

AR/ARS50005 THRU AR/ARS5010

HIGH CURRENT PLASTIC SILICON RECTIFIER



康 比 電 子
HORNBY ELECTRONIC

REVERSE VOLTAGE: 50 to 1000 VOLTS

FORWARD CURRENT: 50.0 AMPERE

FEATURES

- Low cost construction utilizing void-free molded plastic technique
- Diffused junction
- Low forward voltage drop
- Low reverse leakage current
- High surge current capability
- High temperature soldering guaranteed:
260°C for 10 seconds

MECHANICAL DATA

Case: Molded plastic, AR/ARS

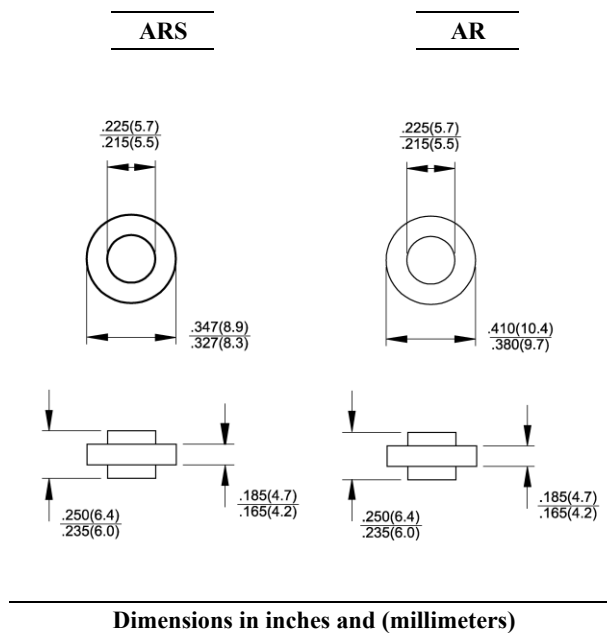
Epoxy: UL 94V-O rate flame retardant

Lead: Axial leads, solderable per MIL-STD-202,
method 208 guaranteed

Polarity: Color ring denotes cathode end

Mounting position: Any

Weight: 0.07ounce, 1.8gram



Maximum Ratings and Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%.

	Symbols	AR50005	AR5001	AR5002	AR5004	AR5006	AR5008	AR5010	Units
		ARS50005	ARS5001	ARS5002	ARS5004	ARS5006	ARS5008	ARS5010	
Maximum Recurrent 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
Maximum Average Forward Rectified Current at $T_C=135$	$I_{(AV)}$	50							Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	500							Amp
Maximum Forward Voltage at 50.0A DC and 25	V_F	1.1							Volts
Maximum Reverse Current at $T_C=25$ at Rated DC Blocking Voltage $T_C=100$	I_R	5.0 250							uAmp
Typical Junction Capacitance (Note 1)	C_J	300							pF
Typical Thermal Resistance (Note 2)	$R_{\theta JC}$	1							/W
Maximum Reverse Recovery Time (Note 3)	T_{RR}	3							uS
Operating and Storage Temperature Range	T_J, T_{stg}	-55 to +175							

NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Reverse Recovery Test Conditions : $I_F=.5A$, $I_R=1A$, $I_{RR}=.25A$.

3- Thermal Resistance from Junction to Case, Single Side Cooled.

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RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

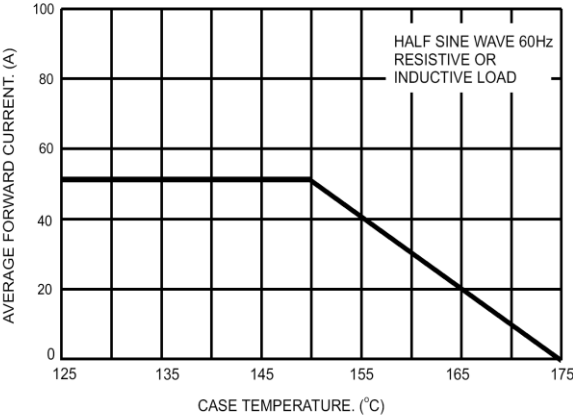


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

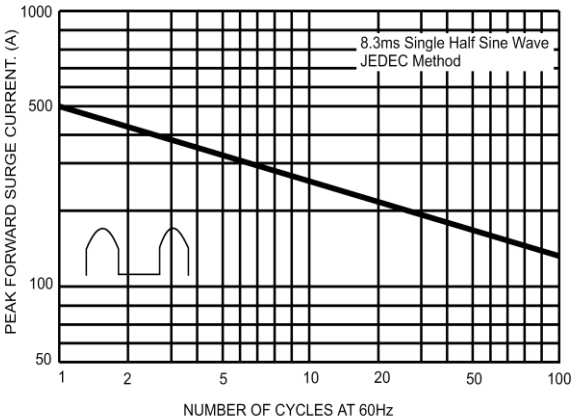


FIG.3- TYPICAL FORWARD CHARACTERISTICS

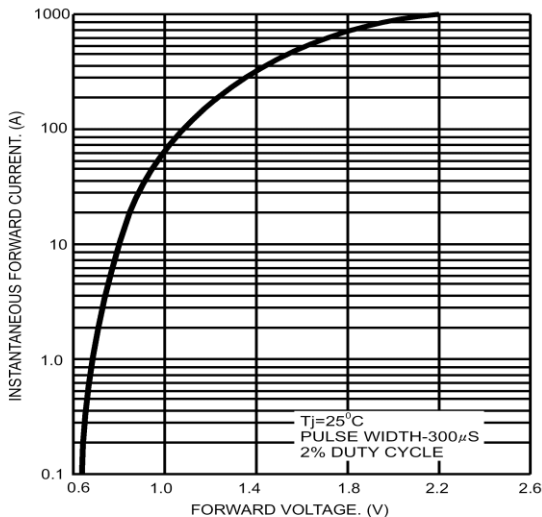


FIG.4- TYPICAL REVERSE CHARACTERISTICS

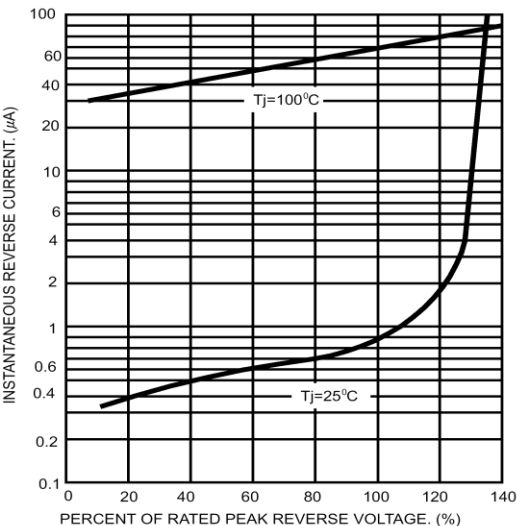


FIG.5- TYPICAL JUNCTION CAPACITANCE

