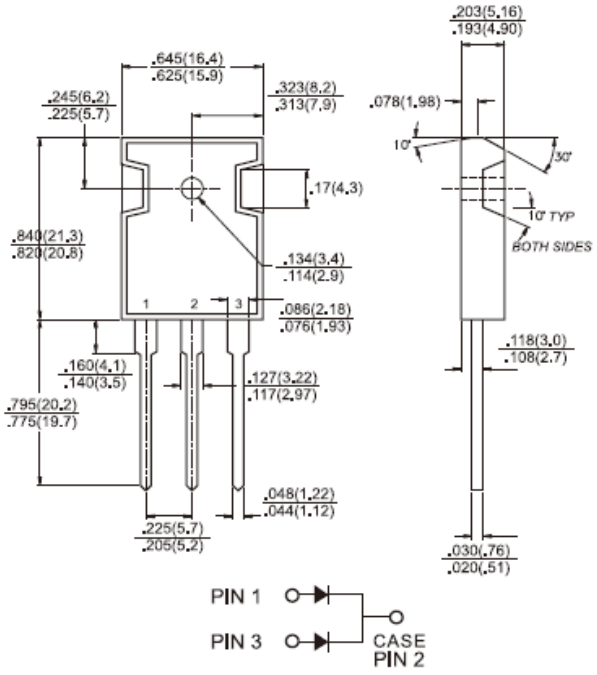
TAIWAN SEMICONDUCTOR

SR3020PT - SR30150PT

30.0AMPS. Schottky Barrier Rectifiers

TO-3P/TO-247AD

Pb RoHS COMPLIANCE



Features

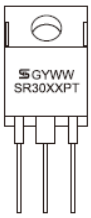
- ✧ UL Recognized File # E-326243
- ✧ Dual rectifier construction, positive center-tap
- ✧ Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- ✧ Metal silicon junction, majority carrier conduction
- ✧ Low power loss, high efficiency
- ✧ High current capability, low VF
- ✧ High surge reliabbility
- ✧ Epitaxial construction
- ✧ For use in low voltage, high frequency inventors, free wheeling, and polarity protection applications
- ✧ High temperature soldering guaranteed: 260°C/10 seconds, 0.17"(4.3mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode

Mechanical Data

- ✧ Cases: JEDEC TO-3P/TO-247AD molded plastic
- ✧ Terminals: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Weight: 6.12 grams

Dimensions in inches and (millimeters)

Marking Diagram



SR30XXPT	= 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	SR 3020 PT	SR 3030 PT	SR 3040 PT	SR 3050 PT	SR 3060 PT	SR 3090 PT	SR 30100 PT	SR 30150 PT	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	90	100	150	V
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	63	70	105	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	90	100	150	V
Maximum Average Forward Rectified Current at T_C=100°C	$I_{F(AV)}$	30								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	300								A
Maximum Instantaneous Forward Voltage (Note 1) @ 15 A	V_F	0.55			0.70		0.90		1.00	V
Maximum DC Reverse Current @ T_A=25 ℃	I_R	1.0					0.5			mA
at Rated DC Blocking Voltage @ T_A=100°C		20			15		10			mA
Typical Junction Capacitance (Note 2)	Cj	750			500		340			pF
Typical Thermal Resistance Per Leg (Note 3)	$R_{\theta JC}$	1.5								°C/W
Operating Junction Temperature Range	T_J	- 65 to + 125			- 65 to + 150					°C
Storage Temperature Range	T_{STG}	- 65 to + 150								°C

Note 1 : 300 us Pulse Width, 2% Duty Cycle

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

Note 3 : Mount Heatsink size of (4" x 6" x 0.25") Al-Plate.

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RATINGS AND CHARACTERISTIC CURVES (SR3020PT THRU SR30150PT)

