

DESCRIPTION

SiC Schottky Diode has no switching loss, provides improved system efficiency against Si diodes by utilizing new semiconductor material-Silicon Carbide, enables higher operating frequency, and helps increasing power density and reduction of system size /cost. Its high reliability ensures robust operation during surge or over-voltage conditions.

FEATURES

- Max Junction Temperature 175°C
- High Surge Current Capacity
- Positive Temperature Coefficient
- Ease of Paralleling
- No Reverse Recovery/No Forward Recovery

MECHANICAL DATA

- Case: JEDEC TO-247AB
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked
- Mounting Torque: 10 in-lbs maximum

TYPICAL APPLICATIONS

- General Purpose
- SMPS, Solar inverter, UPS
- Power Switching Circuits

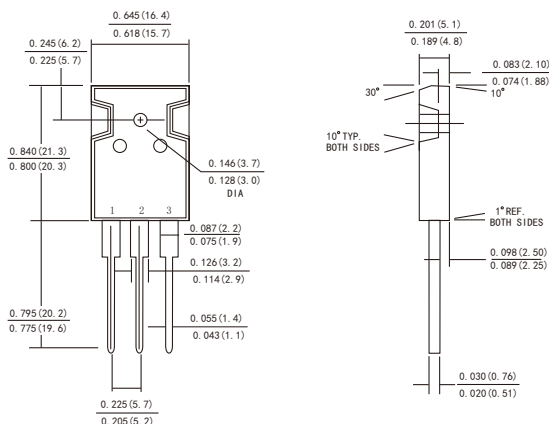
MAXIMUM RATINGS

(Ratings at 25°C ambient temperature unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---|-------------|------------|------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 650 | V |
| Continuous Rectified Forward Current | I_F | 20 | A |
| Repetitive Forward Surge Current (NOTE 1) | $I_{F, RM}$ | 80 | A |
| Operating junction temperature range | T_J | -55 to+175 | ° C |
| Storage temperature range | T_{stg} | -55 to+175 | ° C |

Notes: 1.Half-Sine Pulse, $t_p=8.3ms$

TO-247AB



Dimensions in inches and (millimeters)

RATINGS AND CHARACTERISTIC OF SC2065PT

ELECTRICAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

| Parameter | Test Conditions | | Symbol | TYP. | MAX. | Unit |
|---|-------------------------------|-----------------------|----------------|------|------|------|
| Instaneous forward voltage | I _F =20A | T _A =25°C | V _F | 1.5 | 1.8 | V |
| | | T _A =175°C | | 1.8 | 2.1 | |
| Reverse current | V _R =650V | T _A =25°C | I _R | - | 10 | μA |
| | | T _A =125°C | | - | 40 | |
| | | T _A =175°C | | - | 100 | |
| Typical junction capacitance(pre diode) | V _R =1V, f=100kHz | | C _J | 450 | - | pF |
| | V _R =10V, f=100kHz | | | 220 | - | |
| | V _R =40V, f=100kHz | | | 125 | - | |

THERMAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

| Parameter | Symbol | SC2065PT | Unit |
|--|------------------|----------|------|
| Typical thermal resistance ²⁾ | R _{θJC} | 0.5 | °C/W |

2.Thermal resistance from junction to case

RATINGS AND CHARACTERISTIC OF SC2065PT

FIG.1-FORWARD CURRENT DERATING CURVE

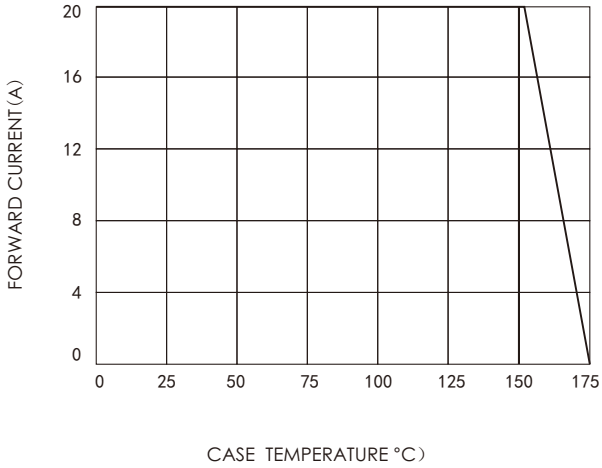


FIG.3-TYPICAL JUNCTION CAPACITANCE

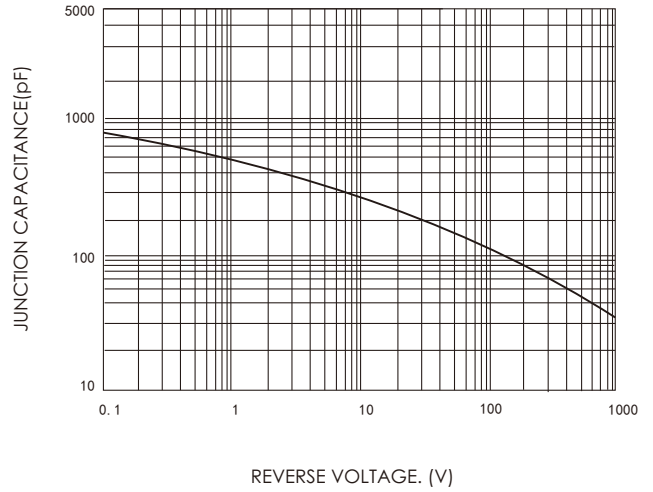


FIG.2-FORWARD CURRENT DERATING CURVE (Pre Diode)

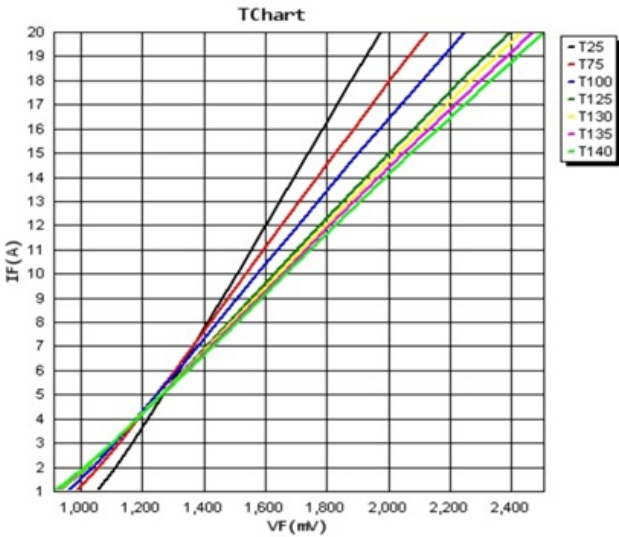


FIG.4-REVERSE CHARACTERISTICS (Pre Diode)

