High Current Button Rectifiers

FEATURES

- Diffused junction
- Low leakage
- High surge capability
- Low cost construction utilizing void-free molded plastic technique
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

AR

Pb-Free

RoHS COMPLIANT

MECHANICAL DATA

Case: AR

Molding compound, UL flammability classification rating 94V-0

Packing code with suffix "G" means green compound (halogen-free)

Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test

Weight: 1.8 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)									
PARAMETER	SYMBOL	AR 50A	AR 50B	AR 50D	AR 50G	AR 50J	AR 50K	AR 50M	UNIT
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	$I_{F(AV)}$	50							A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	800							A
Maximum instantaneous forward voltage (Note 1) @ 50 A	V_F	1.1							V
Maximum reverse current @ Rated VR T_J=25 °C T_J=125 °C	I_R	5 250							μA
Typical reverse recovery time (Note 2)	trr	3							μs
Typical junction capacitance (Note 3)	Cj	300							pF
Typical Thermal Resistance	$R_{\theta JC}$	1							°C/W
Operating junction temperature range	T_J	- 50 to +175							°C
Storage temperature range	T_{STG}	- 50 to +175							°C

Note 1: Pulse test with PW=300μs, 1% duty cycle

Note 2: Reverse Recovery Time Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

ORDERING INFORMATION				
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
AR50x (Note 1)	B0	G	AR	1,000 / Bulk packing

Note 1: "x" defines voltage from 50V (AR50A) to 1000V (AR50M)

EXAMPLE				
PREFERRED P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
AR50M B0	AR50M	B0		
AR50M B0G	AR50M	B0	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

