TAIWAN SEMICONDUCTOR

RoHS COMPLIANCE

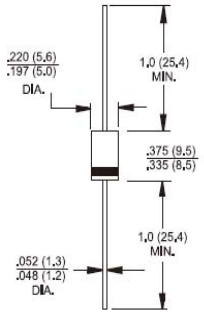
SR302 - SR320

3.0 AMPS. Schottky Barrier Rectifiers

DO-201AD

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.



Dimensions in inches and (millimeters)

Mechanical Data

- ✧ Cases: DO-201AD 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: 1.10 grams

Marking Diagram

SR3XX = Specific Device Code
G = Green Compound
Y = Year
WW = Work Week

Maximum Ratings and Electrical Characteristics

Rating at 25 °C 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	SR 302	SR 303	SR 304	SR 305	SR 306	SR 309	SR 310	SR 315	SR 320	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	90	100	150	200	V
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	63	70	105	140	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	90	100	150	200	V
Maximum Average Forward Rectified Current See Fig. 1	$I_{F(AV)}$	3.0									A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	80									A
Maximum Instantaneous Forward Voltage @3.0A	V_F	0.55			0.70		0.85		0.95		V
Maximum D.C. Reverse Current @ T_A=25 °C	I_R	0.5			0.5		0.1				mA
at Rated DC Blocking Voltage @ T_A=100 °C		10			5		-				
(Note 1) @ T_A=125 °C		-			-		2.0				
Typical Junction Capacitance (Note 2)	Cj	160			130		90				pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JC}$	50 15									°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. Pulse Test with PW=300 usec,1% Duty Cycle.
2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.
3. Mount on Cu-Pad Size 16mm x 16mm on P.C.B.

Version: G10

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RATINGS AND CHARACTERISTIC CURVES (SR302 THRU SR320)

FIG.1 FORWARD CURRENT DERATING CURVE

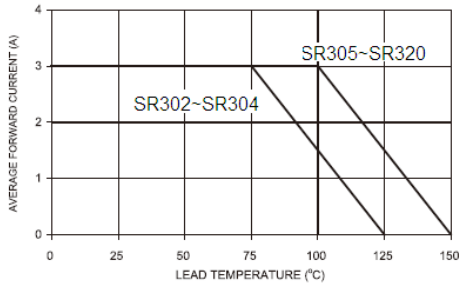


FIG. 2 MAXIMUM FORWARD SURGE CURRENT

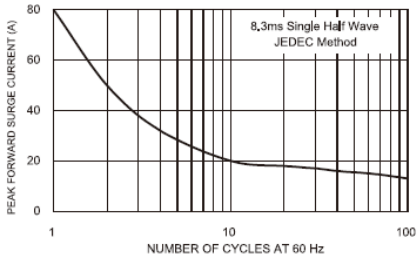


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

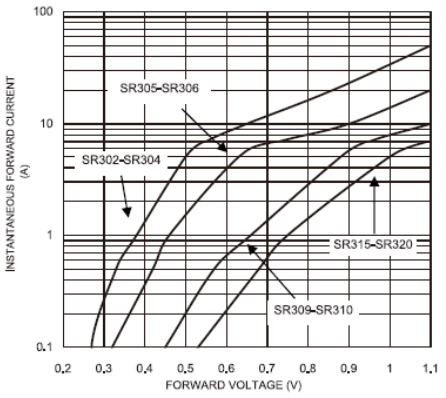


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

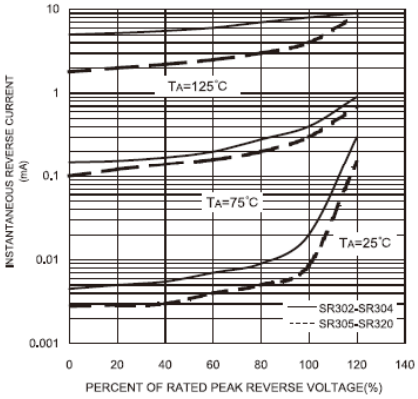


FIG. 5 TYPICAL JUNCTION CAPACITANCE

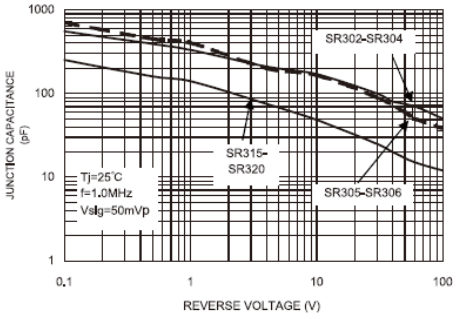
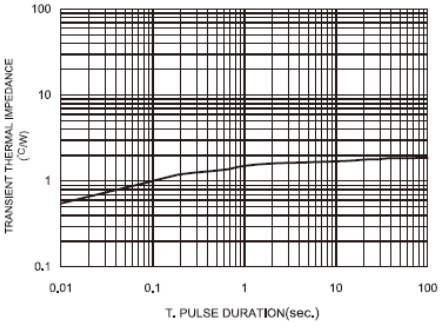


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE



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