FIG. 1- FORWARD CURRENT DERATING CURVE

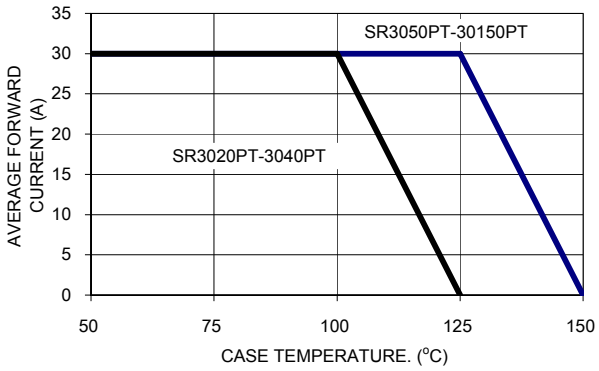


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

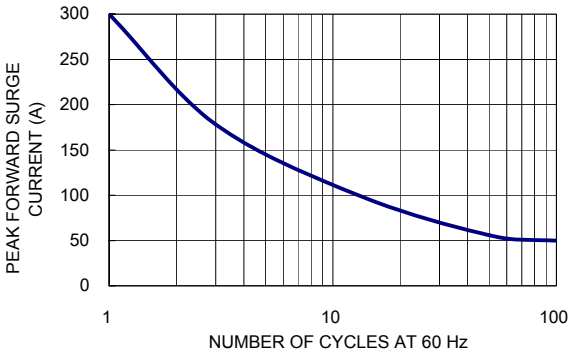


FIG. 3- TYPICAL FORWARD CHARACTERISRICS PER LEG

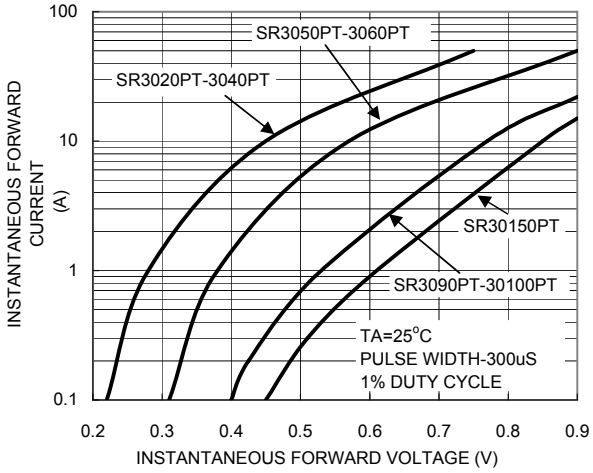


FIG. 4- TYPICAL REVERSE CHARACTERISTICS PER LEG

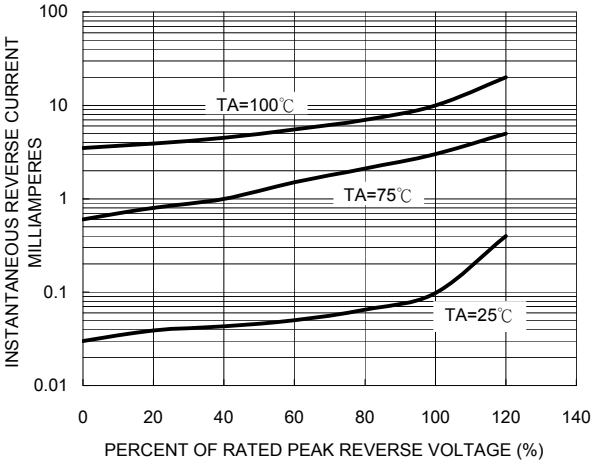


FIG. 5- TYPICAL JUNCTION CAPACITANCE PER LEG

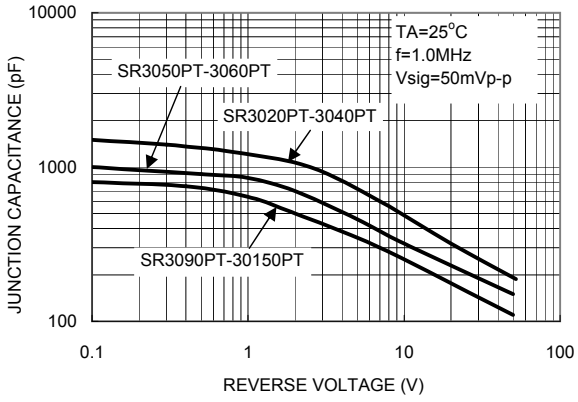
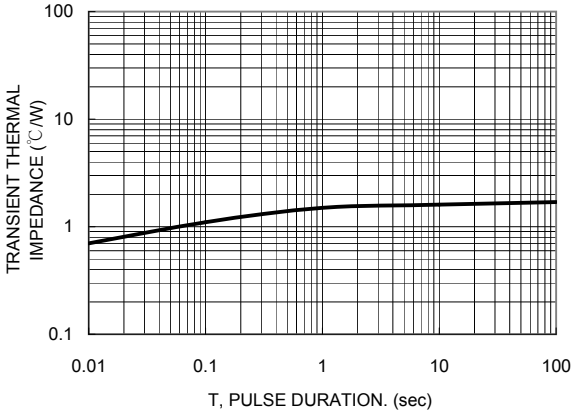


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



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