RS1A~RS1M

SURFACE MOUNT FAST RECOVERY RECTIFIER

VOLTAGE | **50 to 1000 Volt** | **CURRENT** | **1 Ampere**
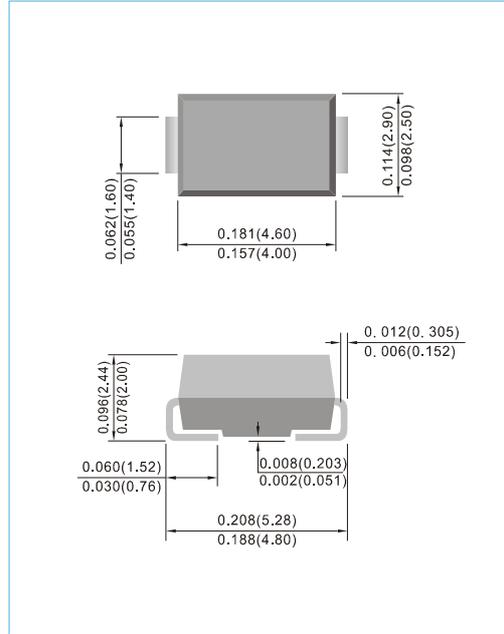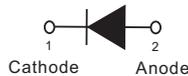
SMA / DO-214AC   Unit : inch(mm)

FEATURES

- For surface mounted applications in order to optimize board space
- Easy pick and place
- Fast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated junction
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

MECHANICAL DATA

- Case: JEDEC DO-214AC molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026
- Polarity: Color band denotes cathode end
- Standard packaging: 12mm tape (EIA-481)
- Weight: 0.0023 ounces, 0.0679 grams

0.114(2.90) / 0.098(2.50)
0.062(1.60) / 0.055(1.40)
0.181(4.60) / 0.157(4.00)
0. 012(0. 305) / 0. 006(0.152)
0.096(2.44) / 0.078(2.00)
0.060(1.52) / 0.030(0.76)
0.008(0.203) / 0.002(0.051)
0.208(5.28) / 0.188(4.80)

1 — Cathode   2 — Anode

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%.

PARAMETER		SYMBOL	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M	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 Rectified Current		$I_{F(AV)}$				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				1.3				V
Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_J=25^oC$ $T_J=125^oC$	I_R				1 150				µA
Maximum Reverse Recovery Time (Note 1)		t_{rr}			150			250	500	ns
Maximum Junction Capacitance (Note 2)		C_J				12				pF
Typical Junction Resistance (Note 3)		$R_{\theta JA}$ $R_{\theta JL}$				100 32				^oC / W
Operating Junction and Storage Temperature Range		T_J, T_{STG}				-55 to +150				^oC

NOTES:1. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1A, I_{rr}=0.25A
   2. Measured at 1 MHz and applied V_r = 4 volts.
   3. 8mm^2 (0.013mm thick) land areas.
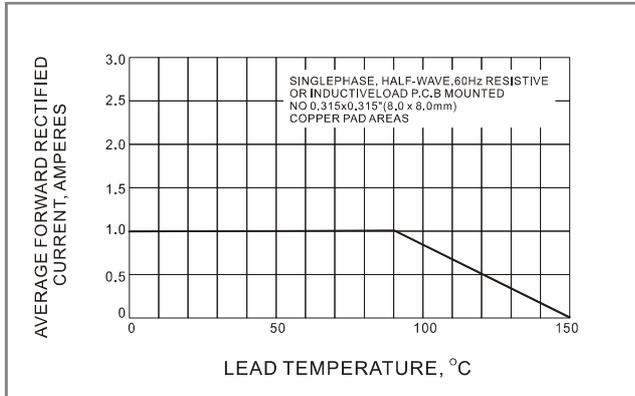
RS1A~RS1M

RATING AND CHARACTERISTIC CURVES

SINGLEPHASE, HALF-WAVE,60Hz RESISTIVE
OR INDUCTIVELOAD P.C.B MOUNTED
NO 0.315x0.315"(8.0 x 8.0mm)
COPPER PAD AREAS

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

LEAD TEMPERATURE, °C

Fig.1 FORWARD CURRENT DERATING CURVE

8.3ms Single Half Sine-Wave

PEAK FORWARD SURGE CURRENT ,AMPERES

NUMBER OF CYCLES AT 60Hz
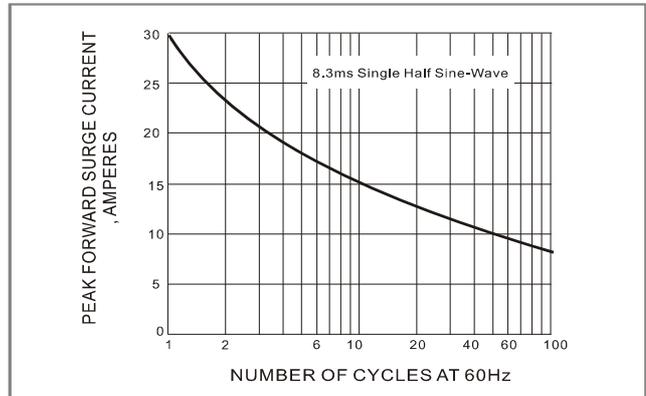
Fig.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

