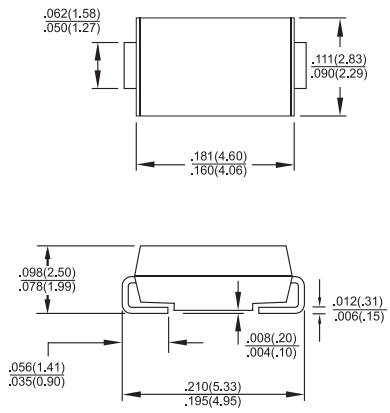
Schottky Barrier Rectifiers

PRODUCT SUMMARY

1.0AMP Surface Mount

SMA/DO-214AC



Dimensions in inches and (millimeters)

FEATURES

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

MECANICAL DATA

Case: JEDEC SMA/DO-214AC Molded plastic
Terminals: Pure tin plated, lead free
Polarity: Indicated by cathode band
Packaging: 12mm tape per EIA STD RS-481
Weight: 0.066 gram

Pb-free; RoHS-compliant

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings 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 12	SS 13	SS 14	SS 15	SS 16	SS 19	SS 110	SS 115	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)	$I_{(AV)}$	1.0								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30								A
Maximum Instantaneous Forward Voltage (Note 1) IF= 1.0A @ 25°C @ 100°C	V_F	0.5 0.4			0.75 0.65		0.80 0.70		0.95 0.85	V
Maximum DC Reverse Current @ T_A =25°C at Rated DC Blocking Voltage @ T_A=125°C	I_R	0.4					0.1			mA
		10			5.0		2.0			mA
Maximum DC Reverse Current at VR=33V & T_A=50°C	HT_{IR}	–				5.0				uA
Typical Junction Capacitance (Note 3)	Cj	50								pF
Typical Thermal Resistance (Note 2)	$R_{\Theta JL}$ $R_{\theta JA}$	28 88								°C/W
Operating Temperature Range	T_J	-65 to +125			-65 to +150					°C
Storage Temperature Range	T_{STG}	-65 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" (5.0mm x 5.0mm) Copper Pad Areas.
3. Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

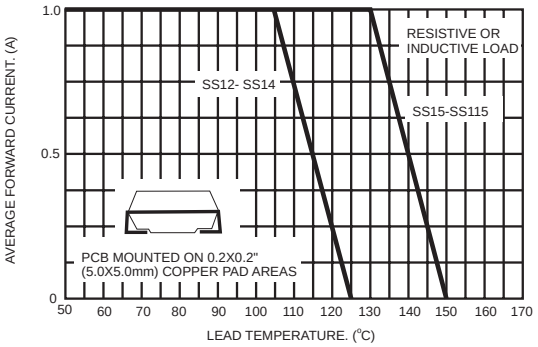


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

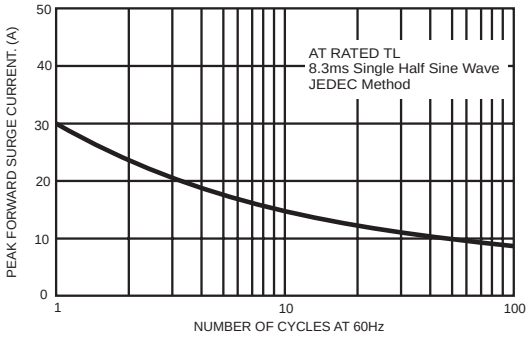


FIG.3- TYPICAL FORWARD CHARACTERISTICS

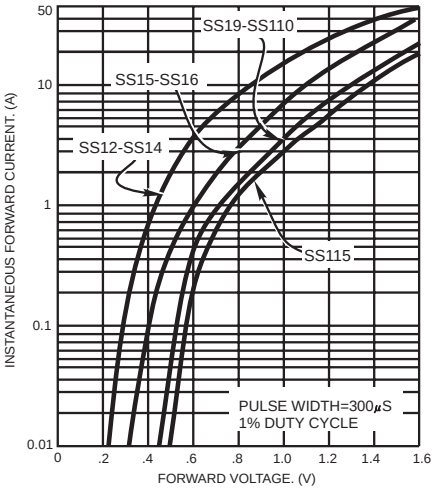


FIG.4- TYPICAL REVERSE CHARACTERISTICS

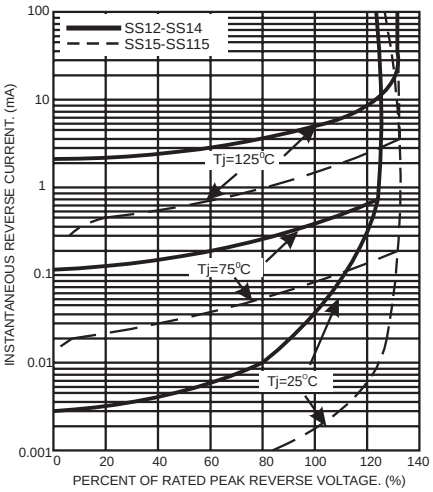


FIG.5- TYPICAL JUNCTION CAPACITANCE

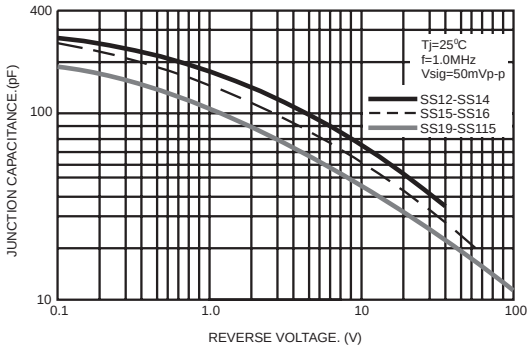


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS