

SURFACE MOUNT RECTIFIER

Voltage 50 to 1000 Volt Current 1 Ampere

FEATURES

- Plastic package has Underwriters Laboratory Flammability
- Classification 94V-0
- For surface mounted applications in order to optimize board space
- Easy pick and place
- Glass passivated junction
- Complete device submersible temperature of 260°C for 10 seconds in solder bath
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)
- AEC-Q101 qualified (Automotive grade with suffix "Q".)



- Expsemi electronics

MECHANICAL DATA

- Case: JEDEC DO-214AC molded plastic
- Terminals : Solderable per MIL-STD-750, Method 2026
- Weight: 0.002 ounce, 0.067 gram
- Polarity: Color band denotes cathode end
- Standard packaging: 12mm tape (EIA-481)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase , half wave ,60Hz, resistive or inductive load.
For capacitive load , derate current by 20%.

PARAMETER	SYMBOL	S1A	S1B	S1D	S1G	S1J	S1K	S1M	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Current at $T_L=100^{\circ}C$	$I_{F(AV)}$	1							A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30							A
Maximum Forward Voltage at 1A	V_F	1.5							V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J=25^{\circ}C$ $T_J=125^{\circ}C$	I_R	2 50							μA
Typical Junction Capacitance (Notes 1)	C_J	12							pF
Typical Junction Resistance (Notes 2)	$R_{\theta JL}$ $R_{\theta JA}$	35 75							$^{\circ}C / W$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150							$^{\circ}C$

NOTES:

