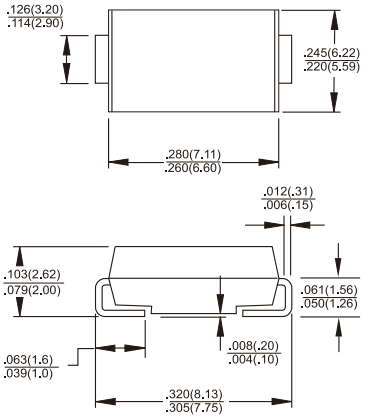
TAIWAN SEMICONDUCTOR

SS32 - SS315

3.0 AMPS. Surface Mount Schottky Barrier Rectifiers

SMC/DO-214AB

Pb RoHS COMPLIANCE



Dimensions in inches and (millimeters)

Features

- ✧ UL Recognized File # E-326243
- ✧ For surface mounted application
- ✧ Easy pick and place
- ✧ Metal to silicon rectifier, majority carrier conduction
- ✧ Low power loss, high efficiency
- ✧ High current capability, low VF
- ✧ High surge current capability
- ✧ Plastic material used carriers Underwriters Laboratory Classification 94V-0
- ✧ Epitaxial construction
- ✧ High temperature soldering: 260°C / 10 seconds at terminals
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.

Mechanical Data

- ✧ Case: JEDEC DO-214AB Molded plastic
- ✧ Terminals: Pure tin plated, lead free
- ✧ Polarity: Indicated by cathode band
- ✧ Packaging: 16mm tape per EIA STD RS-481
- ✧ Weight: 0.21 grams

Marking Diagram

SS3X = Specific Device Code
G = Green Compound
Y = Year
M = Work Month

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	SS 32	SS 33	SS 34	SS 35	SS 36	SS 39	SS 310	SS 315	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_L (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}	100			70					A
Maximum Instantaneous Forward Voltage IF= 3.0A @ 25°C @ 100°C	V_F	0.5 0.4			0.75 0.65		0.85 0.70		0.95 0.80	V
Maximum D.C. Reverse @ T_A=25 °C	I_R	0.5					0.1			mA
Current at Rated DC @ T_A=100 °C		10			5		–			mA
Blocking Voltage (Note1) @ T_A=125 °C		–					0.5			mA
Typical Thermal Resistance (Note 2)	$R_{\theta JL}$ $R_{\theta JA}$	17 55								°C/W
Operating Temperature Range	T_J	-55 to +125			-55 to +150					°C
Storage Temperature Range	T_{STG}	-55 to +150								°C

Notes: 1. Pulse Test with PW=300 usec, 1% Duty Cycle
2. Measured on P.C. Board with 0.2 x 0.2" (5.0 x 5.0mm) Copper Pad Areas.

Version: D10

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RATINGS AND CHARACTERISTIC CURVES (SS32 THRU SS315)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

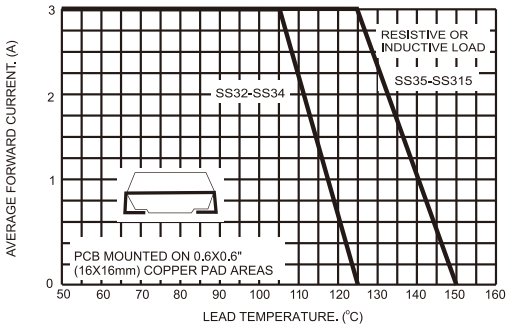


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

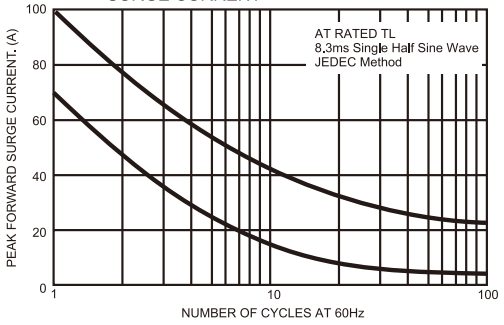


FIG.3- TYPICAL FORWARD CHARACTERISTICS

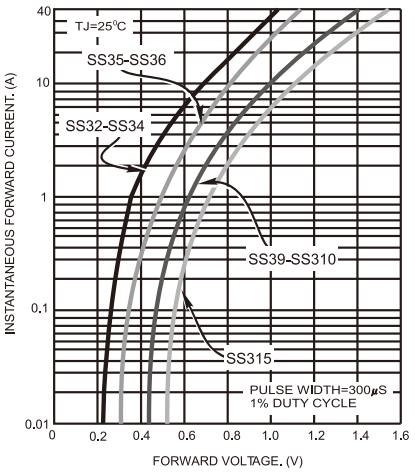


FIG.4- TYPICAL REVERSE CHARACTERISTICS

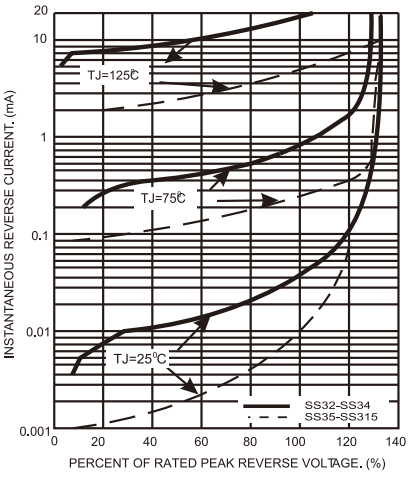


FIG.5- TYPICAL JUNCTION CAPACITANCE

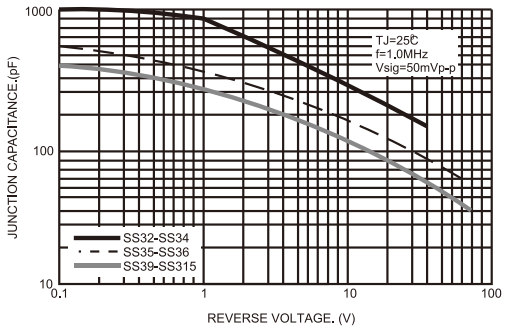
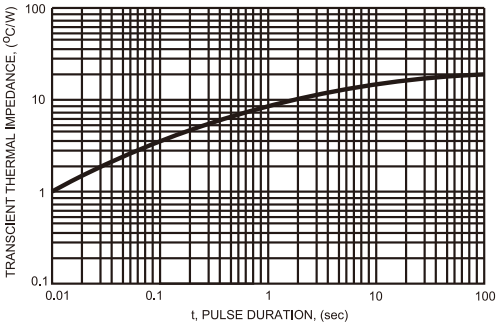


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS



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