

# R2M

**V<sub>RM</sub> : 130 Volts**

**I<sub>ZSM</sub> : 1.0 Amp. ( 100 ms )**

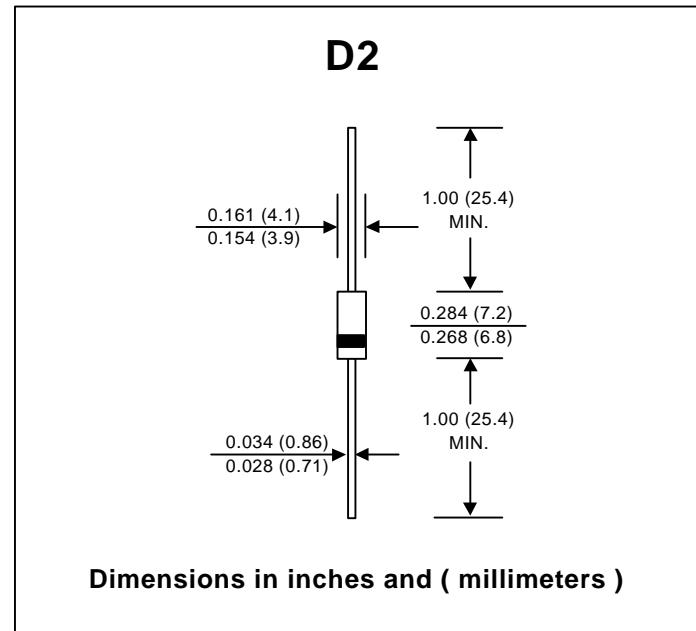
## FEATURES :

- \* 600 W surge capability at 1ms
- \* Excellent clamping capability
- \* Low zener impedance
- \* Fast response time : typically less than 1.0 ps from 0 volts to BV min.
- \* Low Leakage < 5.0  $\mu$ A above 10 V.
- \* **Pb / RoHS Free**

## MECHANICAL DATA :

- \* Case : D2 Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.465 gram

# AVALANCHE DIODE



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

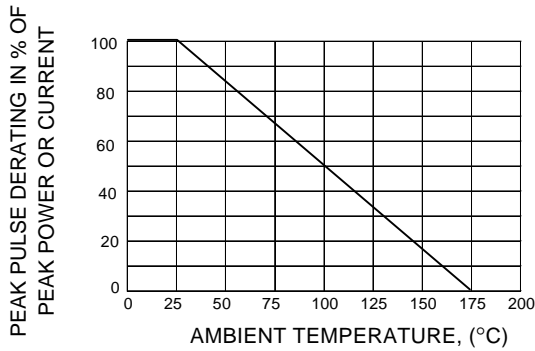
RATING	SYMBOL	VALUE	UNIT
Peak Power Dissipation at T <sub>P</sub> = 1 ms (Note 1)	P <sub>pk</sub>	Minimum 600	W
Steady State Power Dissipation at T <sub>L</sub> = 75 °C Lead Lengths 0.375" , (9.5mm) (Note 2 )	P <sub>D</sub>	5.0	W
Working Peak Reverse Voltage (Stand-off Voltage)	V <sub>RWM</sub>	130	V
Minimum Avalanche Breakdown Voltage at I <sub>T</sub> = 1mA (Note 3)	V <sub>BR(min)</sub>	135	V
Maximum Avalanche Breakdown Voltage at I <sub>T</sub> = 1mA (Note 3)	V <sub>BR(max)</sub>	180	V
Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 4)	I <sub>FSM</sub>	75	A
Maximum Reverse Leakage at Working Peak Reverse Voltage	I <sub>R</sub>	5.0	$\mu$ A
Maximum Non-Repetitive Peak Reverse Surge Current	I <sub>RSM</sub>	2.6	A
Maximum Reverse Voltage (Clamping Voltage) at I <sub>RSM</sub>	V <sub>RSM</sub>	234	V
Maximum Voltage Temperature Variation of Breakdown Voltage		175	mV/°C
Junction Temperature Range	T <sub>J</sub>	- 65 to + 175	°C
Storage Temperature Range	T <sub>STG</sub>	- 65 to + 175	°C

