TAIWAN SEMICONDUCTOR

The Smartest Choice

SR2020PT - SR20150PT

20.0AMPS. Schottky Barrier Rectifiers

TO-3P/TO-247AD

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 inverters, free wheeling, and polarity protection
- ✧ Guardring for transient protection
- ✧ 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.

Pb-Free

RoHS COMPLIANT

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: 6.10 grams

Ordering Information (example)

Part No.	Package	Packing	Packing code	Green Compound Packing code
SR2020PT	TO-3P	30 / TUBE	C0	C0G

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 2020 PT	SR 2030 PT	SR 2040 PT	SR 2050 PT	SR 2060 PT	SR 2090 PT	SR 20100 PT	SR 20150 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	$I_{F(AV)}$	20								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 (Note 1) @ 10 A	V_F	0.55			0.70		0.92		1.02	V
Maximum DC Reverse Current @ T_A=25 ℃	I_R	0.5					0.1			mA
at Rated DC Blocking Voltage @ T_A=100°C		15			10		-			mA
@ T_A=125°C		-					5.0			mA
Typical Junction Capacitance (Note 2)	Cj	600			400		350			pF
Typical Thermal Resistance Per Leg	$R_{\theta JC}$	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.

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RATINGS AND CHARACTERISTIC CURVES (SR2020PT THRU SR20150PT)

