TAIWAN SEMICONDUCTOR

SK12H45 - SK12H60

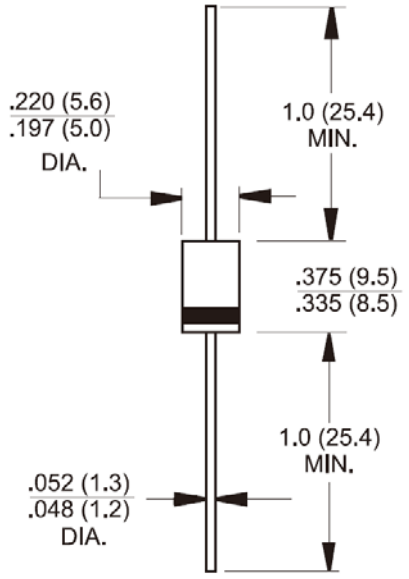
12.0 AMPS. Schottky Barrier Rectifiers

DO-201AD

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: 1.3 grams

Marking Diagram

SK12HXX	= 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	SK12H45	SK12H60	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	45	60	V
Maximum RMS Voltage	V_{RMS}	31	42	V
Maximum DC Blocking Voltage	V_{DC}	45	60	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	12		A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	320		A
Maximum Instantaneous Forward Voltage (Note 1) I_F=12A, T_A=25℃	V_F	0.55	0.70	V
Maximum Reverse Current @ Rated VR T_A=25 ℃ T_A=100 ℃	I_R	0.15 20		mA
Typical Thermal Resistance(Note 2)	$R_{\theta jA}$ $R_{\theta jC}$	30 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 (SK12H45 THRU SK12H60)

FIG.1 FORWARD CURRENT DERATING CURVE

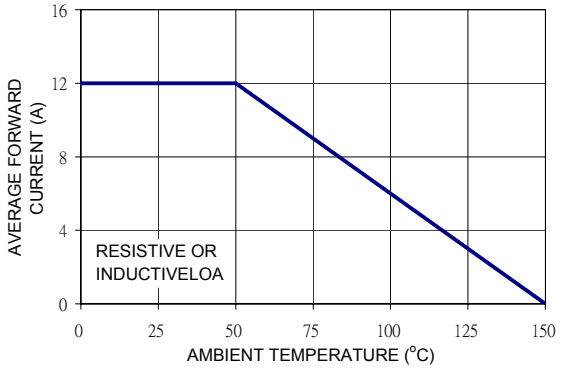


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

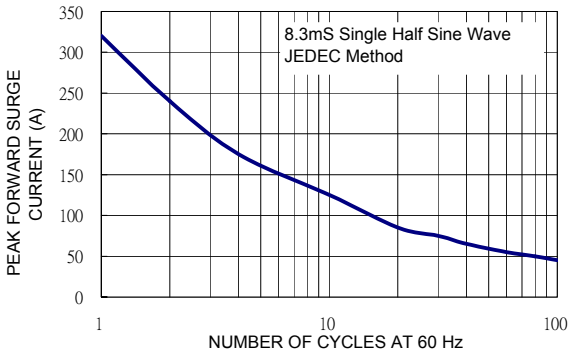


FIG. 3 TYPICAL FORWARD CHARACTERISRICS

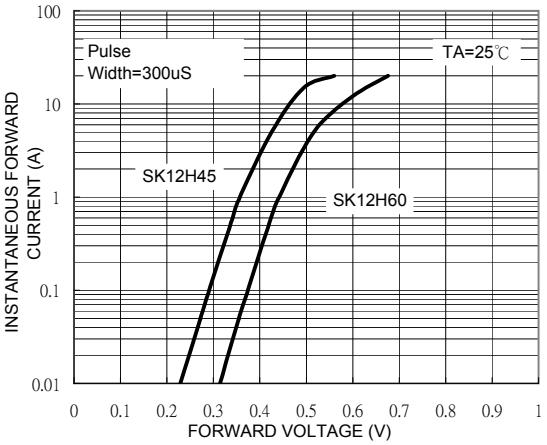


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

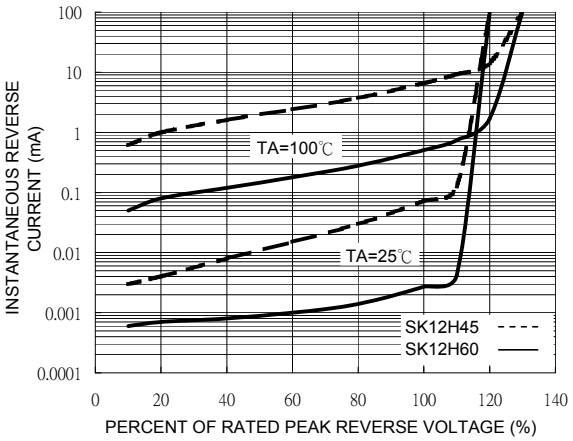


FIG. 5 TYPICAL JUNCTION CAPACITANCE

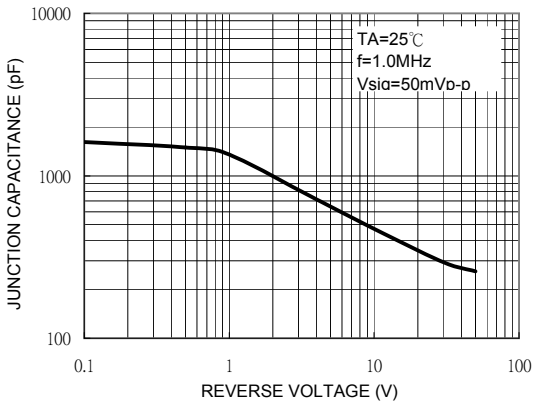
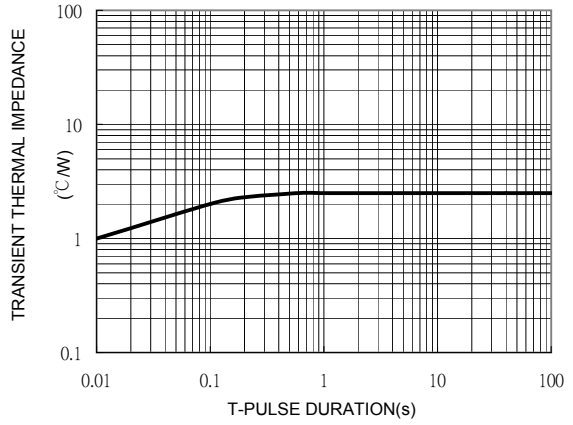


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE



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