

# AR5000L - AR5012L

**PRV : 50 - 1200 Volts**

**Io : 50 Amperes**

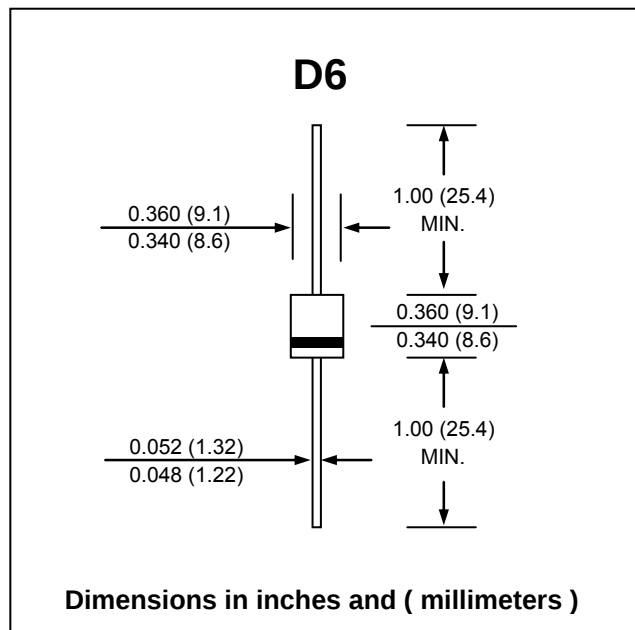
## FEATURES :

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



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.

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

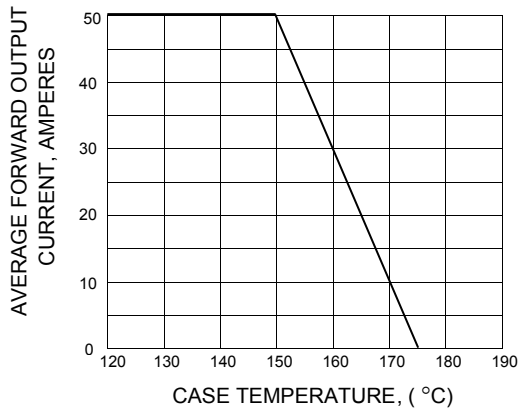
For capacitive load, derate current by 20%.

| RATING                                                                                     | SYMBOL          | AR 5000L      | AR 5001L | AR 5002L | AR 5004L | AR 5006L | AR 5008L | AR 5010L | AR 5012L | UNIT                 |
|--------------------------------------------------------------------------------------------|-----------------|---------------|----------|----------|----------|----------|----------|----------|----------|----------------------|
| Maximum Repetitive Peak Reverse Voltage                                                    | $V_{RRM}$       | 50            | 100      | 200      | 400      | 600      | 800      | 1000     | 1200     | V                    |
| Maximum RMS Voltage                                                                        | $V_{RMS}$       | 35            | 70       | 140      | 280      | 420      | 560      | 700      | 840      | V                    |
| Maximum DC Blocking Voltage                                                                | $V_{DC}$        | 50            | 100      | 200      | 400      | 600      | 800      | 1000     | 1200     | V                    |
| Average Rectified Forward Current $T_c = 150\text{ }^{\circ}\text{C}$                      | $I_{F(AV)}$     | 50            |          |          |          |          |          |          |          | A                    |
| Peak Forward Surge Current Single half sine wave superimposed on rated load (JEDEC Method) | $I_{FSM}$       | 500           |          |          |          |          |          |          |          | A                    |
| Maximum Forward Voltage at $I_F = 50\text{ Amps.}$                                         | $V_F$           | 1.1           |          |          |          |          |          |          |          | V                    |
| Maximum DC Reverse Current $T_a = 25\text{ }^{\circ}\text{C}$                              | $I_R$           | 5.0           |          |          |          |          |          |          |          | $\mu\text{A}$        |
| at rated DC Blocking Voltage $T_a = 100\text{ }^{\circ}\text{C}$                           | $I_{R(H)}$      | 1.0           |          |          |          |          |          |          |          | mA                   |
| Thermal Resistance (Note 1)                                                                | $R_{\theta JC}$ | 0.8           |          |          |          |          |          |          |          | $^{\circ}\text{C/W}$ |
| Junction Temperature Range                                                                 | $T_J$           | - 65 to + 175 |          |          |          |          |          |          |          | $^{\circ}\text{C}$   |
| Storage Temperature Range                                                                  | $T_{STG}$       | - 65 to + 175 |          |          |          |          |          |          |          | $^{\circ}\text{C}$   |

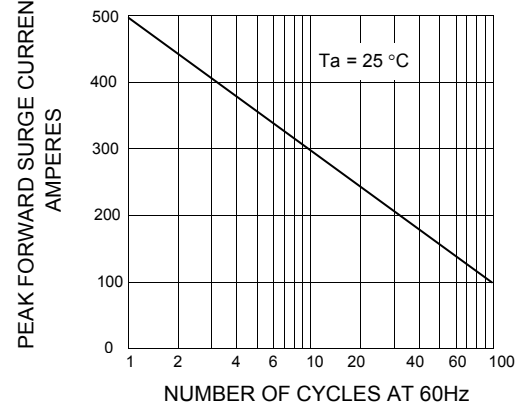
**Note :** (1) Thermal resistance from junction to case. Single side cooled.

## RATING AND CHARACTERISTIC CURVES ( AR5000L - AR5012L )

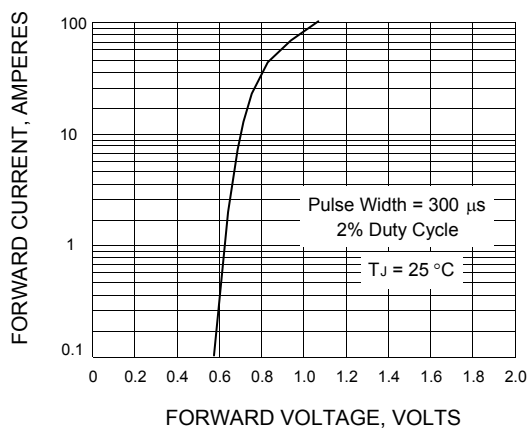
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



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



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**