FIG. 1- FORWARD CURRENT DERATING CURVE

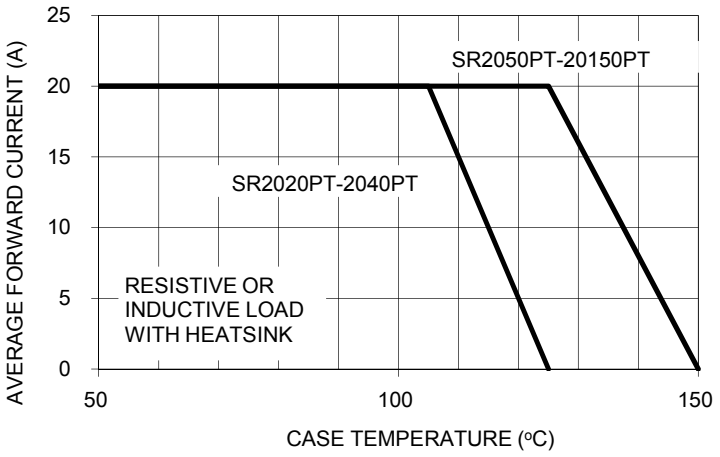


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

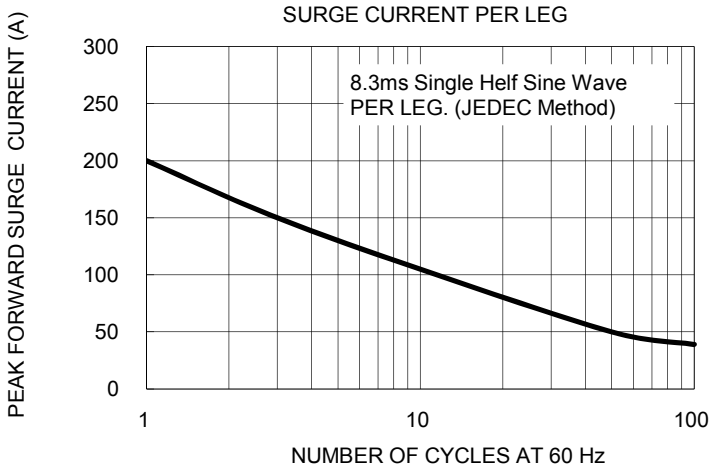


FIG. 3- TYPICAL FORWARD CHARACTERISTICS PER LEG

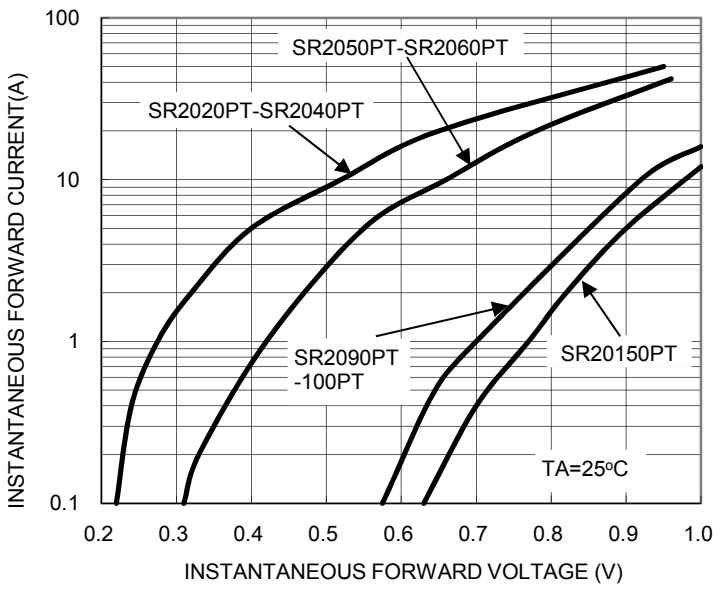


FIG. 4- TYPICAL REVERSE CHARACTERISTICS PER LEG

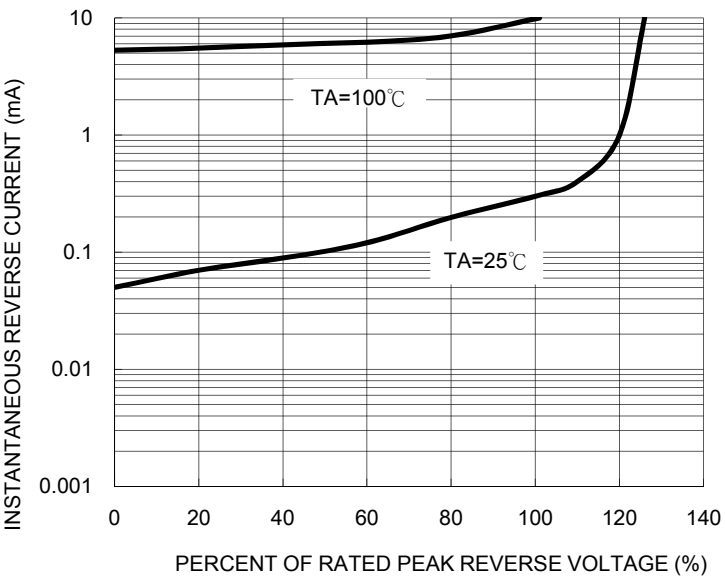


FIG. 5- TYPICAL JUNCTION CAPACITANCE PER LEG

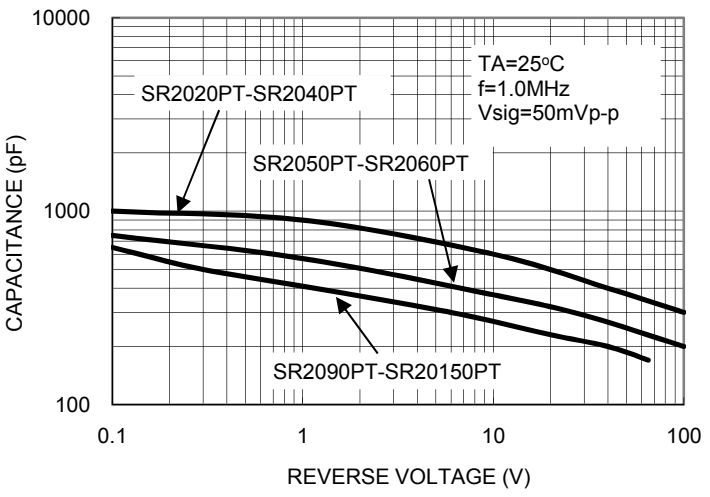
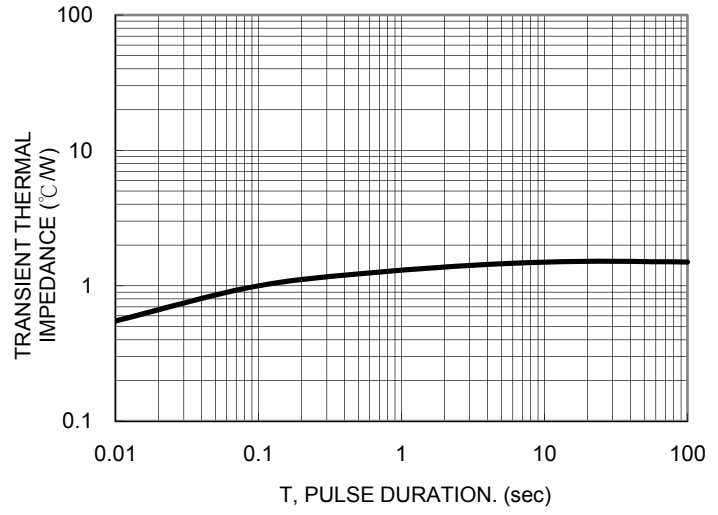


