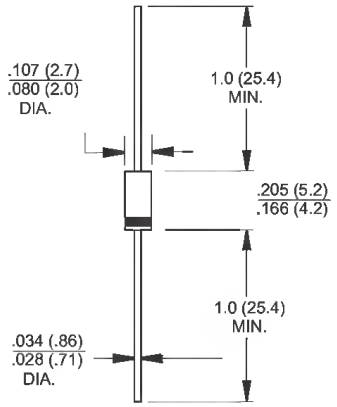
TAIWAN SEMICONDUCTOR

RoHS COMPLIANCE

SR002 - SR010

0.5 AMP. Schottky Barrier Rectifiers

DO-41



Dimensions in inches and (millimeters)

Features

- ✧ Low power loss, high efficiency.
- ✧ High current capability, Low VF.
- ✧ High reliability
- ✧ High surge current capability.
- ✧ Epitaxial construction.
- ✧ Guard-ring for transient protection.
- ✧ For use in low voltage, high frequency inventor, free wheeling, and polarity protection application
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.

Mechanical Data

- ✧ Cases: DO-41 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°C/10 seconds/.375",(9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 0.33 gram

Marking Diagram

SR0XX = Specific Device Code
G = Green Compound
Y = Year
WW = Work Week

Maximum Ratings and Electrical Characteristics

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

Type Number	Symbol	SR 002	SR 003	SR 004	SR 005	SR 006	SR 009	SR 010	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	90	100	V
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	63	70	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	90	100	V
Maximum Average Forward Rectified Current See Fig. 1	$I_{(AV)}$	0.5							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30							A
Maximum Instantaneous Forward Voltage @ 0.5A	V_F	0.55			0.70		0.85		V
Maximum D.C. Reverse Current @ T_A=25 °C at Rated DC Blocking Voltage @ T_A=125 °C	I_R	0.5 10			0.5 5		0.1 2.0		mA mA
Typical Junction Capacitance (Note 2)	Cj	110			80		65		pF
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	50							°C/W
Operating Junction Temperature Range	T_J	- 65 to +125			-65 to +150				°C
Storage Temperature Range	T_{STG}	-65 to +150							°C

Notes: 1. Mount on Cu-Pad Size 5mm x 5mm on P.C.B.
2. Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

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RATINGS AND CHARACTERISTIC CURVES (SR002 THRU SR010)

FIG.1- FORWARD CURRENT DERATING CURVE

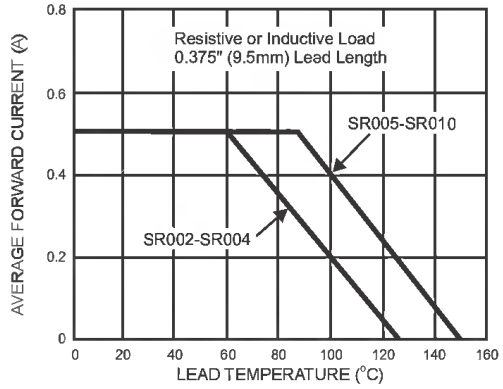


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

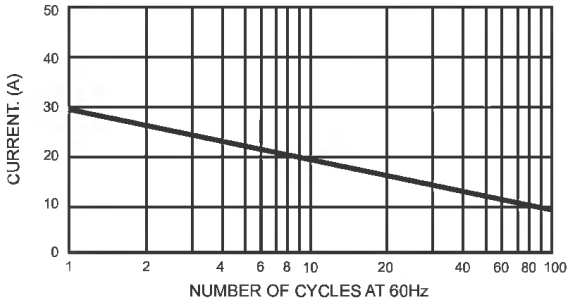


FIG.3- TYPICAL FORWARD CHARACTERISTICS

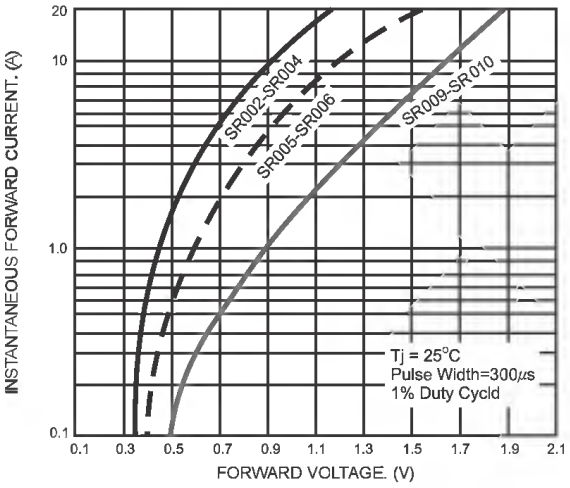


FIG.4- TYPICAL REVERSE CHARACTERISTICS

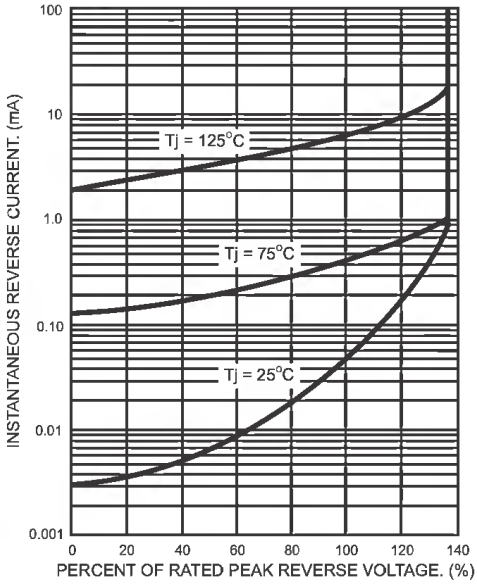


FIG.5- TYPICAL JUNCTION CAPACITANCE

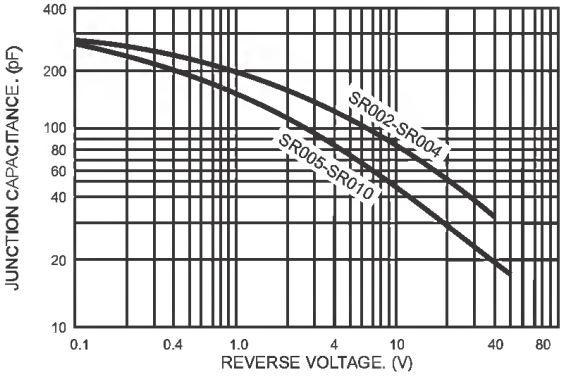
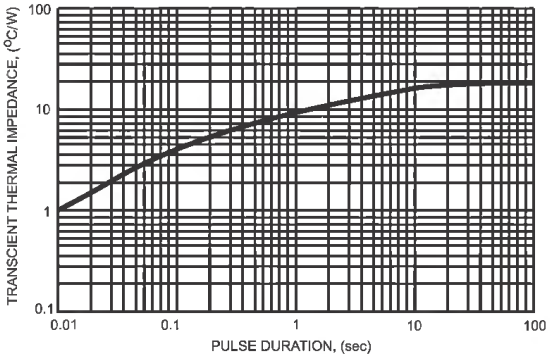


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS



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