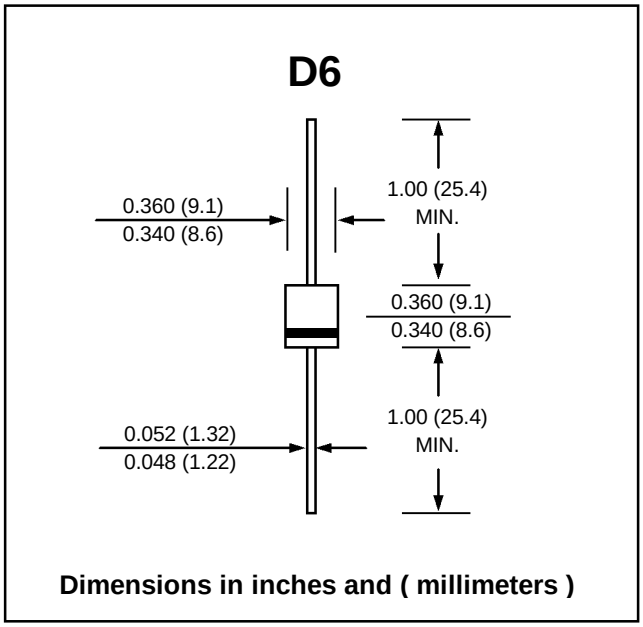
Certificate Number: Q10561

Certificate Number: E17276

# AR5000L - AR5010L

# 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
* 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

### 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 | UNIT |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Average Rectified Forward Current Tc = 150°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 Amps. | $V_F$ | 1.1 | | | | | | | V |
| Maximum DC Reverse Current Ta = 25 °C | $I_R$ | 5.0 | | | | | | | µA |
| at rated DC Blocking Voltage Ta = 100 °C | $I_{R(H)}$ | 1.0 | | | | | | | mA |
| Thermal Resistance (Note 1) | RθJC | 0.8 | | | | | | | °C/W |
| Junction Temperature Range | $T_J$ | - 65 to + 175 | | | | | | | °C |
| Storage Temperature Range | $T_{STG}$ | - 65 to + 175 | | | | | | | °C |

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

## RATING AND CHARACTERISTIC CURVES ( AR5000L - AR5010L )

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

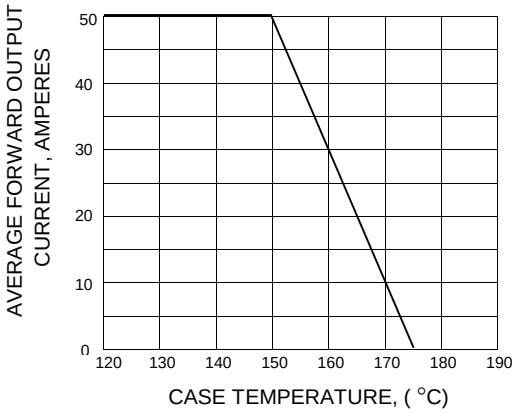



**FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**

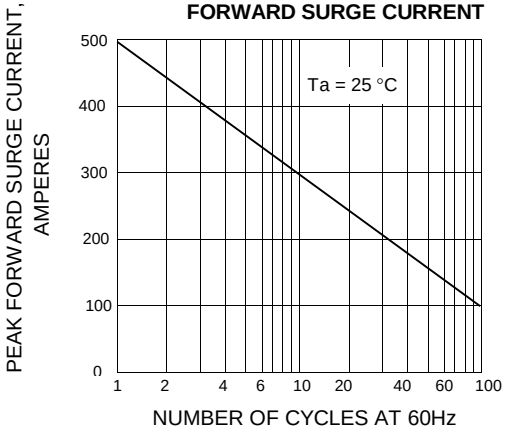
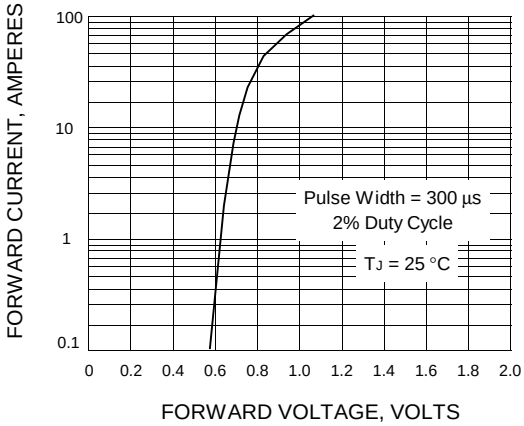



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



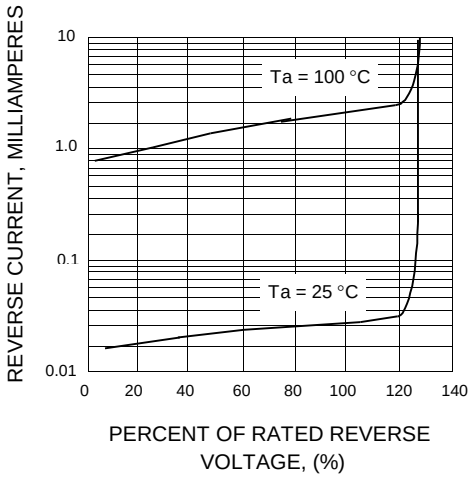


**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**