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



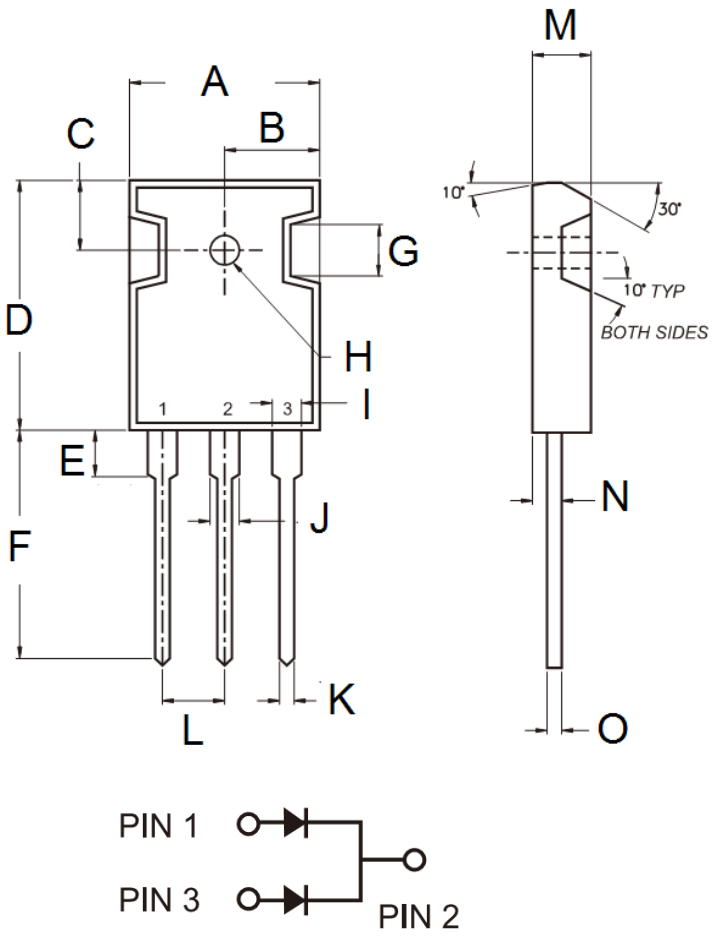
Version:E12

Ordering information

Part No.	Package	BULK Packing	Packing code	Green Compound Packing code
SR20xxPT	TO-3P	30 / TUBE	C0	C0G

Note: "xx" is Device Code from "20" thru "150".

Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	15.90	16.40	0.626	0.646
B	7.90	8.20	0.311	0.323
C	5.70	6.20	0.224	0.244
D	20.80	21.30	0.819	0.839
E	3.50	4.10	0.138	0.161
F	19.70	20.20	0.776	0.795
G	-	4.30	-	0.169
H	2.90	3.40	0.114	0.134
I	1.93	2.18	0.076	0.086
J	2.97	3.22	0.117	0.127
K	1.12	1.22	0.044	0.048
L	5.20	5.70	0.205	0.224
M	4.90	5.16	0.193	0.203
N	2.70	3.00	0.106	0.118
O	0.51	0.76	0.020	0.030

Marking Diagram

P/N = Specific Device Code
G = Green Compound
YWW = Date Code