

# MR2540L

**V<sub>R</sub> : 20 Volts**  
**I<sub>o</sub> : 6 Amperes**

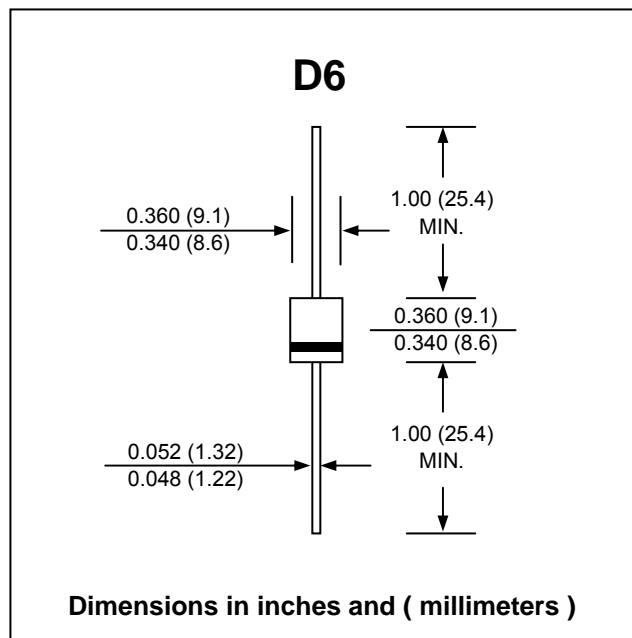
## FEATURES :

- \* Breakdown Voltage 24 to 32 Volts
- \* High Power capability
- \* Increased Capacity by Parallel Operation
- \* **Pb / RoHS Free**

## MECHANICAL DATA :

- \* Case : 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 : 2.049 grams

## AUTOMOTIVE TRANSIENT VOLTAGE SUPPRESSOR



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNIT
Maximum DC Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	20	V
Maximum Working Peak Reverse Voltage	V <sub>RWM</sub>	20	V
Maximum DC Blocking Voltage	V <sub>R</sub>	20	V
Maximum Breakdown Voltage ( I <sub>R</sub> = 100 mA, T <sub>c</sub> = 25 °C ) <sup>(1)</sup>	V <sub>BR(max)</sub>	32	V
Minimum Breakdown Voltage ( I <sub>R</sub> = 100 mA, T <sub>c</sub> = 25 °C ) <sup>(1)</sup>	V <sub>BR(min)</sub>	24	V
Maximum Average Rectified Forward Current ( Single Phase, Resistive Load, 60 Hz, T <sub>c</sub> = 150 °C )	I <sub>F(AV)</sub>	6	A
Maximum Repetitive Peak Reverse Surge Current ( Time Constant = 10 ms, Duty Cycle ≤ 1%, T <sub>c</sub> = 25 °C )	I <sub>RSM</sub>	85	A
Maximum Non-Repetitive Peak Surge Current Surge Supplied at Rated Load Conditions, Halfwave, Single Phase	I <sub>FSM</sub>	800	A
Maximum Instantaneous Forward Voltage ( I <sub>F</sub> = 100 A, T <sub>c</sub> = 25 °C ) <sup>(1)</sup>	V <sub>F</sub>	1.1	V
Maximum Reverse Current ( V <sub>R</sub> = 20 V, T <sub>c</sub> = 25 °C )	I <sub>R</sub>	200	nA
Typical Breakdown Voltage Temperature Coefficient	V <sub>(BR)TC</sub>	0.096	%/°C
Typical Forward Voltage Temperature Coefficient @ I <sub>F</sub> = 10 mA	V <sub>FTC</sub>	2.0	mV/°C
Typical Thermal Resistance Junction to Case	R <sub>θJC</sub>	0.8	°C/W
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	- 65 to + 175	°C

