GRL1A-E THRU GRL1M-E

SURFACE MOUNT FAST SWITCHING RECTIFIER

VOLTAGE：50 TO 1000V　　CURRENT： 1.0A

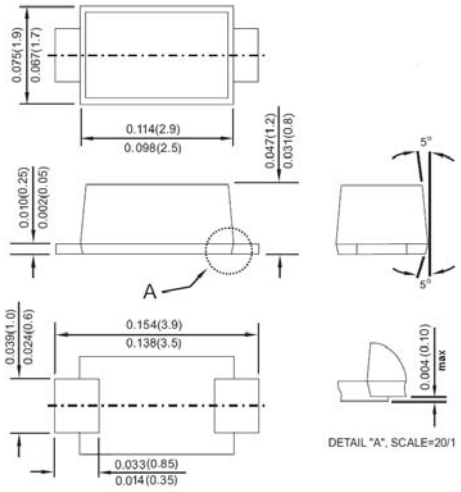
FEATURE

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

MECHANICAL DATA

Terminal：Plated leads solderable per MIL-STD 202E, method 208C
Case：Molded with UL-94 class V-0 recognized Halogen Free Epoxy
Polarity：color band denotes cathode
Marking：R1A～R1M

SMF



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(single-phase, half-wave, 60HZ, resistive or inductive load rating at 25℃, unless otherwise stated)

	SYMBOL	GRL 1A-E	GRL 1B-E	GRL 1D-E	GRL 1G-E	GRL 1J-E	GRL 1K-E	GRL 1M-E	units
Maximum Recurrent Peak Reverse Voltage	Vrrm	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	Vrms	35	70	140	280	420	560	700	V
Maximum DC blocking Voltage	Vdc	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current 3/8″ lead length at TL=110℃	If(av)	1.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	Ifsm	25							A
Maximum Forward Voltage at rated forward current	Vf	1.3							V
Maximum DC Reverse Current Ta =25℃ at rated DC blocking voltage Ta =125℃	Ir	5.0 300.0							μA μA
Maximum Reverse Recovery Time (Note1)	Trr	150				250	500		nS
Typical Junction Capacitance (Note 2)	Cj	9.0							pF
Typical Thermal Resistance (Note 3)	Rth(jl)	30							℃/ W
Storage and Operating Junction Temperature	Tstg, Tj	-50 to +150							℃

Note：

1. Reverse Recovery Condition If =0.5A, Ir =1.0A, Irr =0.25A
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Thermal Resistance from Junction to terminal mounted on 5×5mm copper pad area

