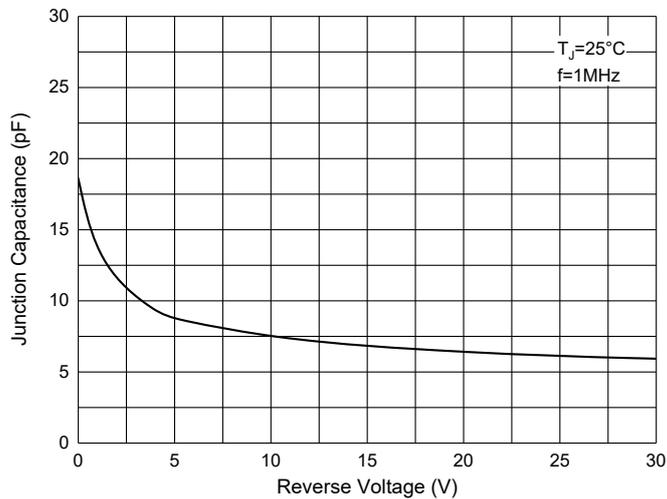


Fig. 5 - Typical Capacitance Characteristics



Ordering Information

| Device | Packing |
|---------------------|------------------------|
| GS1A-LTP ~ GS1M-LTP | Tape&Reel:7.5Kpcs/Reel |

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