**Note :** (1) Pulse Test : Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.

## RATING AND CHARACTERISTIC CURVES ( MR2540L )

FIG.1 - TYPICAL FORWARD VOLTAGE

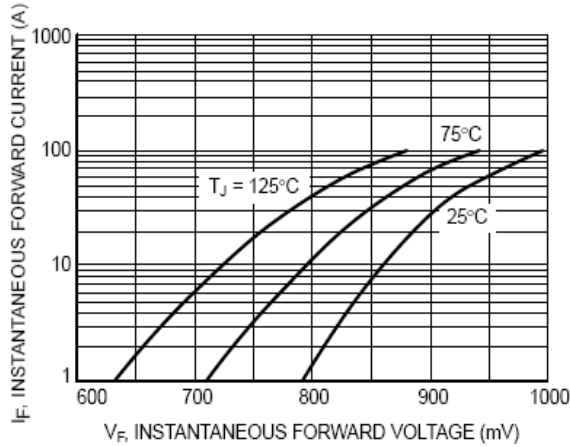


FIG.2 - TYPICAL REVERSE CURRENT VS. JUNCTION TEMPERATURE

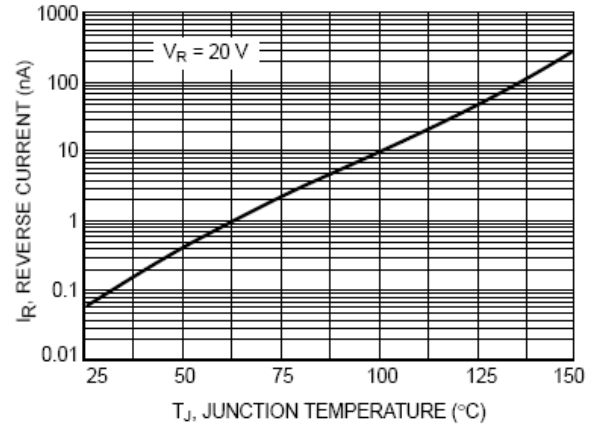


FIG.3 - TYPICAL CAPACITANCE

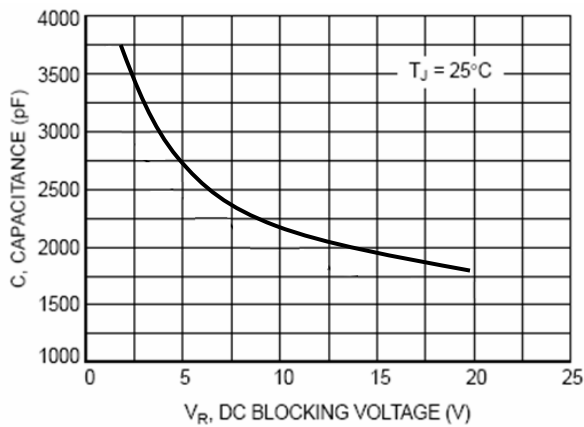


FIG.4 - MAXIMUM CURRENT RATINGS

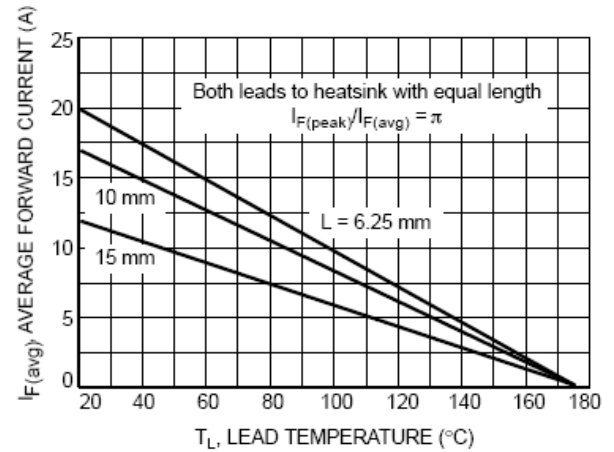


FIG.5 - THERMAL RESPONSE

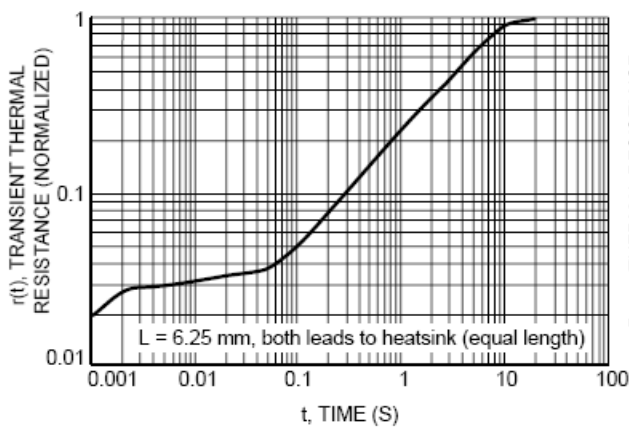
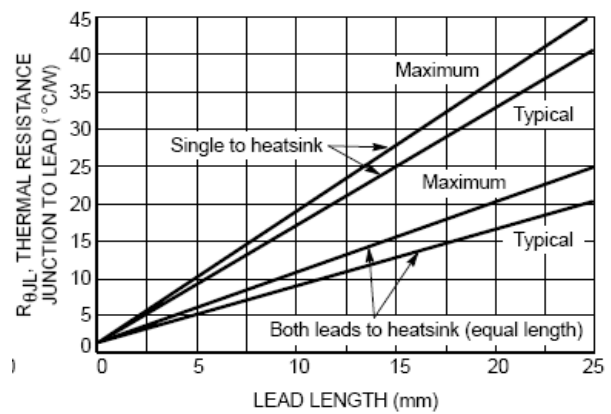


