

# AR5000 - AR5010

PRV : 50 - 1000 Volts

I<sub>o</sub> : 50 Amperes

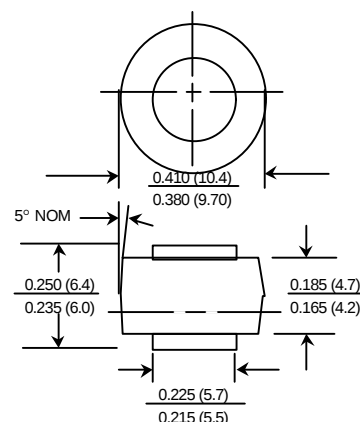
## FEATURES :

- \* 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 : 1.84 grams

## AUTOMOTIVE RECTIFIER DIODES



Dimensions in inches and (millimeter)

## 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 5000                                                                             | AR 5001                                                                              | AR 5002                                                                               | AR 5004                                                                               | AR 5006                                                                               | AR 5008                                                                               | AR 5010                                                                               | UNIT  |
|--------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------|
| Maximum Repetitive Peak Reverse Voltage                                                    | V <sub>RRM</sub>   | 50                                                                                  | 100                                                                                  | 200                                                                                   | 400                                                                                   | 600                                                                                   | 800                                                                                   | 1000                                                                                  | Volts |
| Maximum RMS Voltage                                                                        | V <sub>RMS</sub>   | 35                                                                                  | 70                                                                                   | 140                                                                                   | 280                                                                                   | 420                                                                                   | 560                                                                                   | 700                                                                                   | Volts |
| Maximum DC Blocking Voltage                                                                | V <sub>DC</sub>    | 50                                                                                  | 100                                                                                  | 200                                                                                   | 400                                                                                   | 600                                                                                   | 800                                                                                   | 1000                                                                                  | Volts |
| Average Rectified Forward Current T <sub>c</sub> = 150°C                                   | I <sub>F(AV)</sub> | 50                                                                                  |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       | Amps. |
| Peak Forward Surge Current Single half sine wave superimposed on rated load (JEDEC Method) | I <sub>FSM</sub>   | 500                                                                                 |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       | Amps. |
| Maximum Forward Voltage at I <sub>F</sub> = 50 Amps.                                       | V <sub>F</sub>     | 1.1                                                                                 |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       | Volts |
| Maximum DC Reverse Current Ta = 25 °C                                                      | I <sub>R</sub>     | 5.0                                                                                 |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       | μA    |
| at rated DC Blocking Voltage Ta = 100 °C                                                   | I <sub>R(H)</sub>  | 1.0                                                                                 |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       | mA    |
| Thermal Resistance (Note 1)                                                                | R <sub>θJC</sub>   | 0.8                                                                                 |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       | °C/W  |
| Junction Temperature Range                                                                 | T <sub>J</sub>     | - 65 to + 175                                                                       |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       | °C    |
| Storage Temperature Range                                                                  | T <sub>STG</sub>   | - 65 to + 174                                                                       |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       | °C    |
| Marking Code                                                                               |                    |  |  |  |  |  |  |  |       |

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

UPDATE : OCTOBER 19, 2000

## RATING AND CHARACTERISTIC CURVES ( AR5000 - AR5010 )

