

### ■ Features

- Low forward voltage drop.
- Excellent high temperature stability.
- Fast switching capability.
- Suffix "G" indicates Halogen-free part, ex. CP15H45SG.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

### ■ Mechanical data

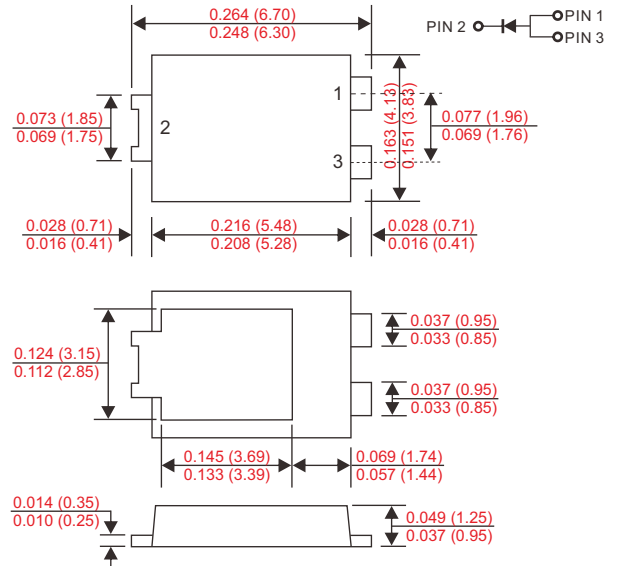
- Epoxy : UL94-V0 rated flame retardant.
- Case : Molded plastic, TO-277.
- Lead : Solder plated, solderable per MIL-STD-750, Method 2026.
- Polarity: Indicated by cathode band.
- Mounting Position : Any.
- Weight : Approximated 0.093 grams.

### ■ 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%.

### ■ Outline

TO-277



| Parameter                         | Conditions                                                           | Symbol          | CP15H45S   | UNIT |
|-----------------------------------|----------------------------------------------------------------------|-----------------|------------|------|
| Marking code                      |                                                                      |                 | CP15H45S   |      |
| Peak repetitive reverse voltage   |                                                                      | $V_{RRM}$       | 45         | V    |
| Working peak reverse voltage      |                                                                      | $V_{RWM}$       |            |      |
| DC blocking voltage               |                                                                      | $V_{RM}$        |            |      |
| Forward rectified current         |                                                                      | $I_O$           | 15         | A    |
| Forward surge current             | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$       | 300        | A    |
| Thermal resistance                | Junction to case                                                     | $R_{\theta JC}$ | 6          | °C/W |
| Operating and Storage temperature |                                                                      | $T_J, T_{STG}$  | -55 ~ +150 | °C   |

| Parameter            | Conditions                         | Symbol | MIN. | TYP. | MAX. | UNIT |
|----------------------|------------------------------------|--------|------|------|------|------|
| Forward voltage drop | $I_F = 15A, T_J = 25^\circ C$      | $V_F$  |      |      | 530  | mV   |
|                      | $I_F = 15A, T_J = 125^\circ C$     |        |      |      | 470  |      |
| Reverse current      | $V_R = V_{RRM}, T_J = 25^\circ C$  | $I_R$  |      |      | 0.08 | mA   |
|                      | $V_R = V_{RRM}, T_J = 125^\circ C$ |        |      |      | 20   |      |

