TAIWAN SEMICONDUCTOR

# SK15H45

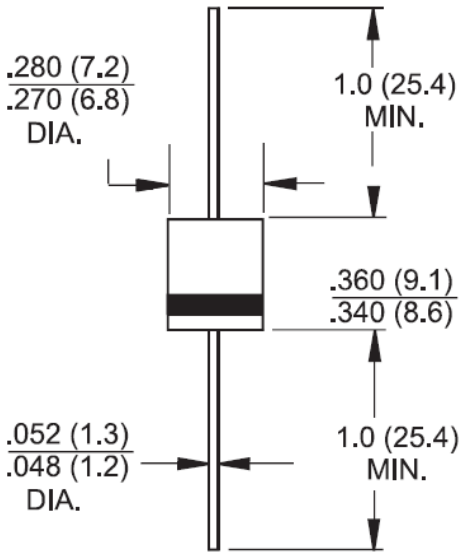
15.0 AMPS. Schottky Barrier Rectifiers

**R-6**

RoHS COMPLIANCE

## Features

- Low power loss, high efficiency
- High current capability, low VF
- High reliability
- High surge current capability
- Epitaxial construction
- Guard-ring for transient protection
- Green compound with suffix "G" on packing code & prefix "G" on datecode




**Dimensions in inches and (millimeters)**

## Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode
- High temperature soldering guaranteed: 260℃/10 seconds /.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- Weight: 1.6 grams

**Marking Diagram**


| | |
|---|---|
| SK15HXX | = Specific Device Code |
| G | = Green Compound |
| Y | = Year |
| WW | = Work Week |

## Maximum Ratings and Electrical Characteristics

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

| Type Number | Symbol | SK15H45 | Unit |
|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 45 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 31 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 45 | V |
| Maximum Average Forward Rectified Current | $I_{F(AV)}$ | 15 | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | $I_{FSM}$ | 340 | A |
| Maximum Instantaneous Forward Voltage (Note 1) $I_F$=15A, $T_A$=25℃ | $V_F$ | 0.56 | V |
| Maximum Reverse Current @ Rated VR $T_A$=25 ℃<br>$T_A$=100 ℃ | $I_R$ | 0.15<br>20 | mA |
| Typical Thermal Resistance (Note 2) | $R_{\theta jA}$<br>$R_{\theta jC}$ | 30<br>10 | $^{O}$C/W |
| Operating Temperature Range - in DC forward mode | $T_J$ | <=200 | $^{O}$C |
| Storage Temperature Range | $T_{STG}$ | - 50 to + 175 | $^{O}$C |

Note 1: Pulse Test : 300uS Pulse Width, 1% Duty Cycle

Note 2: Mounted on Cu-Pad size 16mm x 16mm on P.C.B.

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# RATINGS AND CHARACTERISTIC CURVES (SK15H45)