1. Measured at 1 Mhz and Applied $V_r = 4$ volts.
2. $8mm^2$ (0.013 mm thick) land areas.

RATING AND CHARACTERISTIC CURVES

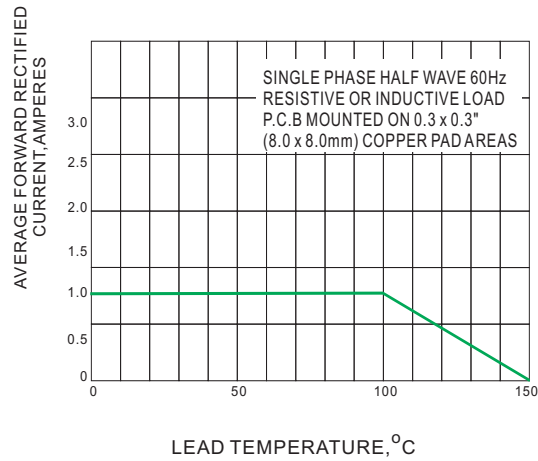


Fig.1 FORWARD CURRENT DERATING CURVE

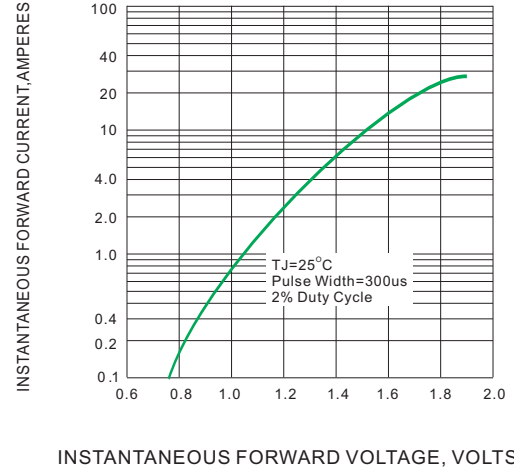


Fig.2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

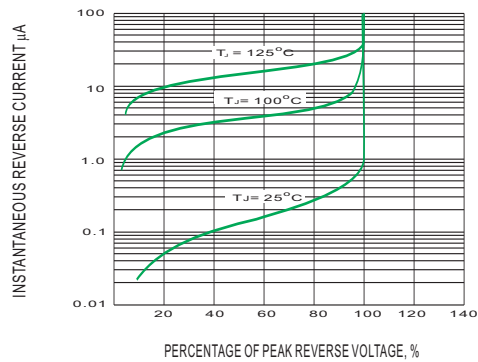


Fig.3-TYPICAL REVERSE CHARACTERISTIC

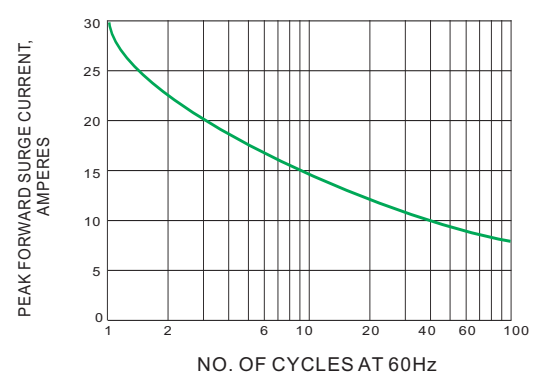


Fig.4 MAXIMUM NON REPETITIVE PEAK SURGE CURRENT

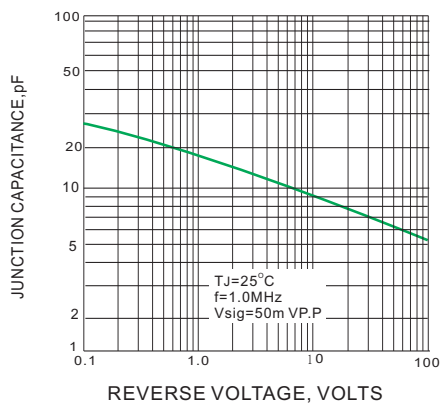
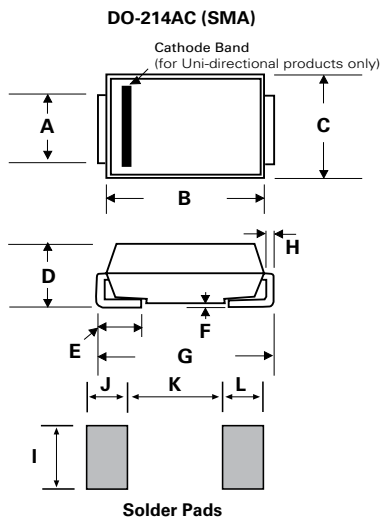


Fig.5 TYPICAL JUNCTION CAPACITANCE

Dimensions



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.047	0.067	1.200	1.700
B	0.154	0.185	3.900	4.700
C	0.095	0.114	2.400	2.900
D	0.075	0.096	1.900	2.440
E	0.030	0.060	0.760	1.520
F	-	0.008	-	0.203
G	0.185	0.222	4.700	5.660
H	0.006	0.012	0.152	0.305
I	0.066	-	1.680	-
J	0.068	-	1.720	-
K	-	0.090	-	2.300
L	0.068	-	1.720	-

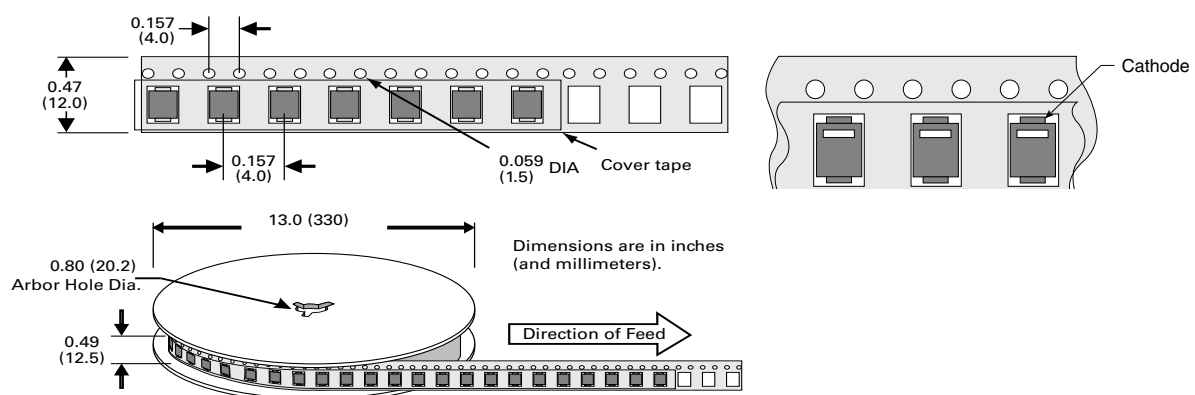
Marking

S1A	EXP S1A
S1B	EXP S1B
S1D	EXP S1D
S1G	EXP S1G
S1J	EXP S1J
S1K	EXP S1K
S1M	EXP S1M

Ordering Information

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
S1X	DO-214AC	5000	Tape & Reel - 12mm tape/13" reel	EIA STD RS-481

Tape and Reel Specification



Note: Devices are packde in accordance with EIA standard RS-481-Aand specification given above.