INSTANTANEOUS FORWARD CURRENT, AMPERES

T_J= 25°C

INSTANTANEOUS FORWARD VOLTAGE, VOLTS
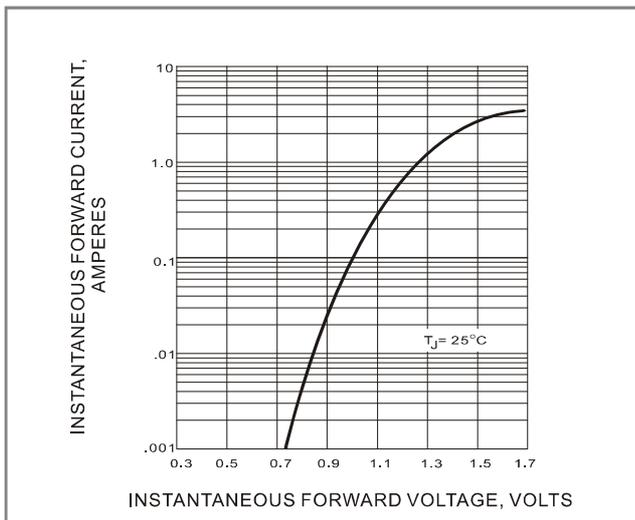
Fig.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

Tj= 25°C
f= 1.0MHz
Vsig = 50mVp-p

CAPACITANCE, pF

REVERSE VOLTAGE, VOLTS
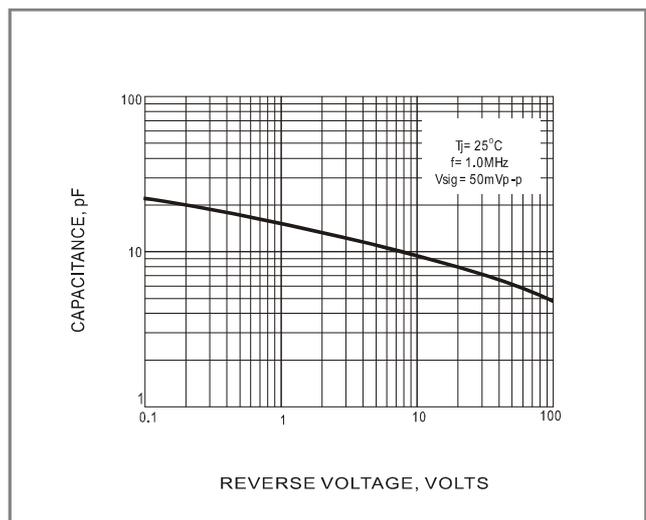
Fig.4 TYPICAL JUNCTION CAPACITANCE

INSTANTANEOUS REVERSE CURRENT, uA

T_J = 150°C

T_J = 100°C

T_J = 25°C

PERCENTAGE OF PEAK REVERSE VOLTAGE,%
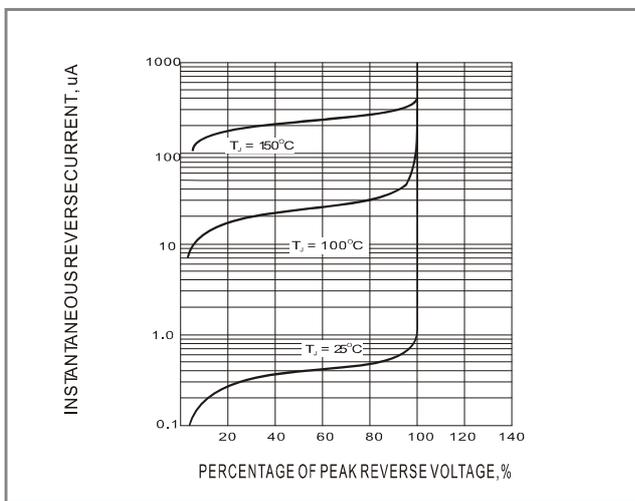
Fig.5-TYPICAL REVERSE CHARACTERISTIC

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MOUNTING PAD LAYOUT

SMA / DO-214AC Unit：inch(mm)

0.228
(5.80)

0.065
(1.66)

0.082
(2.07)

0.081
(2.06)
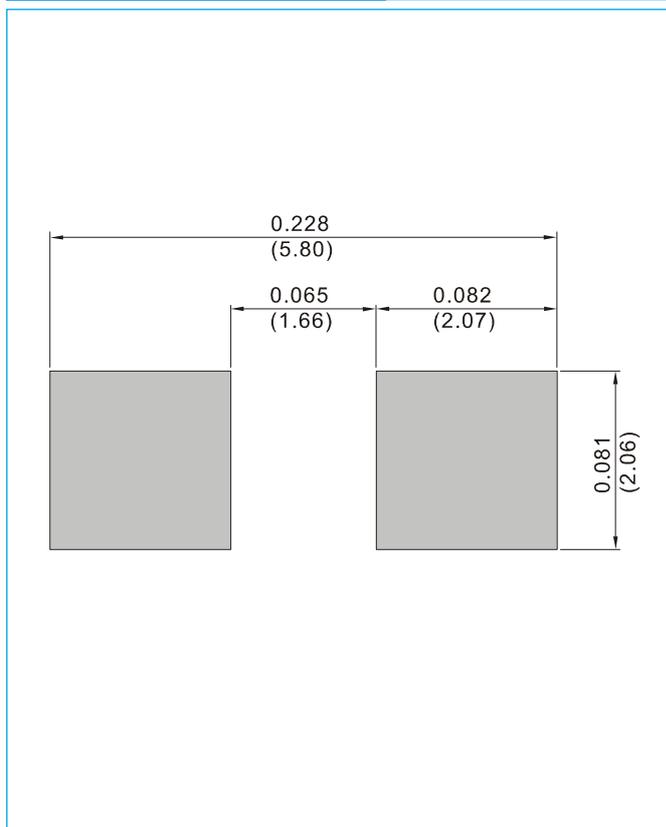
ORDER INFORMATION

• Packing information

  T/R - 7.5K per 13" plastic Reel

  T/R - 1.8K per 7" plastic Reel

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