

SS12 - SS110

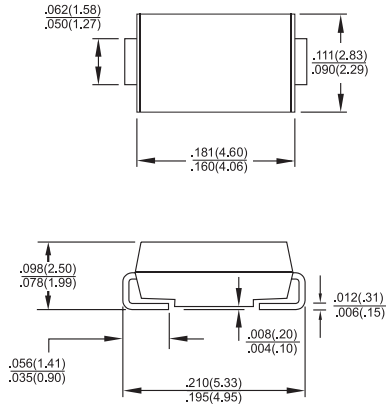
1.0 AMP. Surface Mount Schottky Barrier Rectifiers

SMA/DO-214AC



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
- ✦ High reliability grade (AEC Q101 qualified)



Mechanical 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

Dimensions in inches and (millimeters)

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 12	SS 13	SS 14	SS 15	SS 16	SS 19	SS 110	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	90	100	V
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	63	70	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	90	100	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		V	
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$	I_R	0.4				0.1		mA	
		10		5.0		2.0		mA	
Maximum DC Reverse Current at $V_R=33\text{V}$ & $T_A=50^\circ\text{C}$	HT_{IR}	-			5.0			μA	
Typical Junction Capacitance (Note 3)	C_j	50						pF	
Typical Thermal Resistance (Note 2)	$R_{\theta JL}$ $R_{\theta JA}$	28 88						$^\circ\text{C/W}$	
Operating Temperature Range	T_J	-65 to +125			-65 to +150			$^\circ\text{C}$	
Storage Temperature Range	T_{STG}	-65 to +150							$^\circ\text{C}$

- 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 (SS12 THRU SS110)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

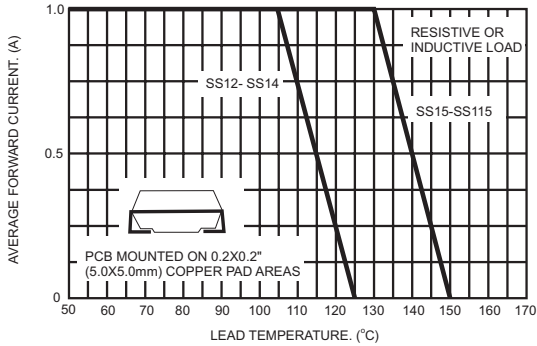


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

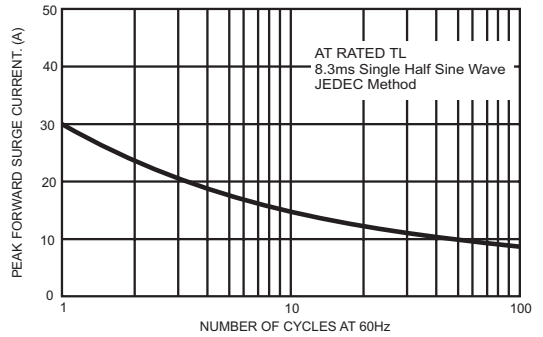


FIG.3- TYPICAL FORWARD CHARACTERISTICS

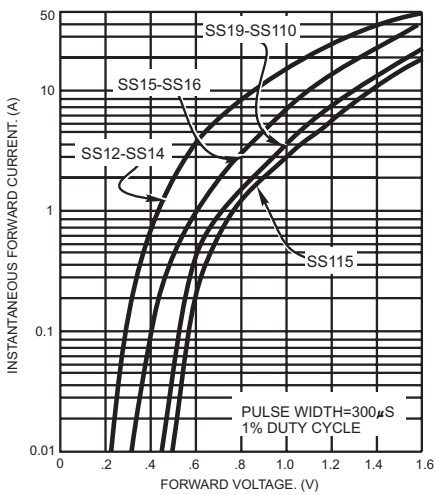


FIG.4- TYPICAL REVERSE CHARACTERISTICS

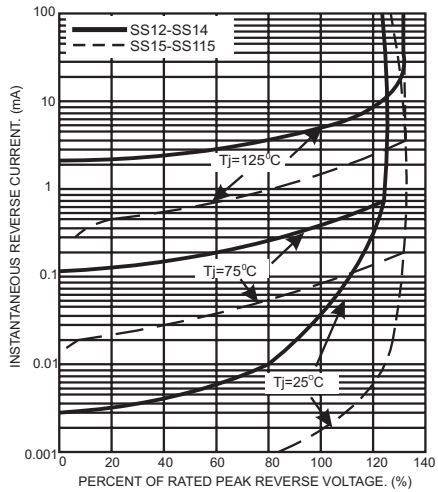


FIG.5- TYPICAL JUNCTION CAPACITANCE

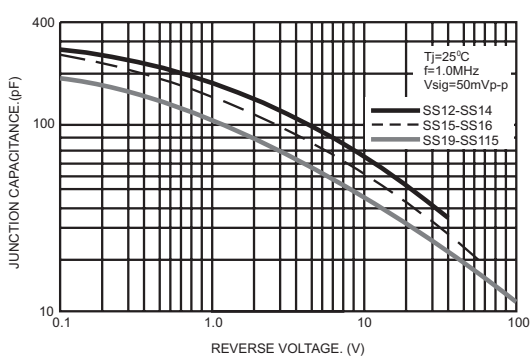


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