FIG.1 FORWARD CURRENT DERATING CURVE

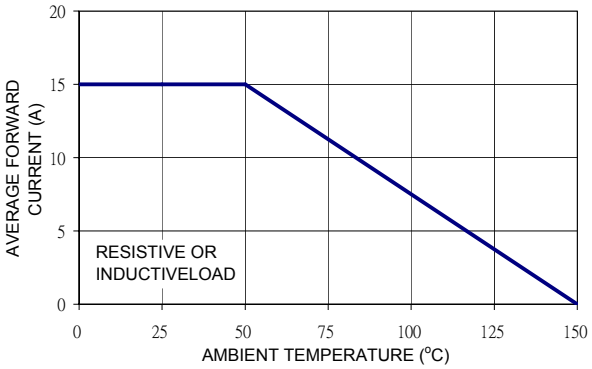



FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

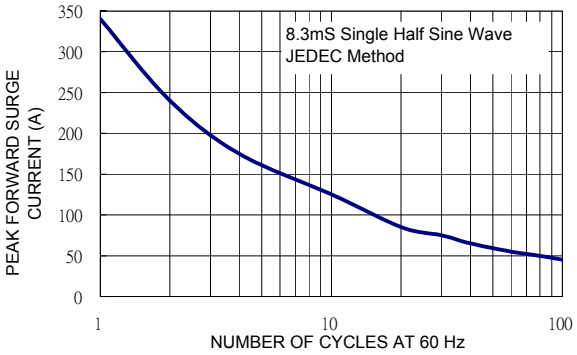



FIG. 3 TYPICAL FORWARD CHARACTERISRICS

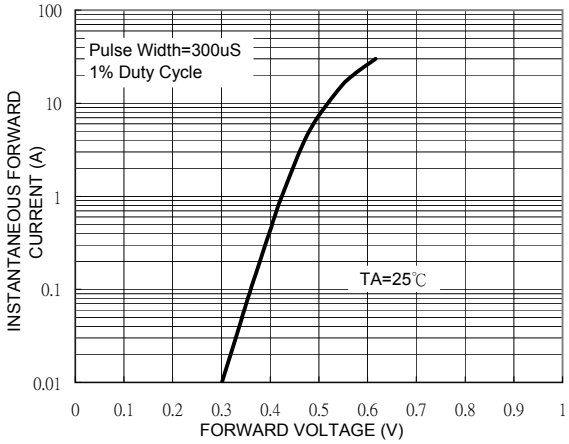



FIG. 4 TYPICAL REVERSE CHARACTERISTICS

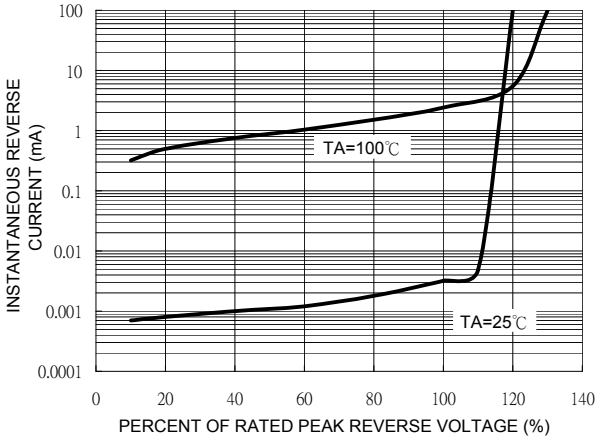



FIG. 5 TYPICAL JUNCTION CAPACITANCE

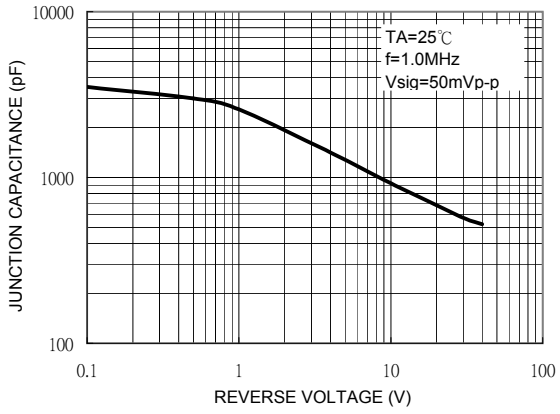
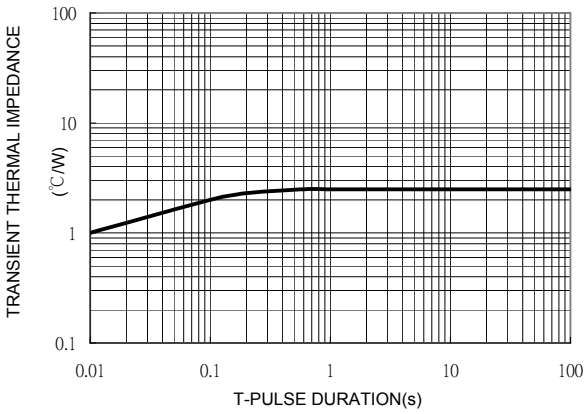



FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE




Version:B10