

# GR1A THRU GR1M

## SURFACE MOUNT FAST SWITCHING RECTIFIER

VOLTAGE: 50 TO 1000V

CURRENT: 1.0A

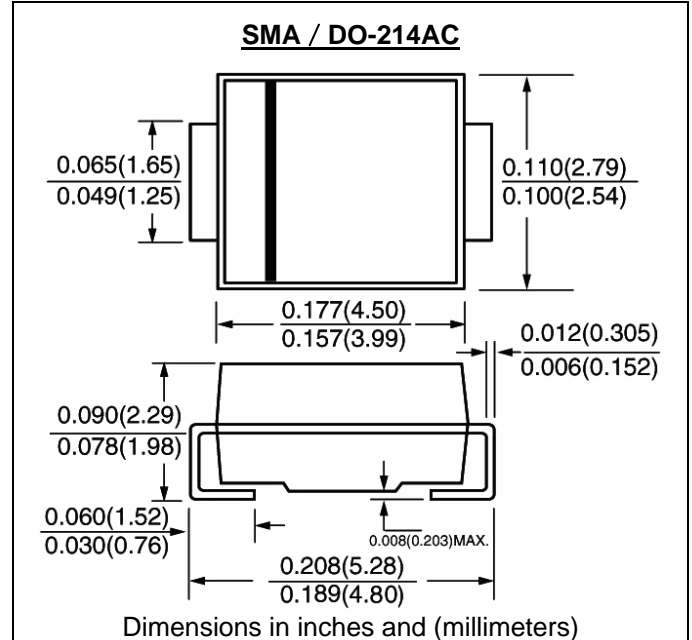


### FEATURE

Ideal for surface mount pick and place applications  
 Low profile package  
 Built-in strain relief  
 High surge capability  
 High temperature soldering guaranteed  
 260°C/10sec/at terminals  
 Glass passivated chip  
 Fast recovery time for high efficiency

### MECHANICAL DATA

Terminal: Plated axial leads solderable per MIL-STD 202E, method 208C  
 Case: Molded with UL-94 class V-0 recognized Flame Retardant Epoxy  
 Polarity: color band denotes cathode



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(single-phase, half-wave, 60HZ, resistive or inductive load rating at 25°C, unless otherwise stated, for capacitive load, derate current by 20%)

	SYMBOL	GR 1A	GR 1B	GR 1D	GR 1G	GR 1J	GR 1K	GR 1M	units
Maximum Recurrent Peak Reverse Voltage	V <sub>rrm</sub>	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V <sub>rms</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking Voltage	V <sub>dc</sub>	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current 3/8" lead length at TL=90°C	I <sub>f(av)</sub>	1.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I <sub>fsm</sub>	30.0							A
Maximum Forward Voltage at rated forward current	V <sub>f</sub>	1.3							V
Maximum DC Reverse Current Ta =25°C at rated DC blocking voltage Ta =125°C	I <sub>r</sub>	5.0 300.0							μ A μ A
Maximum Reverse Recovery Time (Note 1)	T <sub>rr</sub>	150			250		500		nS
Typical Junction Capacitance (Note 2)	C <sub>j</sub>	10.0							pF
Typical Thermal Resistance (Note 3)	R <sub>th(jl)</sub>	32.0							°C/W
Storage and Operating Junction Temperature	T <sub>stg</sub> , T <sub>j</sub>	-50 to +150							°C

#### Note:

- Reverse Recovery Condition I<sub>f</sub> =0.5A, I<sub>r</sub> =1.0A, I<sub>rr</sub> =0.25A
- Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
- Thermal Resistance from Junction to terminal mounted on 5×5mm copper pad area<sup>1</sup>

