

# GR1A-S thru GR1M-S

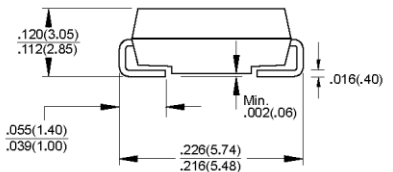
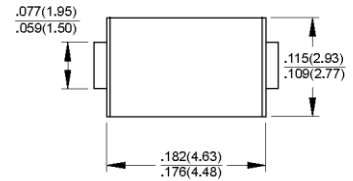
1.0 Amp. Fast Recovery Surface Mount Rectifiers  
Voltage Range 50 to 1000 Volts Forward Current 1.0 Ampere

## 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-O
- ◆ Fast switching for high efficiency
- ◆ High temperature soldering:  
250°C/10 seconds at terminals



DO-214AC (SMAJ)



Dimensions in inches and (millimeters)

## 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

## 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 @ $T_c=90^\circ\text{C}$	$I_{(AV)}$	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 @ $T_J=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	$I_R$	5.0 50							$\mu\text{A}$
Maximum reverse recovery time (Note 1)	$t_{rr}$	150				250	500		nS
Typical junction capacitance (Note 2)	$C_J$	10							pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	105.0 32.0							$^\circ\text{C}/\text{W}$
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" x 0.2" (5.0 x 5.0 mm) Copper Pad Areas

# RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

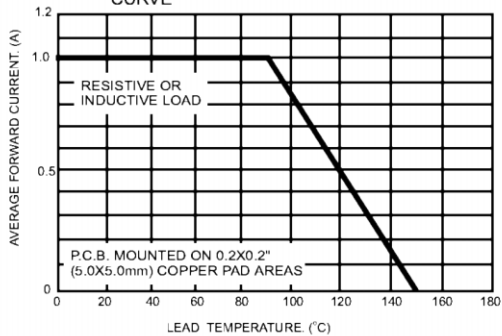


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

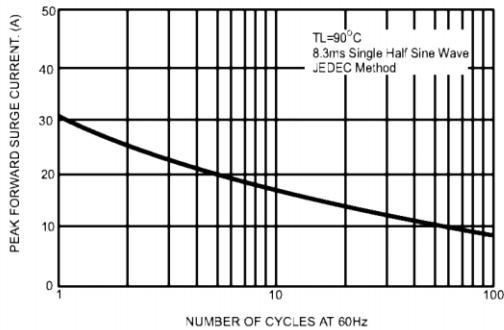


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

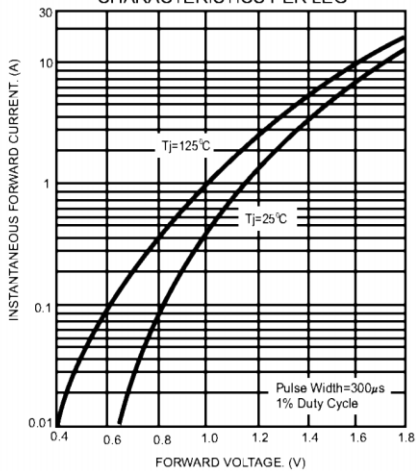


FIG.4- TYPICAL REVERSE CHARACTERISTICS

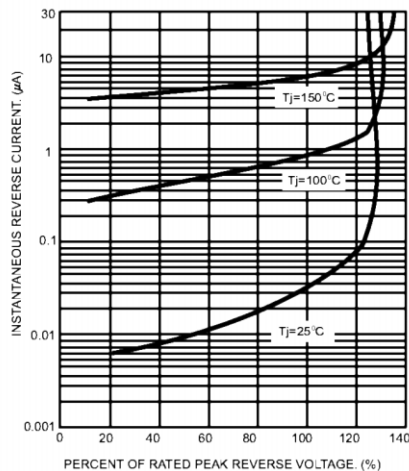


FIG.5- TYPICAL JUNCTION CAPACITANCE

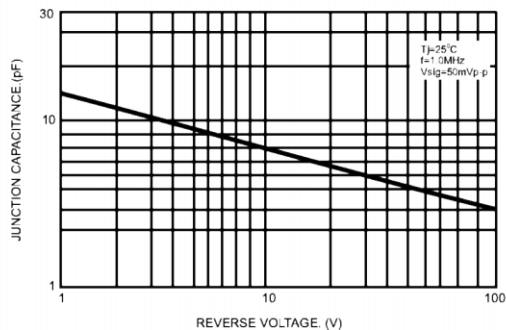


Figure :  
New SMA Assembly