## Notes :

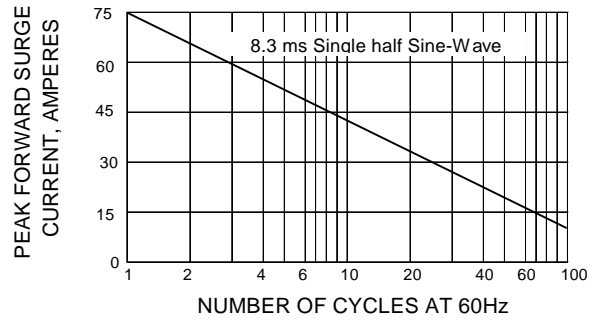
- (1) Non-Repetitive Current Pulse and Surge Current Waveform, per Fig. 6 and Derated above Ta = 25°C per Fig. 1.
- (2) Mounted on Copper Leaf area pf 1.57 in<sup>2</sup> (40 mm<sup>2</sup>)
- (3) V<sub>BR</sub> measured after I<sub>T</sub> applied for 300  $\mu$ s, I<sub>T</sub> = Square Wave Pulse or equivalent.
- (4) 8.3 ms single half sine-wave, duty cycle = 4 pulses per Minutes maximum.

## RATING AND CHARACTERISTIC CURVES ( R2M )

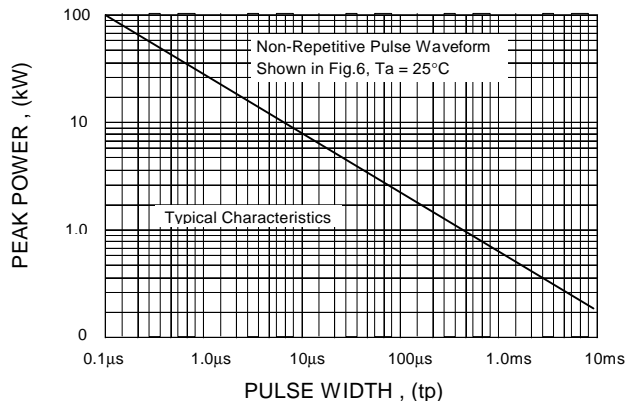
**FIG.1 - PULSE DERATING CURVE**



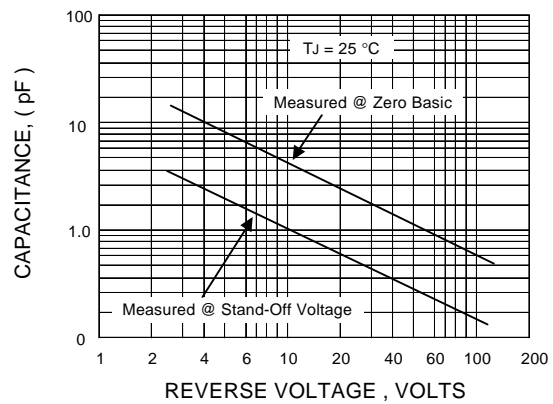
**FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



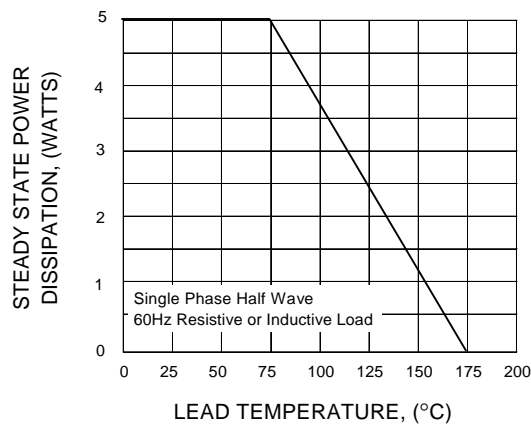
**FIG.3 - PULSE RATING CURVE**



**FIG.4 - TYPICAL JUNCTION CAPACITANCE**



**FIG.5 - STEADY STATE POWER DERATING**



**FIG.6 - MAXIMUM NON-REPETITIVE PEAK REVERSE SURGE CURRENT**