<sup>1</sup> Rev.A6

# RATINGS AND CHARACTERISTIC CURVES GR1A THRU GR1M

FIG. 1 - FORWARD CURRENT DERATING CURVE

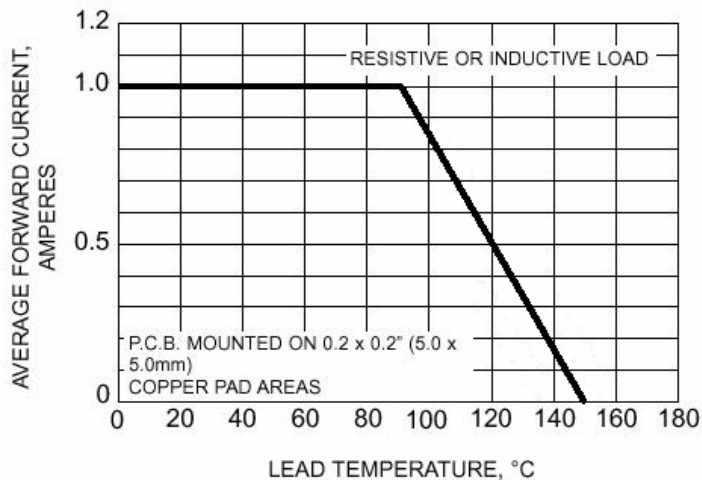


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

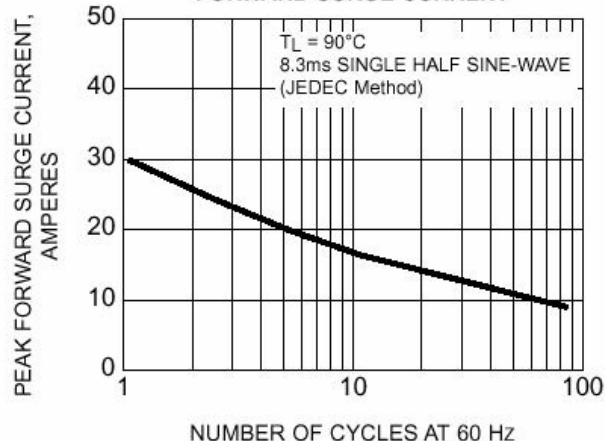


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

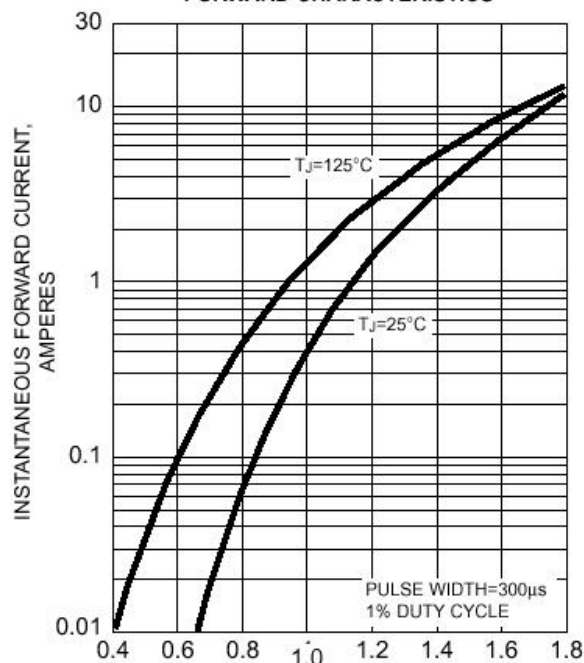


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

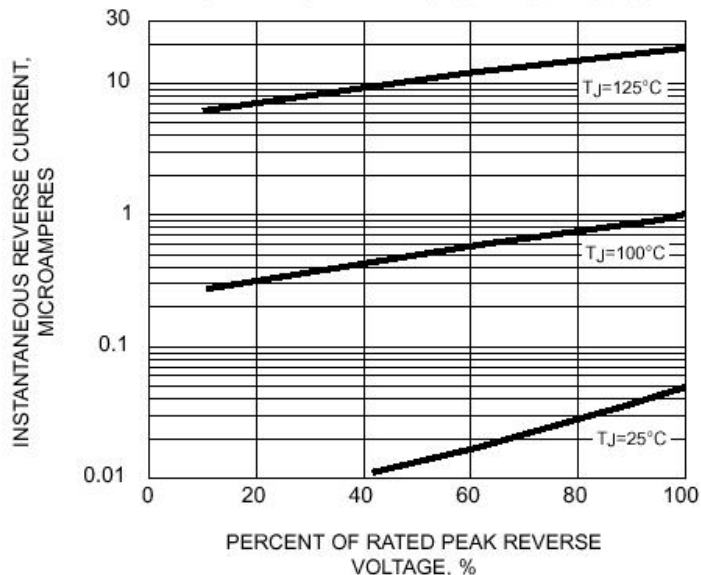


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

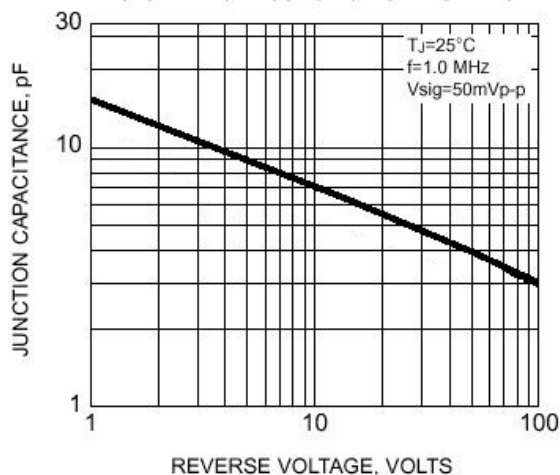


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

