



SYNSEMI SEMICONDUCTOR

GR1A-S thru GR1M-S

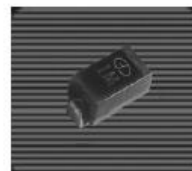
1.0 Amp. Fast Recovery Surface Mount Rectifiers
Voltage Range 50 to 1000 Volts Forward Current 1.0 Ampere

Features

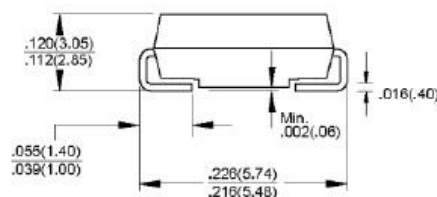
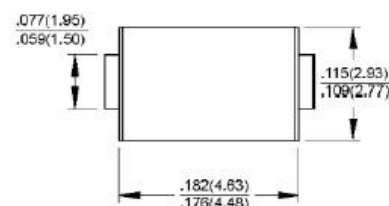
- ◆ For surface mounted application
- ◆ Glass passivated junction chip
- ◆ Low profile package
- ◆ Built-in strain relief, ideal for automated placement
- ◆ Plastic material used carries Underwriters Laboratory Classification 94V-0
- ◆ Fast switching for high efficiency
- ◆ High temperature soldering:
250°C/10 seconds at terminals

Mechanical Data

- ◆ Cases: New SMA Molded plastic
- ◆ Terminals: Solder plated solderable per MIL-STD-750, Method 2026
- ◆ Polarity: Indicated by cathode band
- ◆ Weight: 0.004 ounce, 0.118 gram



DO-214AC (SMAJ)



Dimensions in inches and (millimeters)

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	Symbols	GR1A-S	GR1B-S	GR1D-S	GR1G-S	GR1J-S	GR1K-S	GR1M-S	Units
Maximum repetitive 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 rectified current See Fig. 1 @ $T_A=90^{\circ}\text{C}$	$I_{(AV)}$	1.0							Amp
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30.0							Amps
Maximum instantaneous forward voltage @ 1.0A	V_F	1.30							Volts
Maximum DC reverse current @ $T_A=25^{\circ}\text{C}$ at rated DC blocking voltage @ $T_A=125^{\circ}\text{C}$	I_R	5.0 50							μA
Maximum reverse recovery time (Note 1)	t_r	150				250	500		nS
Typical junction capacitance (Note 2)	C_J	10							pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JA}$	105.0 32.0							$^{\circ}\text{C/W}$
Operating temperature range	T_J	-55 to +150							$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to +150							$^{\circ}\text{C}$

Notes: 1. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$

2. Measured at 1 MHz and Applied $V_R = 4.0$ Volts

3. Thermal Resistance from Junction to Ambient and from Junction to Lead Mounted on P.C.B. with 0.2"x0.2" (5.0 x 5.0 mm) Copper Pad Areas

GR1A-S thru GR1M-S

RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

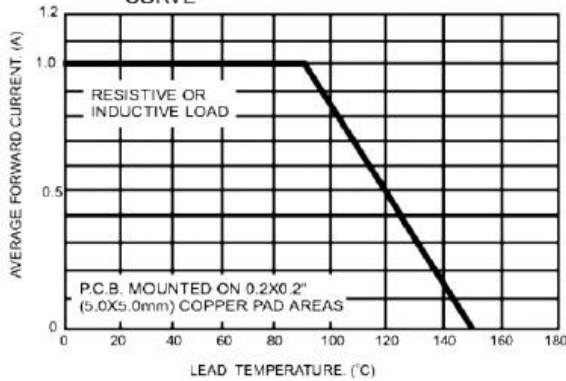


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

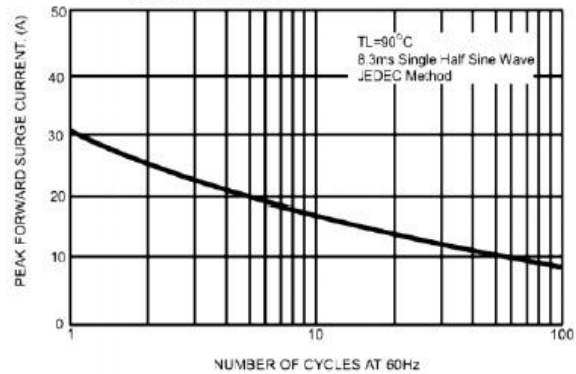


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

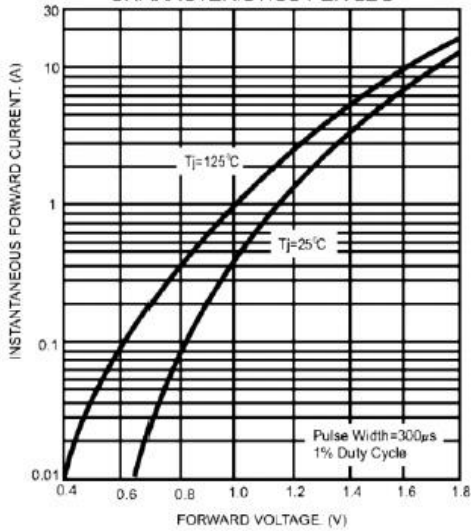


FIG.4- TYPICAL REVERSE CHARACTERISTICS

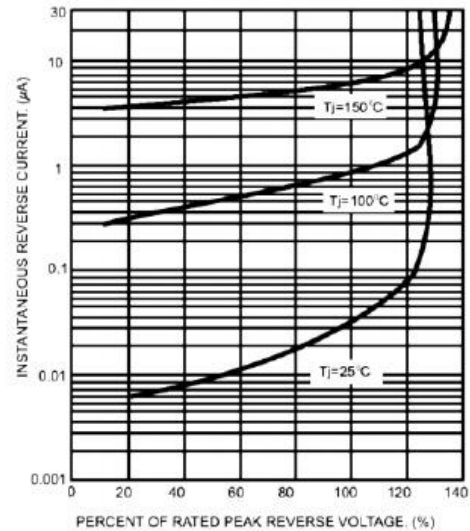


FIG.5- TYPICAL JUNCTION CAPACITANCE

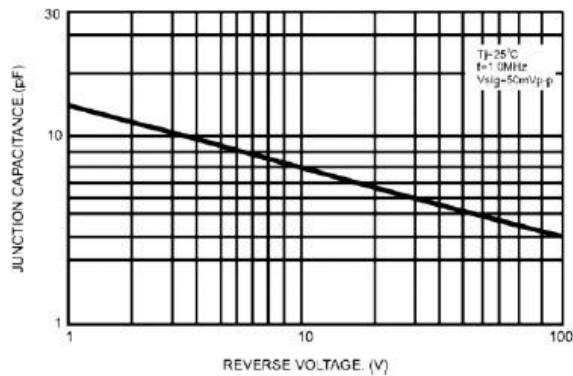


Figure :
New SMA Assembly

