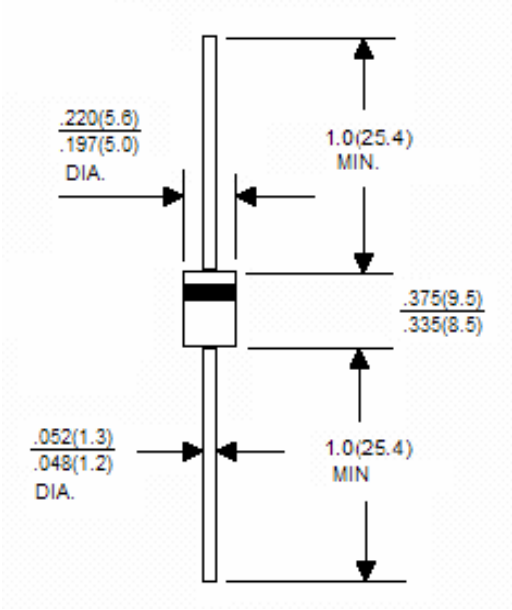
TAIWAN SEMICONDUCTOR

SR302 -SR320

3.0 AMPS. Schottky Barrier Rectifiers

DO-201AD



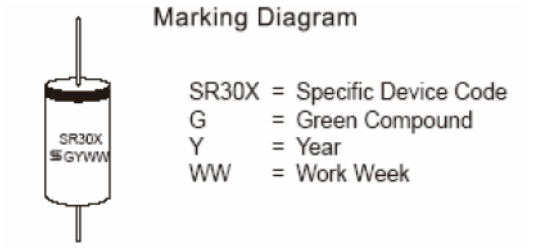
Dimensions in inches and (millimeters)

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 and Prefix "G" on date code.

Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-O 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: 1.1 grams



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	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 Refer to Fig 1	$I_{(AV)}$	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			0.7		0.85		0.95		V
Maximum DC Reverse Current @ T_A=25℃ at Rated DC Blocking Voltage @ T_A=125℃	I_R	0.5 10			0.5 5		0.1 2.0				mA
Typical Junction Capacitance (Note 2)	Cj	160			130		90				pF
Typical Thermal Resistance (Note 1)	$R\theta_{JA}$ $R\theta_{JC}$	50 15									°C/W
Operating Temperature Range	T_J	-65 to +150									°C
Storage Temperature Range	T_{STG}	-65 to +150									°C

Notes: 1. Mount on Cu-Pad Size 16mm x 16mm on P.C.B.

2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

RATINGS AND CHARACTERISTIC CURVES (SR302 - SR320)

FIG.1 Maximum Forward Current Derating Curve

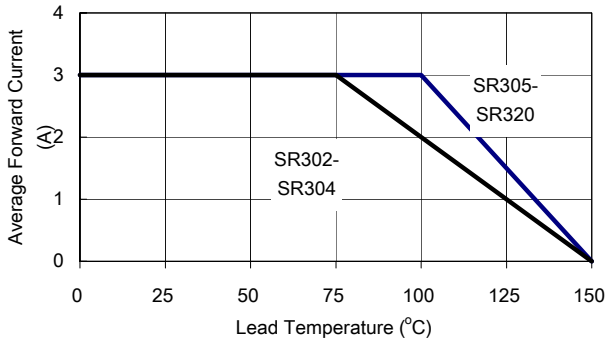


FIG 2 Maximum Forward Surge Current

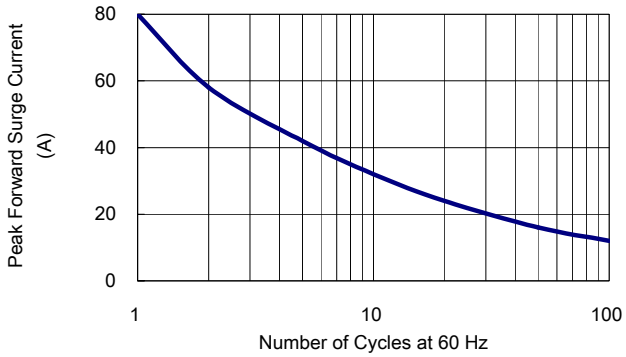


FIG 3 Typical Forward Characteristics

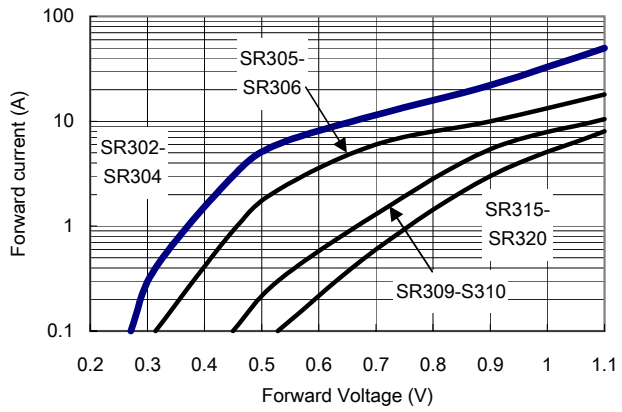


FIG 4 Typical Reverse Characteristics

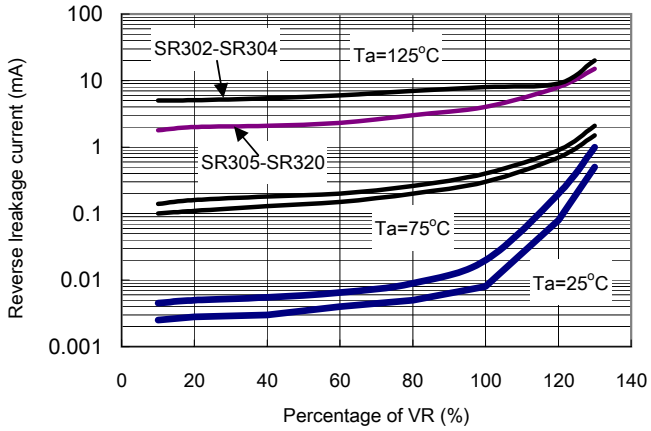


FIG 5 Typical Junction Capacitance

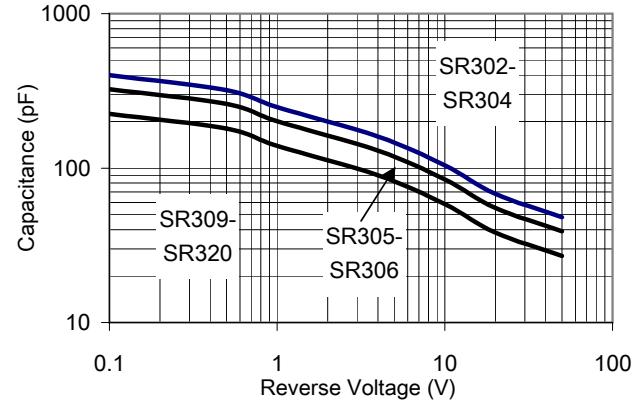


FIG 6 Typical Transient Thermal Resistance