

SURFACE MOUNT RECTIFIER Voltage 50 to1000 Volt Current 1 Ampere

FEATURES

- High current capability
- High surge current capability
- High reliability
- Low reverse current
- Low forward voltage drop
- Fast switching for high efficiency
- AEC-Q101 qualified (Automotive grade with suffix "Q".)
- Expsemi electronics



MECHANICAL DATA

- Case: SMA molded plastic.
- Mounting position: Any
- Lead: Lead formed for surface mount
- Polarity: Color band denotes cathode end

Absolute Maximum Ratings and Characteristics

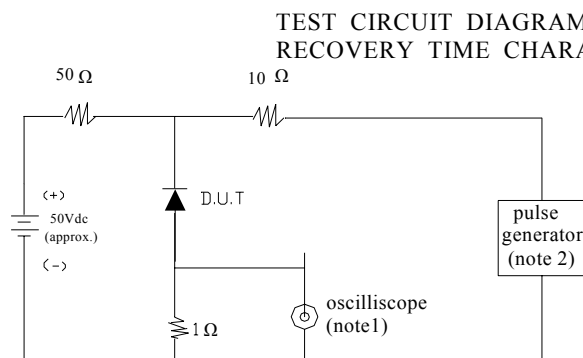
Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load , derate current by 20%.

	Symbols	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M	Units
Maximum recurrent peak reverse voltage	V _{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V _{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V _{DC}	50	100	200	400	600	800	1000	Volts
Maximum average forward current at T _a = 90 °C	I _{F(AV)}	1.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	30							Amps
Maximum peak forward voltage at I _F = 1A	V _F	1.5							Volts
Maximum DC reverse current @T _A = 25 °C	I _R	5							μA
at rated DC blocking voltage @T _A = 100°C	I _{R(H)}	50							
Maximum reverse recovery time(Note 1)	t _{rr}	150				250	500		ns
Typical junction capacitance (Note 2)	C _J	50							pF
Operating and storage temperature range	T _J , T _S	-65 to+150							°C

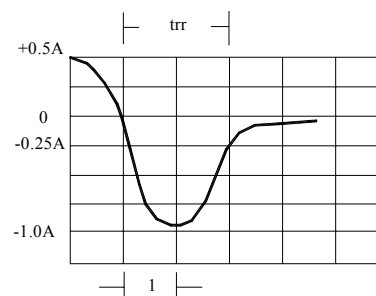
Notes: 1.Reverse recovery test conditions $I_F = 0.5A$, $I_R = 1A$, $I_{rr} = 0.25A$.

2. Measured at 1 MHz and applied reverse voltage of 4 volts.

RATING AND CHARACTERISTICS CURVES (RS1A THRU RS1M)



Notes: 1. Rise time = 7ns max. Input impedance = 1megaohm. 22pF
2. Rise time = 10ns max. Source impedance = 50ohms.
3. All Resistors = Non-inductive Types