FIG.6 - STEADY STATE THERMAL RESISTANCE



## RATING AND CHARACTERISTIC CURVES ( MR2540L )

FIG.7 - MAXIMUM PEAK REVERSE CURRENT

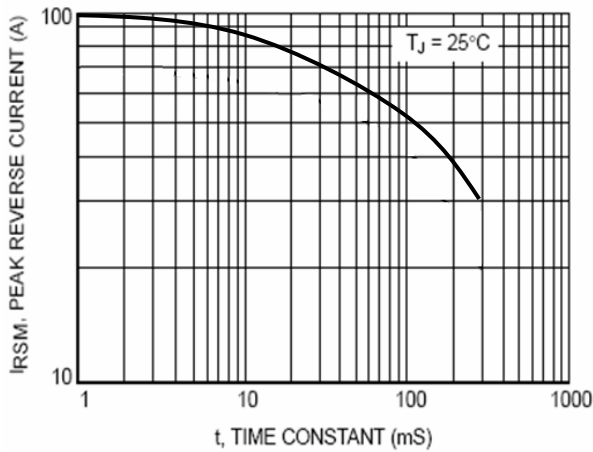


FIG.8 - MAXIMUM PEAK REVERSE POWER

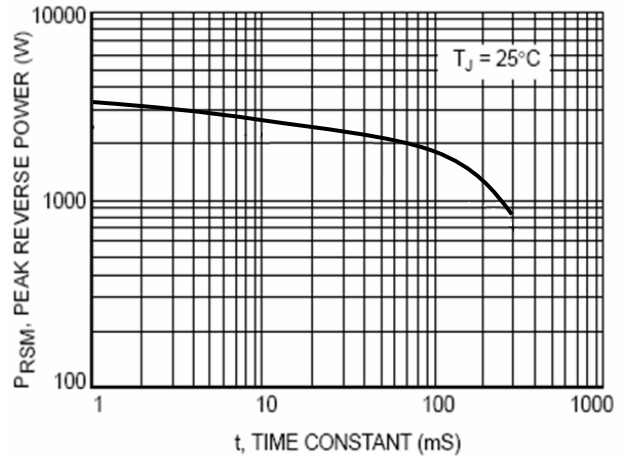


FIG.9 - MAXIMUM REVERSE ENERGY

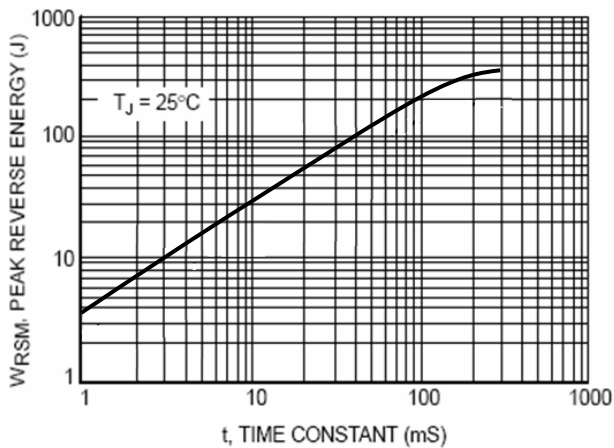


FIG.10 - REVERSE POWER DERATING

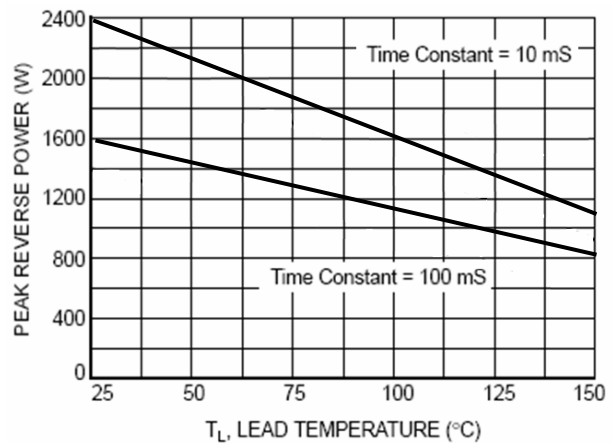


FIG.11 - TYPICAL CLAMPING FACTOR

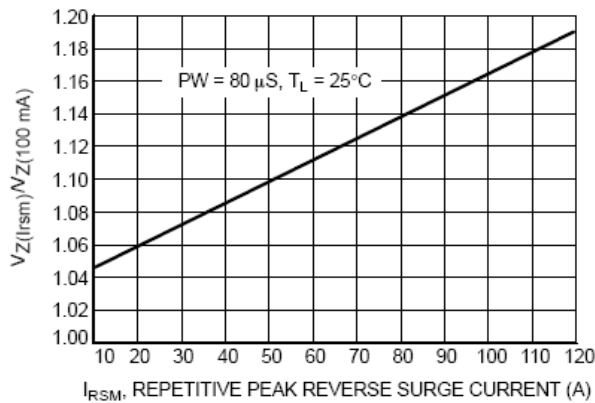


FIG.12 - LOAD DUMP PULSE CURRENT

