



1A1 THRU 1A7

VOLTAGE RANGE 50 to 1000 Volts

CURRENT 1.0 Ampere

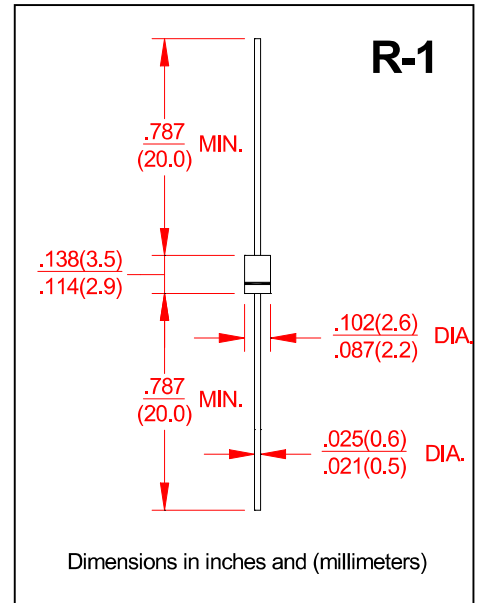
Features



- Glass passivated chip junction
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High reliability
- High temperature soldering guaranteed  
260°C/10 seconds, 0.375"(9.5mm) lead length at 5 lbs(2.3kg) tension

Mechanical Data

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.007ounce, 0.0.021 grams



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%

TYPE NUMBER	SYMBOL	1A1	1A2	1A3	1A4	1A5	1A6	1A7	UNITS
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current (FIG.1) 0.375" (9.5mm) lead length at T <sub>A</sub> =100°C	I <sub>(AV)</sub>	1.0							Amp
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	30							Amps
Maximum Instantaneous Forward Voltage at 1.0A	V <sub>F</sub>	1.1							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage at	T <sub>A</sub> = 25°C	5.0							μA
	T <sub>A</sub> = 125°C	50							
Maximum Full Load Reverse Current, full cycle Average 0.375 (9.5mm) lead length at T <sub>L</sub> =75°C	I <sub>R(AV)</sub>	30							μA
Typical Junction Capacitance (NOTE 1)	C <sub>J</sub>	15							pF
Typical Thermal Resistance (NOTE 2)	R <sub>θJA</sub>	50							°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

Notes:

1. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
2. Thermal Resistance HERom Junction to Ambient at. 375"(9.5mm) lead length, P.C. board mounted.



Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$  unless otherwise noted)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

