

### ■ Features

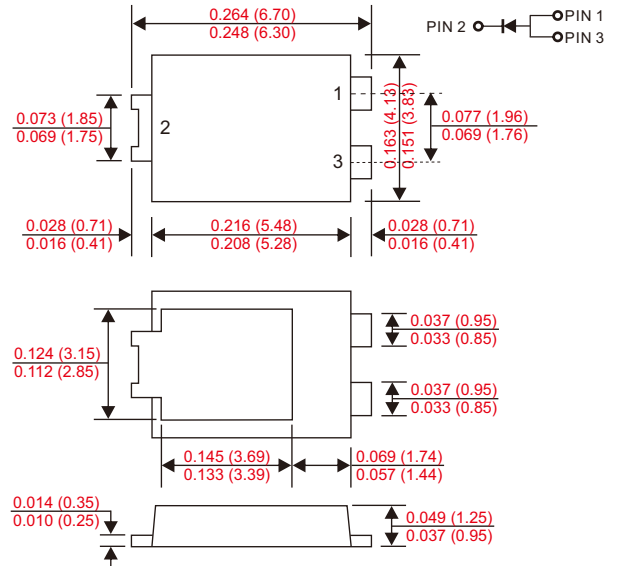
- Low forward voltage drop.
- Excellent high temperature stability.
- Fast switching capability.
- Suffix "G" indicates Halogen-free part, ex. CSP20S50SG-A.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

### ■ Mechanical data

- Epoxy : UL94-V0 rated flame retardant.
- Case : Molded plastic, TO-277.
- Lead : Solder plated, solderable per MIL-STD-750, Method 2026.
- Polarity: Indicated by cathode band.
- Mounting Position : Any.
- Weight : Approximated 0.093 grams.

### ■ Outline

TO-277



Dimensions in inches and (millimeters)

### ■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Parameter                         | Conditions   | Symbol          | CSP20S50S-A | UNIT |
|-----------------------------------|--|-----------------|-------------|------|
| Marking code                      |  |                 | CSP20S50S   |      |
| Peak repetitive reverse voltage   |  | $V_{RRM}$       | 50          | V    |
| Working peak reverse voltage      |  | $V_{RWM}$       |             |      |
| DC blocking voltage               |  | $V_{RM}$        |             |      |
| RMS reverse voltage               |  | $V_{R(RMS)}$    | 35          | V    |
| Forward rectified current         |  | $I_O$           | 20          | A    |
| Forward surge current             | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$       | 350         | A    |
| Thermal resistance                | Junction to ambient(1)   | $R_{\theta JA}$ | 73          | °C/W |
|                                   | Junction to ambient(2)   | $R_{\theta JA}$ | 31          | °C/W |
| Operating and Storage temperature |  | $T_J, T_{STG}$  | -65 ~ +150  | °C   |

| Parameter                 | Conditions                         | Symbol      | MIN. | TYP. | MAX. | UNIT |
|---------------------------|------------------------------------|-------------|------|------|------|------|
| Reverse breakdown voltage | $I_R = 0.5mA$                      | $V_{(BR)R}$ | 50   |      |      | V    |
| Forward voltage drop      | $I_F = 20A, T_J = 25^\circ C$      | $V_F$       |      |      | 500  | mV   |
|                           | $I_F = 20A, T_J = 125^\circ C$     |             |      |      | 460  |      |
| Reverse current           | $V_R = V_{RRM}, T_J = 25^\circ C$  | $I_R$       |      |      | 1    | mA   |
|                           | $V_R = V_{RRM}, T_J = 125^\circ C$ |             |      |      | 100  |      |

Note : 1.FR-4 PCB, 2oz. Copper.  
2.Polyimide PCB, 2oz. Copper.Cathode pad dimensions 18.8mm x 14.4mm.Anode pad dimensions 5.6mm x 14.4mm.

■ Rating and characteristic curves

Fig. 1 - Forward Current Derating Curve

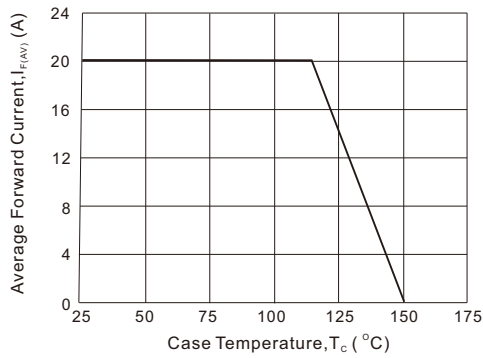


Fig. 2 - Instantaneous Forward Characteristics

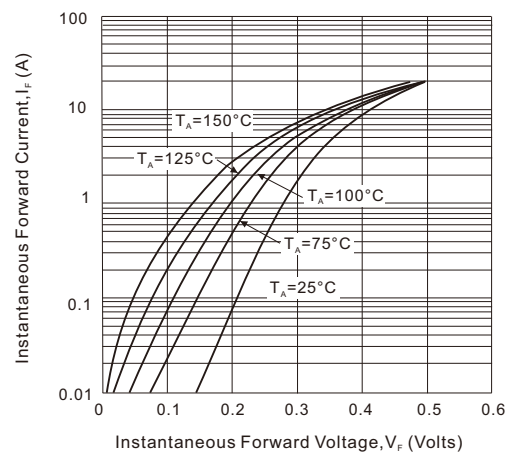
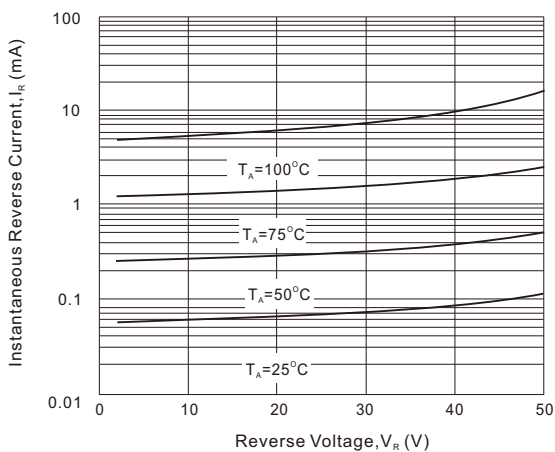
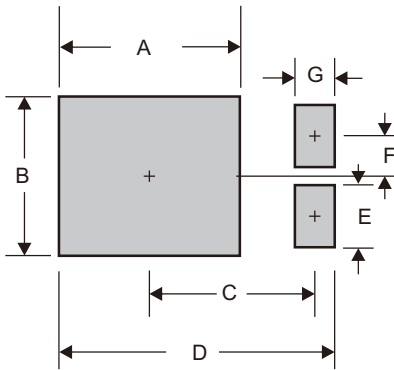


Fig. 3 - Reverse Characteristics



■ TO-277 foot print



| A            | B            | C            | D            | E            | F            | G            |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 0.185 (4.70) | 0.142 (3.60) | 0.152 (3.87) | 0.260 (6.60) | 0.055 (1.40) | 0.035 (0.90) | 0.031 (0.80) |

Dimensions in inches and (millimeters)

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