TAIWAN SEMICONDUCTOR

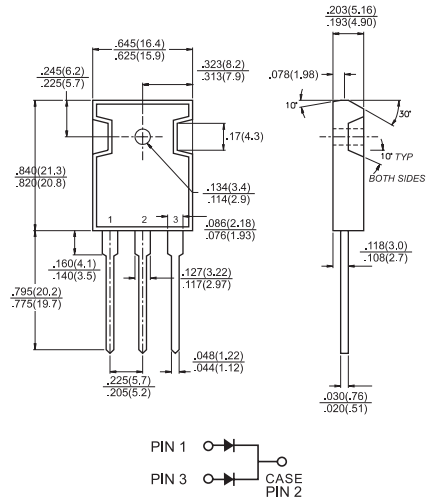
RoHS COMPLIANCE

SR1620PT - SR16150PT

16.0 AMPS. Schottky Barrier Rectifiers

TO-3P/TO-247AD





Dimensions in inches and (millimeters)

Features

- ✧ 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 capability
- ✧ Epitaxial construction
- ✧ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ✧ Guardring for transient protection
- ✧ High temperature soldering guaranteed: 260°C/10 seconds, 0.17"(4.3mm)lead lengths at 5 lbs., (2.3kg) tension

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: 0.2 ounce, 5.6 grams

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 1620 PT	SR 1630 PT	SR 1640 PT	SR 1650 PT	SR 1660 PT	SR 1690 PT	SR 16100 PT	SR 16150 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 (See Fig. 1)	$I_{(AV)}$	16								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	200								A
Maximum Instantaneous Forward Voltage @ 8.0A (Note 3)	V_F	0.55			0.70		0.90		1.00	V
Maximum D.C. Reverse Current @ Tc=25 °C	I_R	0.5					0.1			mA
at Rated DC Blocking Voltage @ Tc=100 °C		15			10		5			mA
Typical Junction Capacitance (Note 2)	Cj	700			400					pF
Typical Thermal Resistance Per Leg (Note 1)	$R_{\theta JC}$	3.0								°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. Thermal Resistance from Junction to Case Per Leg, Mount on Heatsink size of 2" x 3" x 0.25" Al-Plate.
2. Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.
3. 300 us Pulse Width, 2% Duty Cycle

RATINGS AND CHARACTERISTIC CURVES (SR1620PT THRU SR16150PT)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

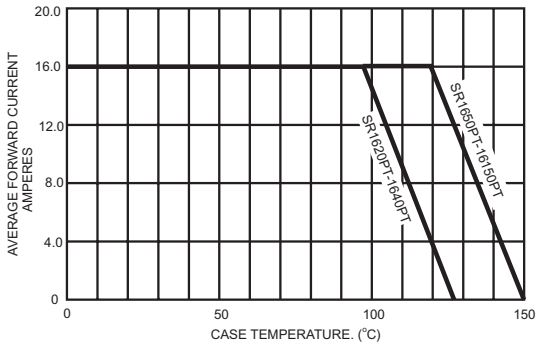


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

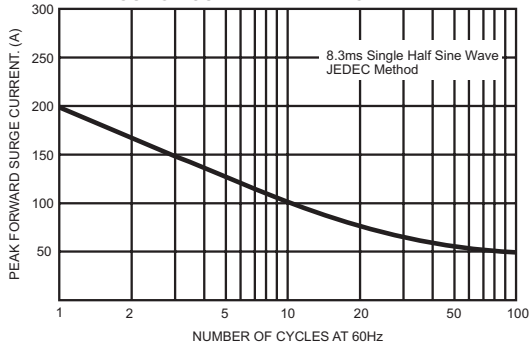


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

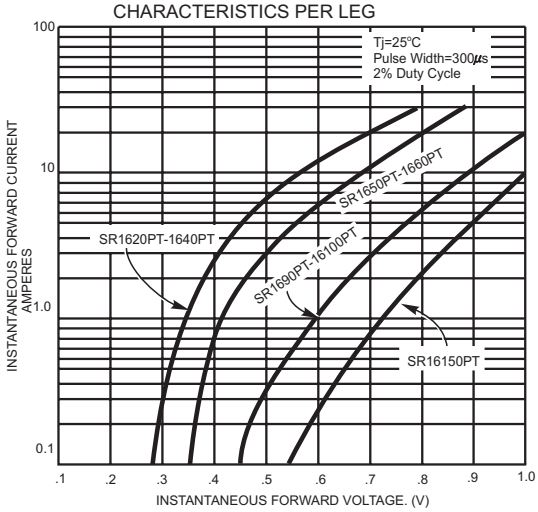


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

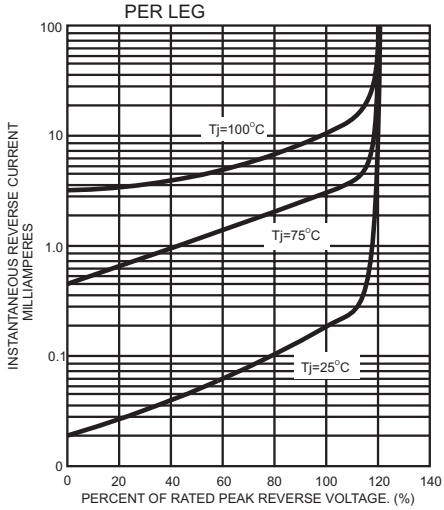


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

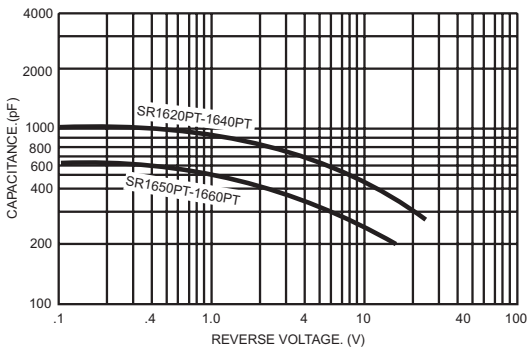


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