Fig. 1 – Forward Current Derating Curve

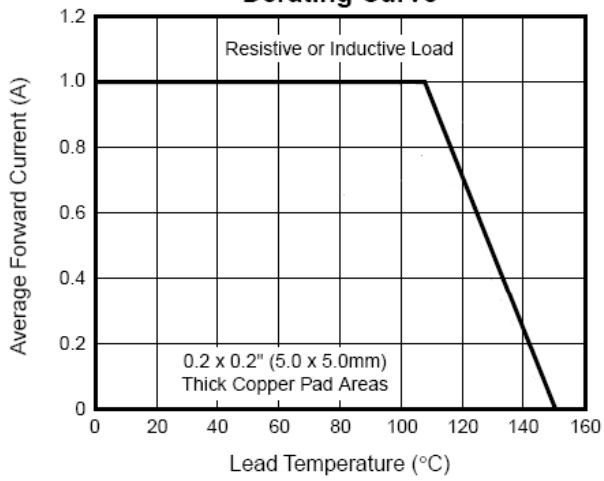


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

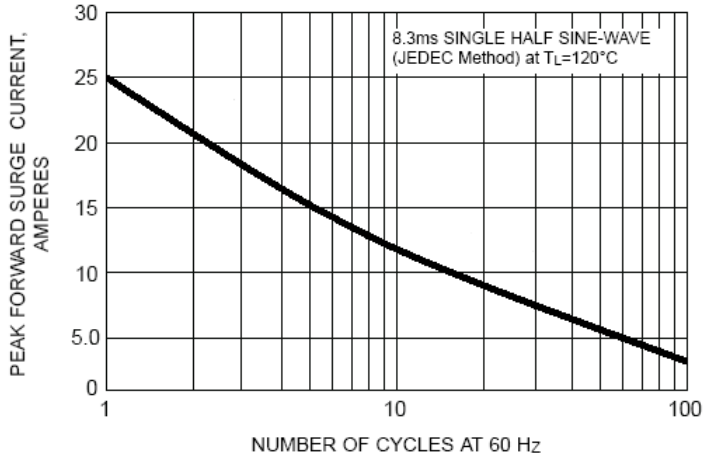


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

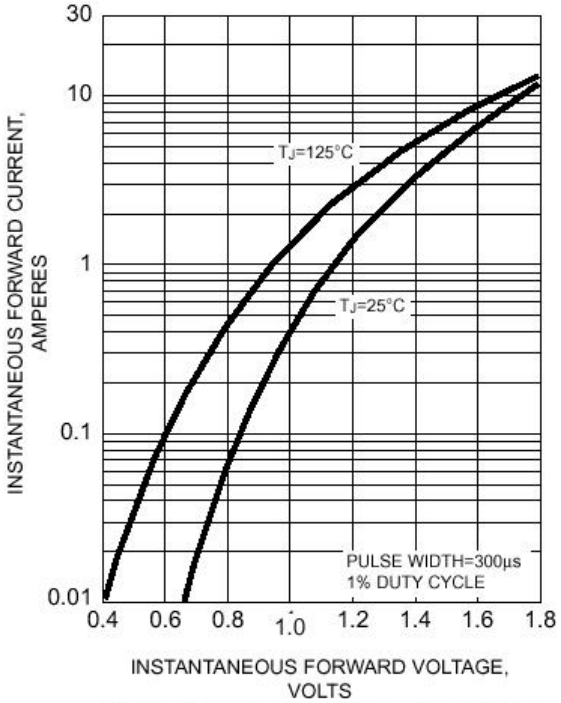


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

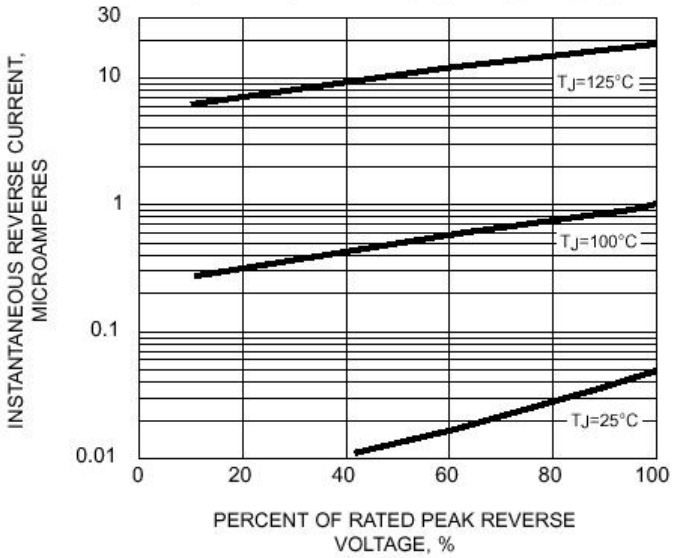


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

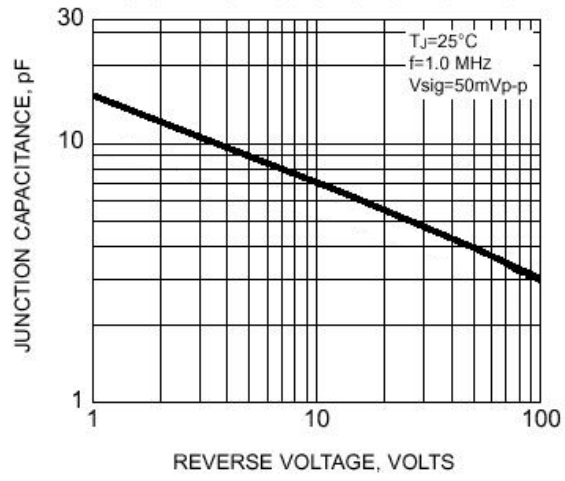


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE