



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
- ◊ Green compound with suffix "G" on packing code & prefix "G" on datecode.

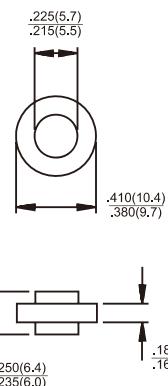
Mechanical Data

- ◊ Case: Molded plastic case
- ◊ Terminals: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208
- ◊ Polarity: Color ring denotes cathode
- ◊ Weight: 1.8 grams
- ◊ Mounting position: Any

AR50 SERIES

50.0 AMPS. High Current Button Rectifiers

AR



Dimensions in inches and (millimeters)

Marking Diagram



AR50X = Specific Device Code
 G = Green Compound
 Y = Year
 M = Work Month

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	AR 50A	AR 50B	AR 50D	AR 50G	AR 50J	AR 50K	AR 50M	Units
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 °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 at T _A =25°C @ T _A =125°C	I _R				5.0				uA
					250				uA
Typical Reverse Recovery Time (Note 2)	T _{rr}				3.0				uS
Typical Junction Capacitance (Note 4) T _j =25°C	C _j				300				pF
Typical Thermal Resistance (Note 3)	R _{θJC}				1.0				°C/W
Operating and Storage Temperature Range	T _j , T _{STG}				-50 to +175				°C

Notes: 1. Pulse Test with PW=300 usec, 1% Duty Cycle
 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.
 4. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

Version: C10

RATINGS AND CHARACTERISTIC CURVES (AR50 SERIES)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

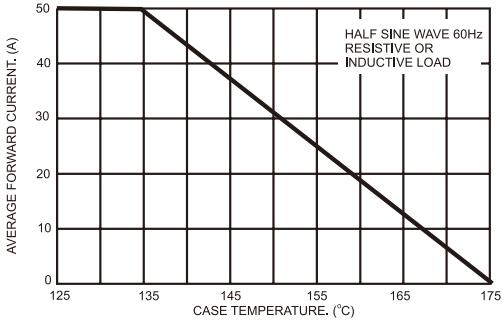


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

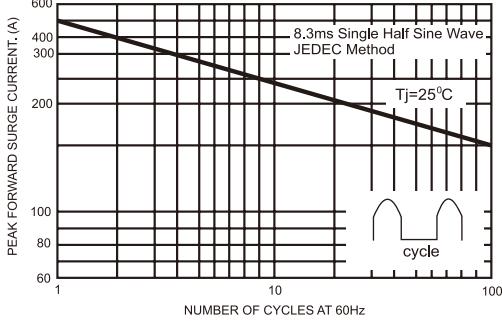


FIG.4- TYPICAL JUNCTION CAPACITANCE

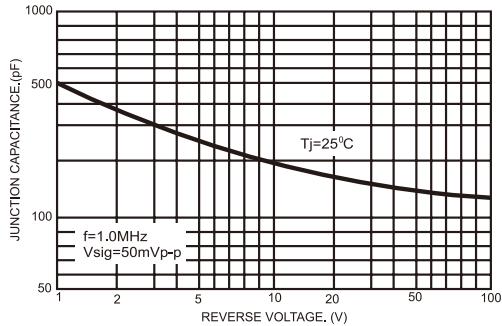


FIG.2- TYPICAL REVERSE CHARACTERISTICS

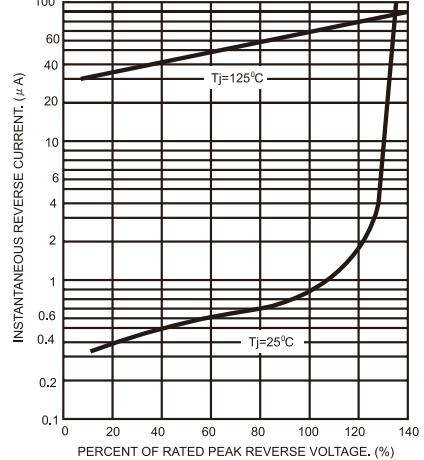


FIG.5- TYPICAL FORWARD CHARACTERISTICS

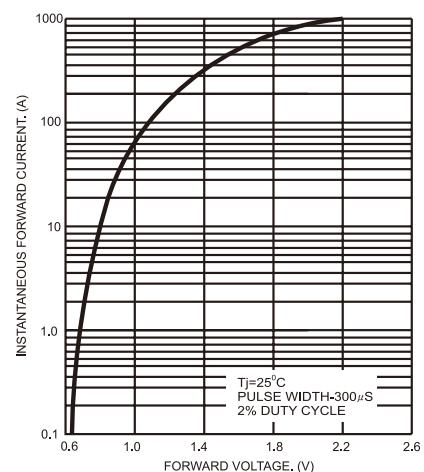
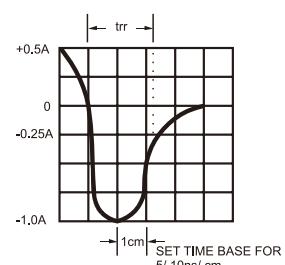
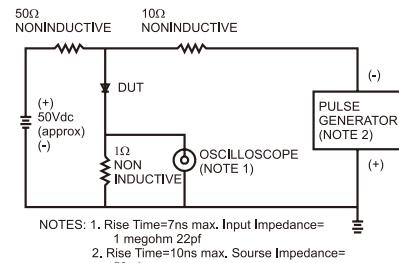


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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