set time base for
50-100 ns/cm

FIG.1- DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

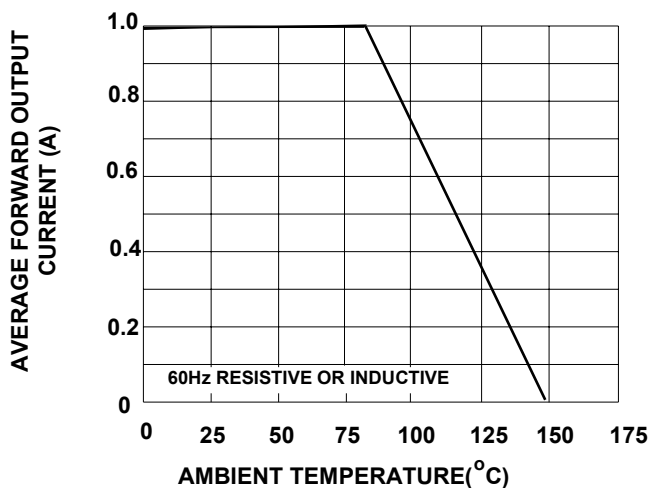


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

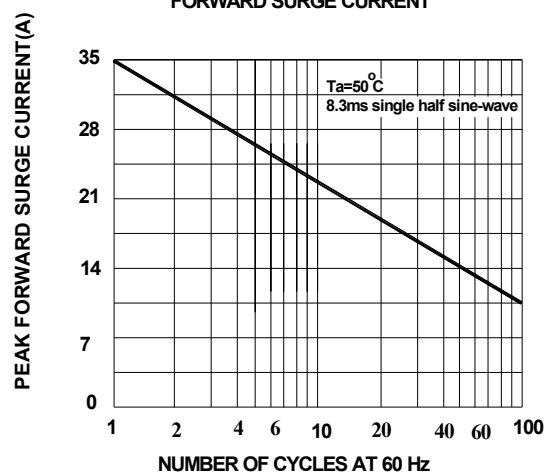


FIG.4-TYPICAL FORWARD CHARACTERISTICS

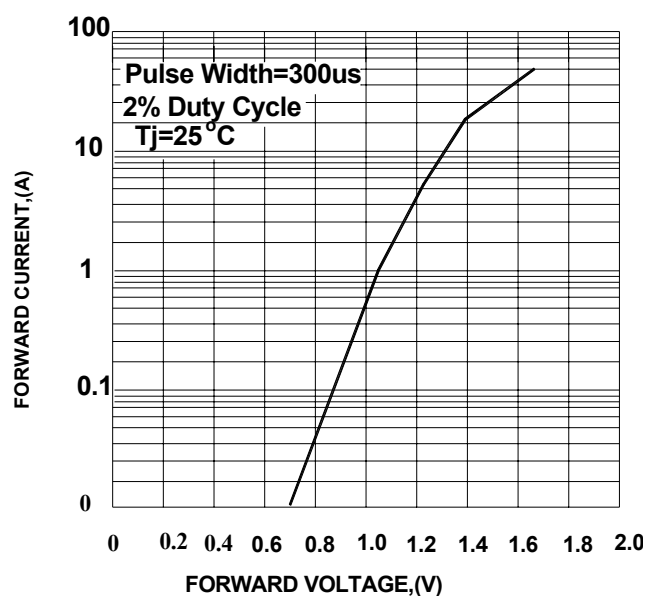
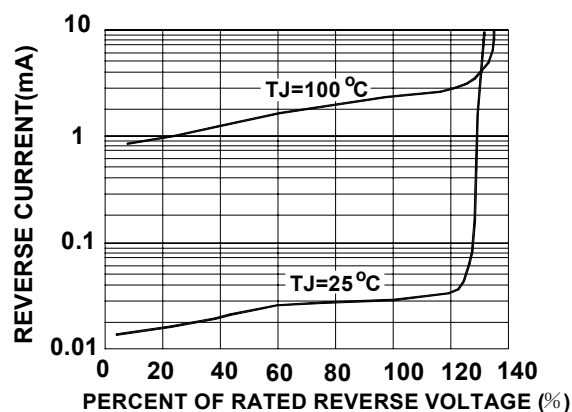
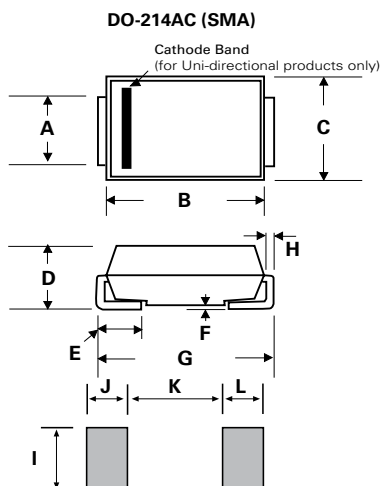


FIG.5-TYPICAL REVERSE CHARACTERISTICS



Dimensions

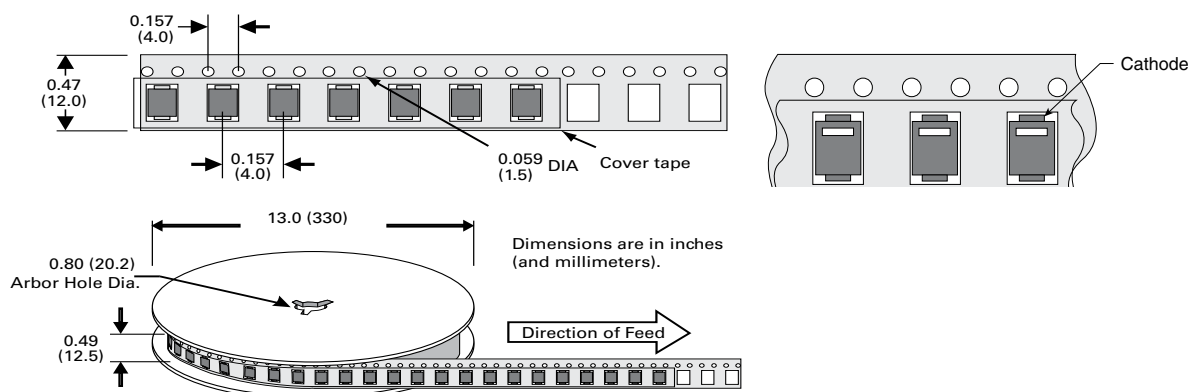


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.047	0.067	1.200	1.700
B	0.154	0.185	3.900	4.700
C	0.095	0.114	2.400	2.900
D	0.075	0.096	1.900	2.440
E	0.030	0.060	0.760	1.520
F	-	0.008	-	0.203
G	0.185	0.222	4.700	5.660
H	0.006	0.012	0.152	0.305
I	0.066	-	1.680	-
J	0.068	-	1.720	-
K	-	0.090	-	2.300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

Ordering Information

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
RS1X	DO-214AC	5000	Tape & Reel - 12mm tape/13" reel	EIA STD RS-481

Tape and Reel Specication



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