### ■ Rating and characteristic curves

Fig. 1 - Forward Power Dissipation

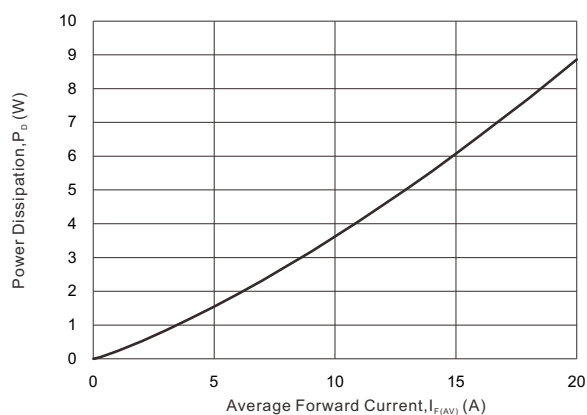


Fig. 2 - Instantaneous Forward Characteristics

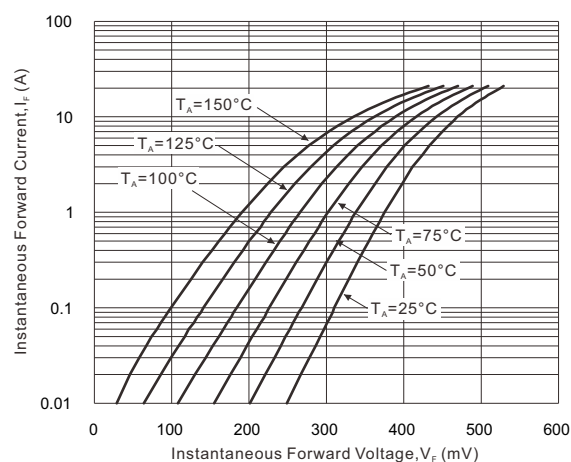


Fig. 3 - Reverse Characteristics

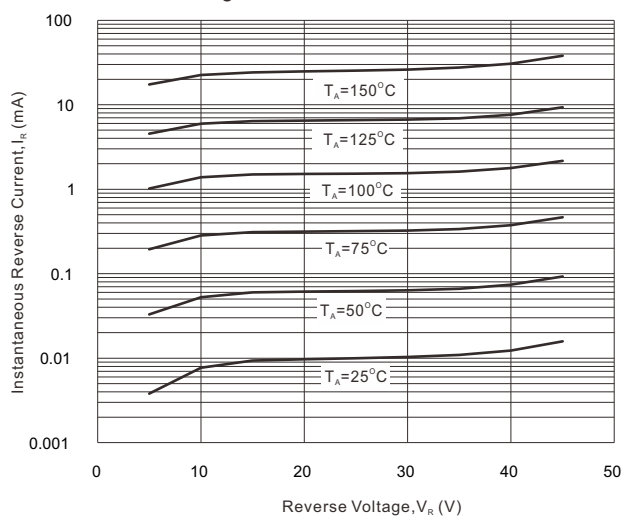


Fig.4 - Forward Current Derating Curve

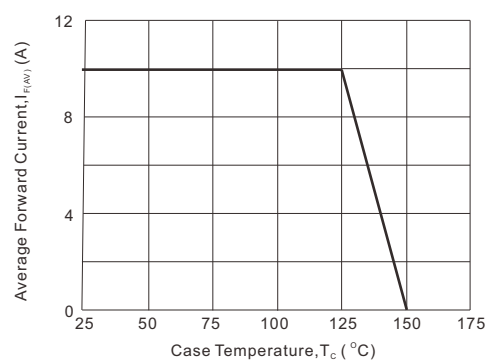
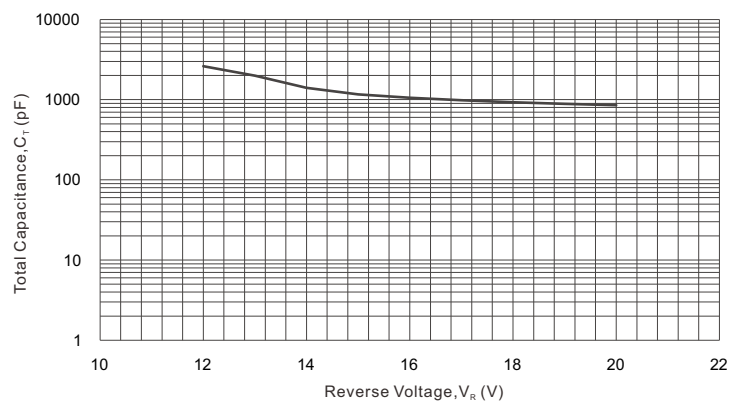
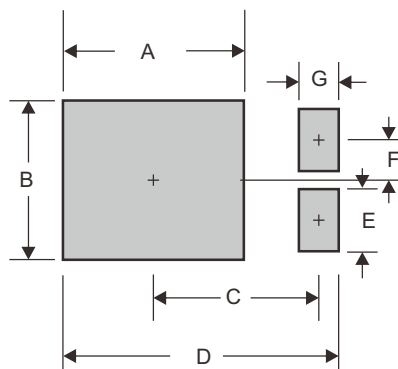


Fig. 5 - Total Capacitance VS. Reverse Voltage



### ■ 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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