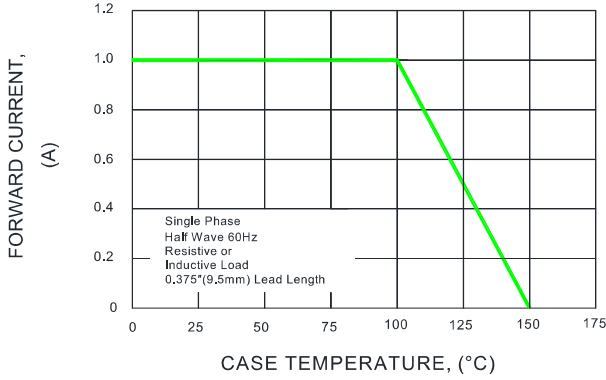


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

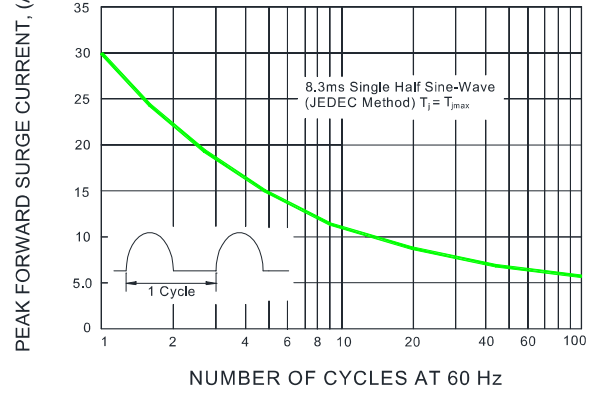


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

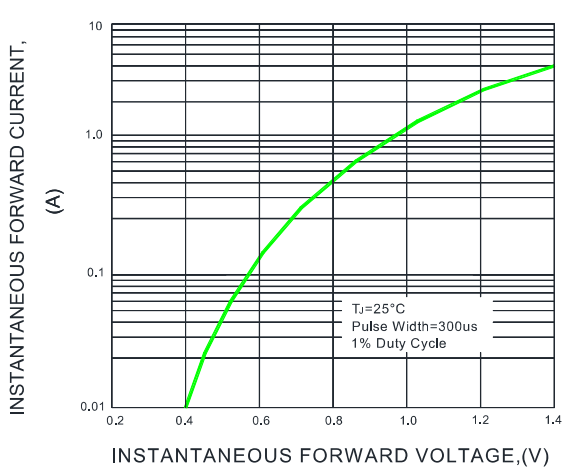


FIG.4-TYPICAL REVERSE CHARACTERISTICS

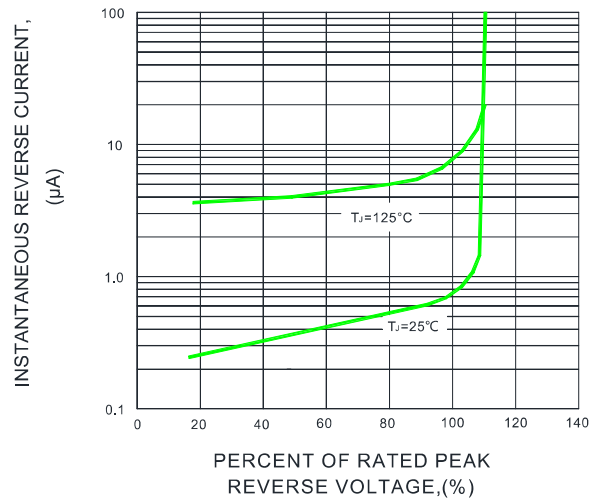
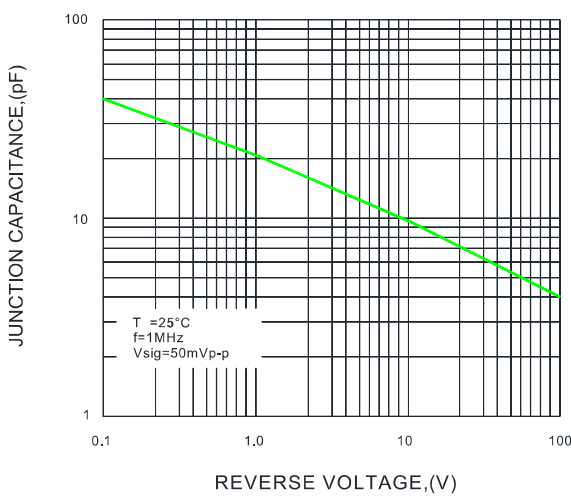
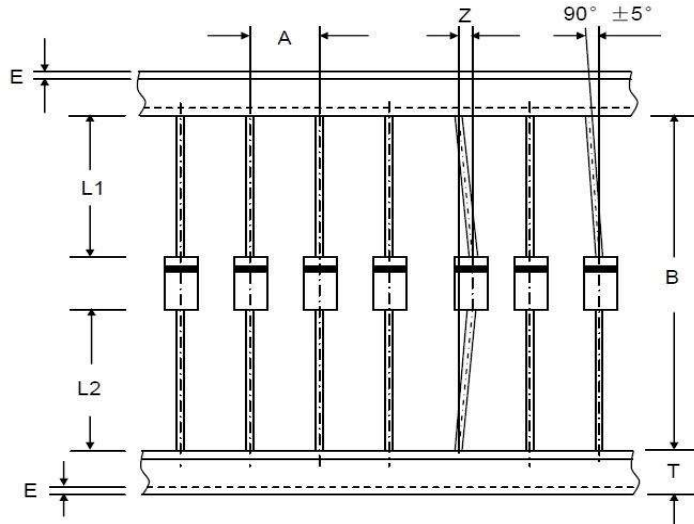


FIG.5-TYPICAL JUNCTION CAPACITANCE





Axial Lead Taping Specifications for Rectifiers



Component Outline	Component Pitch A	Inner Tape Pitch B		Cumulative Tolerance
	±0.5mm	+0.5mm	-0.4mm	
R-1	5.0mm	52.4mm	26.0mm	2.0mm/20pitch

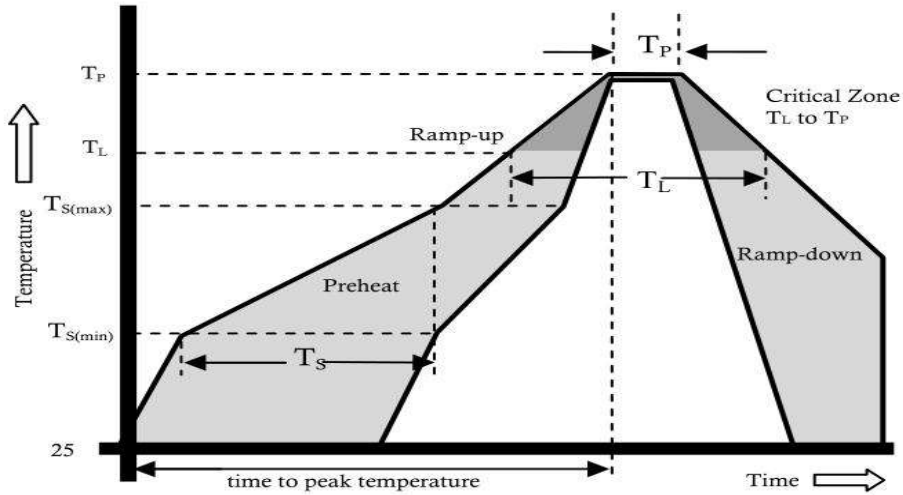
Item	Symbol	Specifications(mm)	Specifications(inch)
Component alignment	Z	1.2 max	0.048 max
Tape width	T	6.0±0.4	0.236±0.016
Exposed adhesive	E	0.8 max	0.032 max
Body eccentricity	IL1-L2I	1.0 max	0.040 max

Inner Box Size

DEVICE TYPE	BOX		CARTON	
	Q'ty(pcs)	Size(mm)	Q'ty(pcs)	Size(mm)
R-1	5000	225*75*146	50000	396*256*320



Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp(T <sub>L</sub> ) to peak)		3°C/sec. Max.
T <sub>S(max)</sub> to T <sub>L</sub> - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (T <sub>L</sub> )(Liquidus)	+217°C
	Temperature (T <sub>L</sub> )	60-150 secs.
Peak Temp (T <sub>P</sub> )		+(260+0/-5) °C
Time within 5°C of actual Peak Temp (T <sub>P</sub> )		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (T <sub>P</sub> )		8 min. Max.
Do not exceed		+260°C



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## Disclaimer

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