ARS50 / AR50 SERIES

50.0 AMPS. HIGH CURRENT PLASTIC SILICON RECTIFIERS

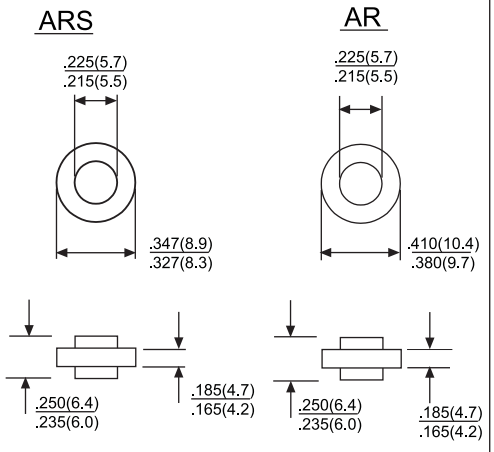
Voltage Range
50 to 1000 VOLTS
Current
50.0 Amperes

Features

- Plastic material used carries Underwriters
- Laboratory Classification 94V-O
- Low cost construction utilizing void-free molded plastic technique
- Low cost
- Diffused junction
- Low leakage
- High surge capability
- High temperature soldering guaranteed: 250^{0}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



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 / AR50005	ARS 5001 / AR5001	ARS 5002 / AR5002	ARS 5004 / AR5004	ARS 5006 / AR5006	ARS 5008 / AR5008	ARS 5010 / AR5010	UNITS
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^{0}C	I_{FSM}	500							A
Maximum Instantaneous Forward Voltage @50A	V_F	1.1							V
Maximun 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 $R_{\theta JC}$ (Note 3)	$R_{\theta JC}$	1.0							$^\circ$C/W
Operating and Storage Temperature Range	T_J,T_{STG}	-50 to +175							$^\circ$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,Singe Side Cooled.

RATING AND CHARACTERISTIC CURVES
ARS50/AR50 SERIES

FIG.1- MAXIMUN FORWARD CURRENT DERATING CURVE

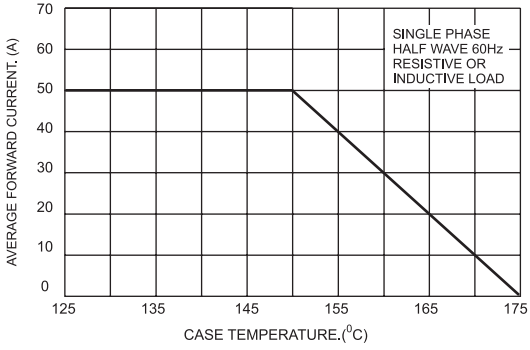


FIG.2- MAXIMUN NON-REPETITIVE PEAK FORWARD SURGE CURRENT

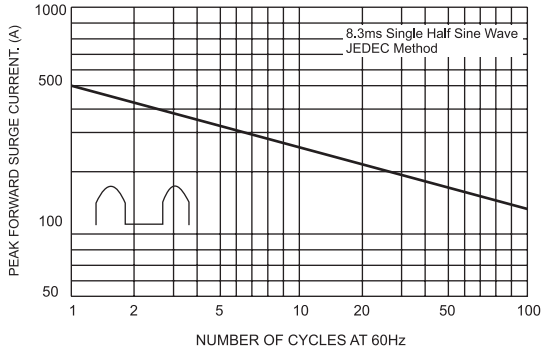


FIG.3- TYPICAL FORWARD CHARACTERISTICS

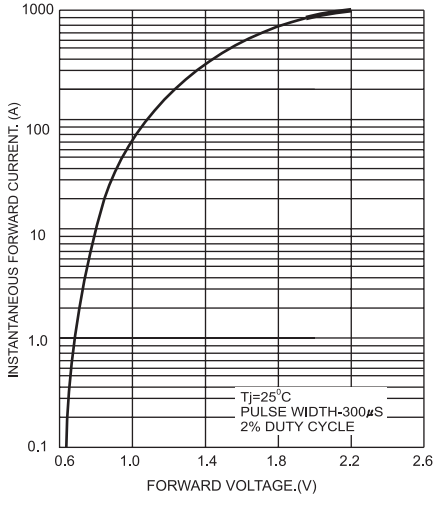


FIG.4-TYPICAL REVERSE CHARACTERISTICS

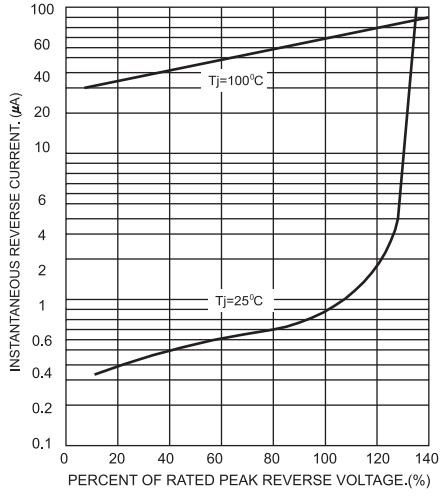


FIG.5- TYPICAL JUNCTION CAPACITANCE