

# MR5000 - MR5010

# AUTOMOTIVE RECTIFIER DIODES

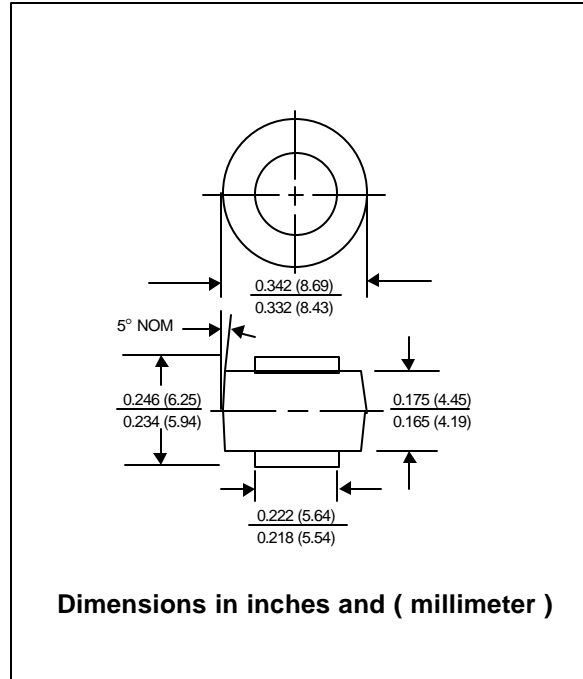
**PRV : 50 - 1000 Volts**  
**Io : 50 Amperes**

### FEATURES :

- \* High current capability
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop

### MECHANICAL DATA :

- \* Case : Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Terminals : Terminal are readily solderable
- \* Polarity : Cathode polarity band
- \* Mounting position : Any
- \* Weight : 1.8 grams



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

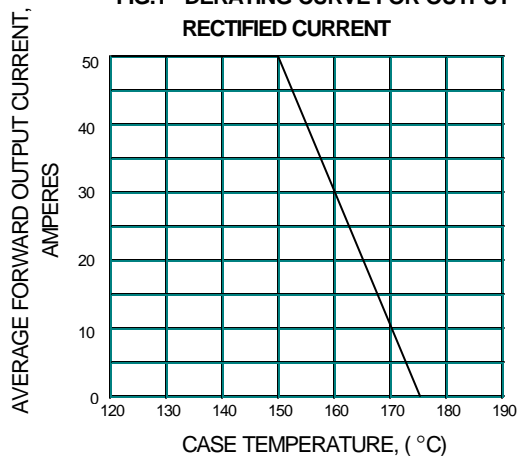
For capacitive load, derate current by 20%.

RATING	SYMBOL	MR 5000	MR 5001	MR 5002	MR 5004	MR 5006	MR 5008	MR 5010	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Average Rectified Forward Current $T_c = 150^\circ C$	$I_{F(AV)}$	50							Amps.
Peak Forward Surge Current Single half sine wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	500							Amps.
Maximum Forward Voltage at $I_F = 50$ Amps.	$V_F$	1.1							Volts
Maximum DC Reverse Current $T_a = 25^\circ C$ at rated DC Blocking Voltage $T_a = 100^\circ C$	$I_R$	5.0							$\mu A$
	$I_{R(H)}$	1.0							mA
Thermal Resistance (Note 1)	$R_{\theta JC}$	0.8							$^\circ C/W$
Junction Temperature Range	$T_J$	- 65 to + 175							$^\circ C$
Storage Temperature Range	$T_{STG}$	- 65 to + 175							$^\circ C$
Marking Code									

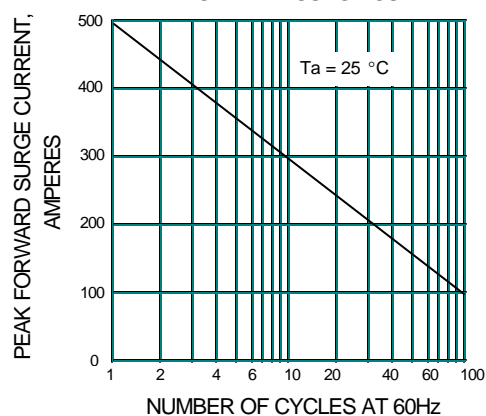
**Note :** (1) Thermal resistance from junction to case. Single side cooled.

## RATING AND CHARACTERISTIC CURVES ( MR5000 - MR5010 )

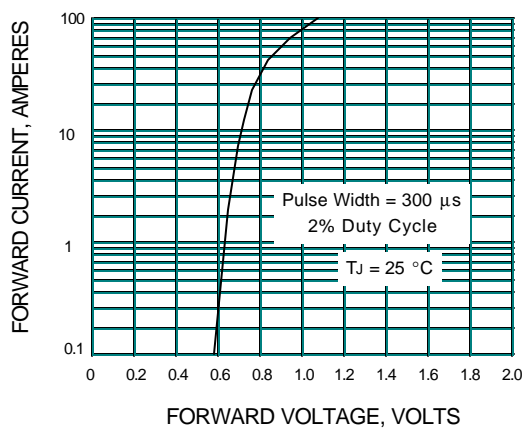
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



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



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**