FIG.1- MAXMUM FORWARD CURRENT DERATING CURVE

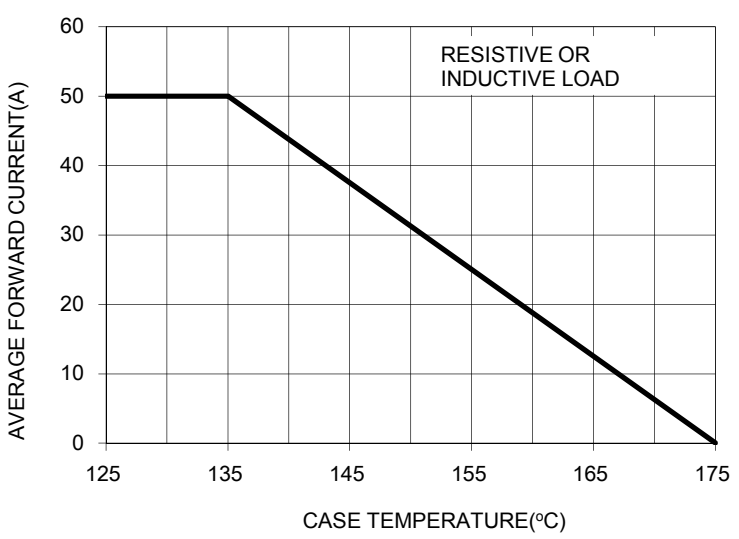


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

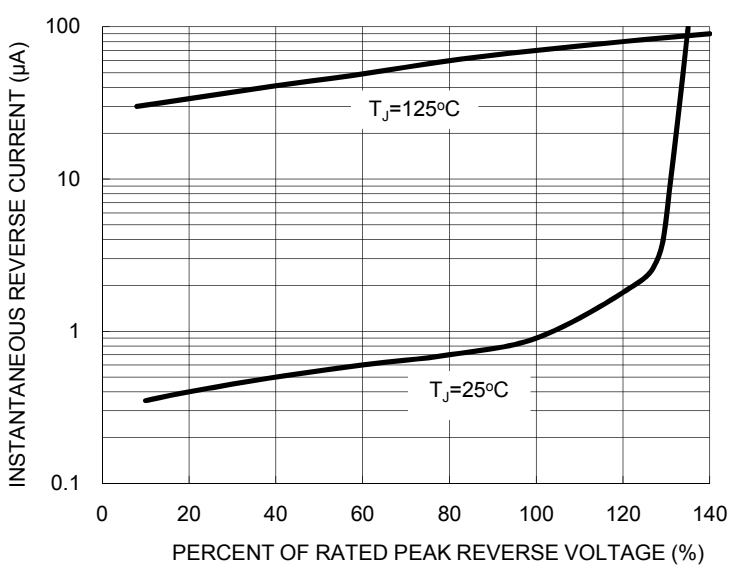


FIG. 3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

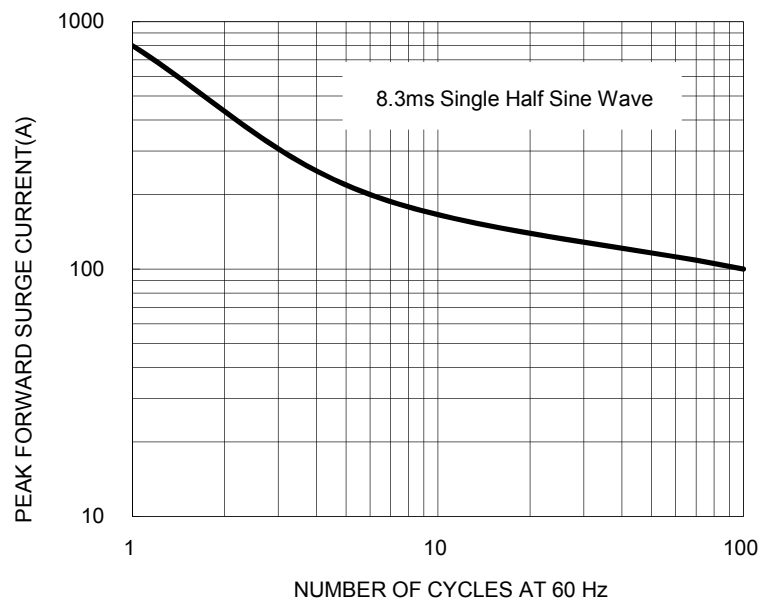


Fig. 4 TYPICAL FORWARD CHARACTERISTICS

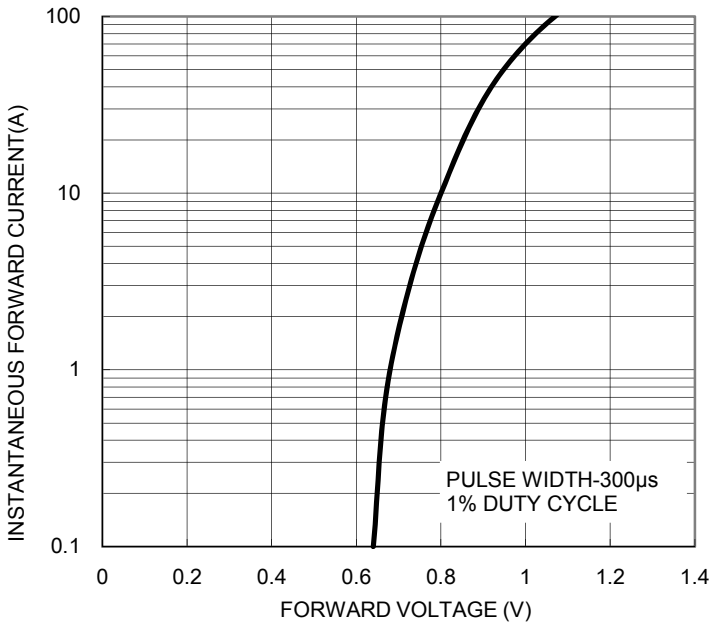


FIG. 5 TYPICAL JUNCTION CAPACITANCE

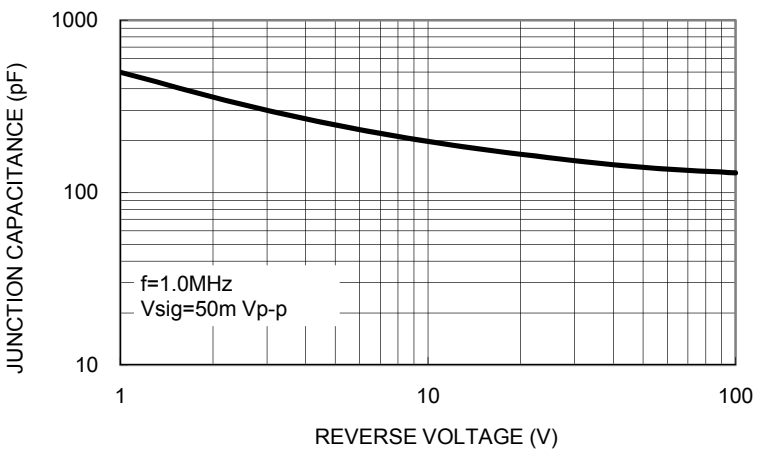
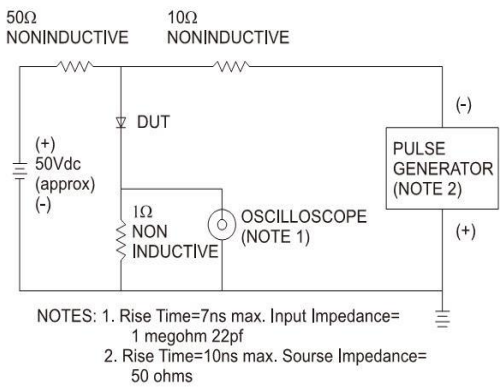
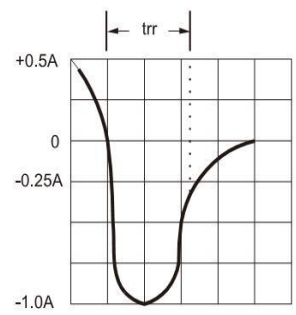


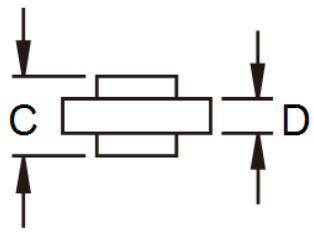
FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM





PACKAGE OUTLINE DIMENSIONS

AR



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	5.50	5.70	0.217	0.224
B	9.70	10.40	0.382	0.409
C	6.00	6.40	0.236	0.252
D	4.20	4.70	0.165	0.185

MARKING DIAGRAM

P/N = Specific Device Code
G = Green Compound
YW = Date Code
F = Factory Code

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