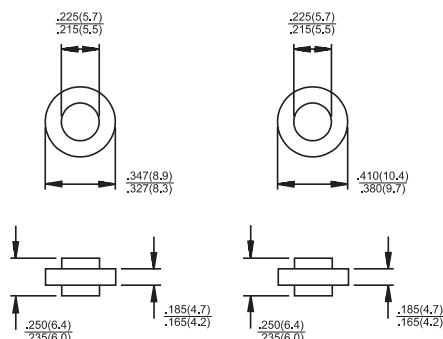




Features

- ✦ 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: 260°C for 10 seconds



Mechanical Data

- ✦ Case: Molded plastic case
- ✦ Terminals: Pure tin plated, lead free., solderable per MIL-STD-202, Method 208
- ✦ Polarity: Color ring denotes cathode
- ✦ 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, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	ARS	ARS	ARS	ARS	ARS	ARS	ARS	Units
		50A	50B	50D	50G	50J	50K	50M	
Maximum Recurrent 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 @ $T_c = 135^\circ\text{C}$	$I_{(AV)}$	50							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) at $T_J=150^\circ\text{C}$	I_{FSM}	500							A
Maximum Instantaneous Forward Voltage @ 50A	V_F	1.1							V
Maximum DC Reverse Current @ $T_c=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_c=125^\circ\text{C}$	I_R	5.0 250							μA μA
Typical Reverse Recovery Time (Note 2)	T_{rr}	3.0							μs
Typical Junction Capacitance (Note 1) $T_J=25^\circ\text{C}$	C_j	300							pF
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	1.0							$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-50 to +175							$^\circ\text{C}$

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

RATINGS AND CHARACTERISTIC CURVES (AR(S)50 SERIES)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

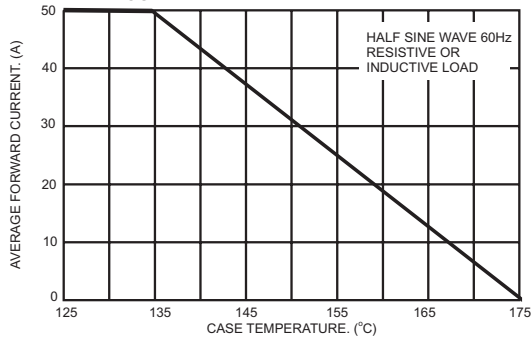


FIG.2- TYPICAL REVERSE CHARACTERISTICS

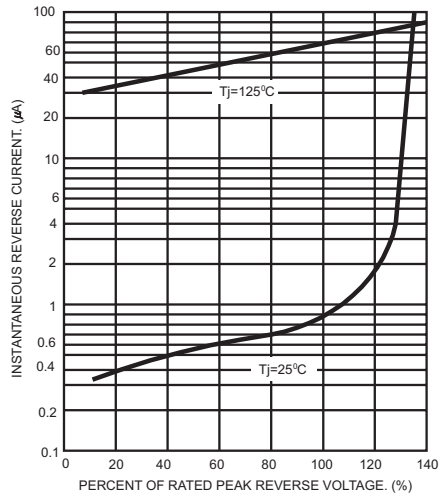


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

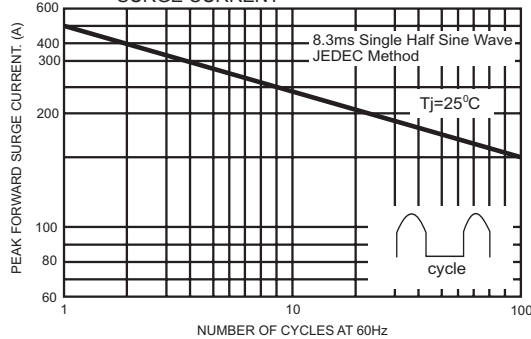


FIG.5- TYPICAL FORWARD CHARACTERISTICS

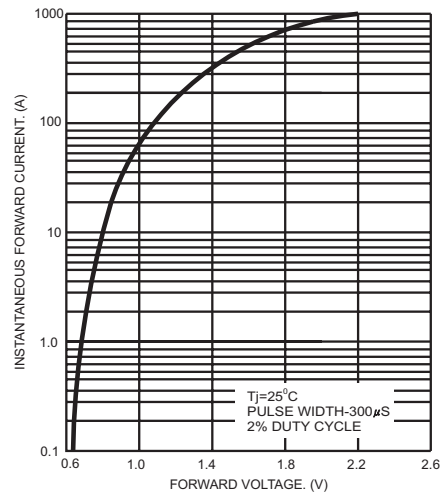


FIG.4- TYPICAL JUNCTION CAPACITANCE

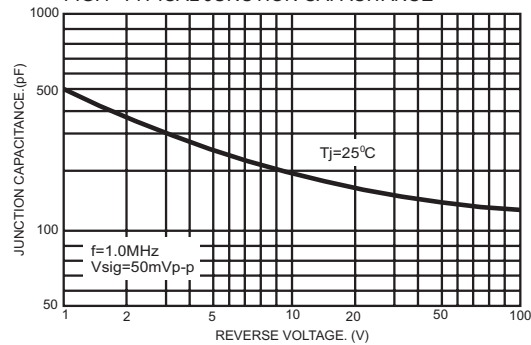


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

