



ARS50 / AR50 SERIES

50.0 AMPS. HIGH CURRENT PLASTIC SILICON RECTIFIERS

Voltage Range
50 to 1000 VOLTS
Current
50.0 Amperes

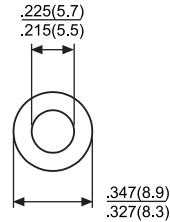
Features

- Plastic material used carries Underwriters
- Laboratory Classification 94V-0
- Low cost construction utilizing void-free molded plastic technique
- Low cost
- Diffused junction
- Low leakage
- High surge capability
- High temperature soldering guaranteed:
250°C for 10 seconds

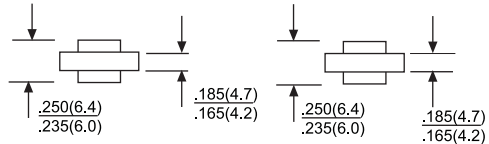
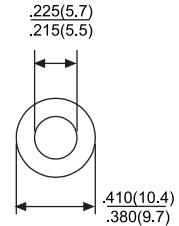
Mechanical Data

- Cases: Molded plastic case
- Terminals: Plated terminals, solderable per MIL-STD-202, Method 208
- Polarity: Color ring denotes cathode end
- Weight: 0.07 ounce, 1.8 grams
- Mounting position: Any

ARS



AR



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%

| Type Number | | ARS 50005 | ARS 5001 | ARS 5002 | ARS 5004 | ARS 5006 | ARS 5008 | ARS 5010 | UNITS |
|--|-----------------------------------|-------------|----------|----------|----------|----------|----------|----------|----------|
| | | AR50005 | AR5001 | AR5002 | AR5004 | AR5006 | AR5008 | AR5010 | |
| 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 |
| Maximum Average Forward Rectified Current @ T _C = 135°C | I _{F(AV)} | 50 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) at T _J = 150°C | I _{FSM} | 500 | | | | | | | A |
| Maximum Instantaneous Forward Voltage @ 50A | V _F | 1.1 | | | | | | | V |
| Maximum DC Reverse Current @ T _C = 25°C at Rated DC Blocking Voltage @ T _C = 100°C | I _R | 5.0 250 | | | | | | | uA uA |
| Typical Reverse Recovery Time (Note 2) | T _{RR} | 3.0 | | | | | | | uS |
| Typical Junction Capacitance (Note 1) T _J = 25°C | C _J | 300 | | | | | | | pF |
| Typical Thermal Resistance R _{θJC} (Note 3) | R _{θJC} | 1.0 | | | | | | | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -50 to +175 | | | | | | | °C |

- NOTES: 1. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.
2. Reverse Recovery Test Conditions: I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A
3. Thermal Resistance from Junction to Case, Single Side Cooled.

RATING AND CHARACTERISTIC CURVES

ARS50/AR50 SERIES



FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

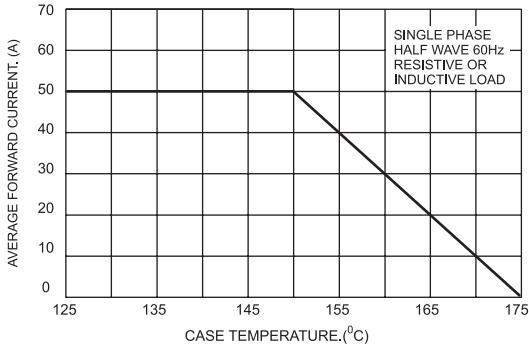


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

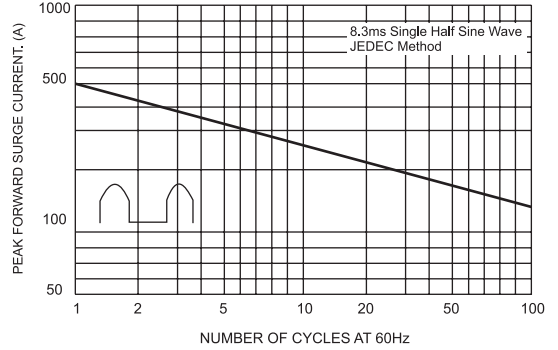


FIG.3- TYPICAL FORWARD CHARACTERISTICS

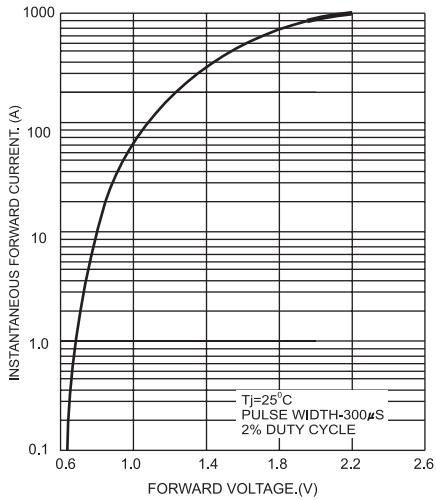


FIG.4-TYPICAL REVERSE CHARACTERISTICS

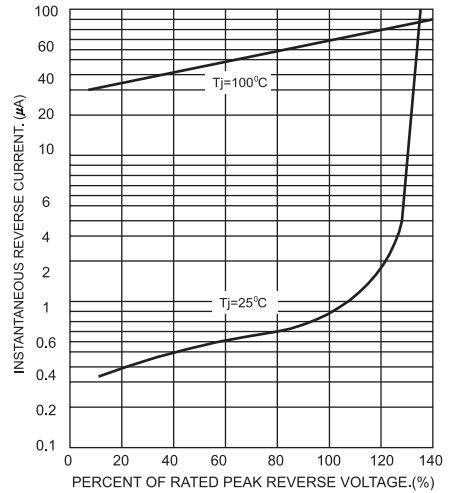


FIG.5- TYPICAL JUNCTION CAPACITANCE

