

## 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**


### 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 ( $T_A=25^\circ\text{C}$ 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 $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	$I_R$			5		250			$\mu\text{A}$
Typical reverse recovery time (Note 2)	$trr$			3					$\mu\text{s}$
Typical junction capacitance (Note 3)	$C_J$			300					pF
Typical Thermal Resistance	$R_{eJC}$			1					$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$			- 50 to +175					$^\circ\text{C}$
Storage temperature range	$T_{STG}$			- 50 to +175					$^\circ\text{C}$

Note 1: Pulse test with  $PW=300\mu\text{s}$ , 1% duty cycle

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

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

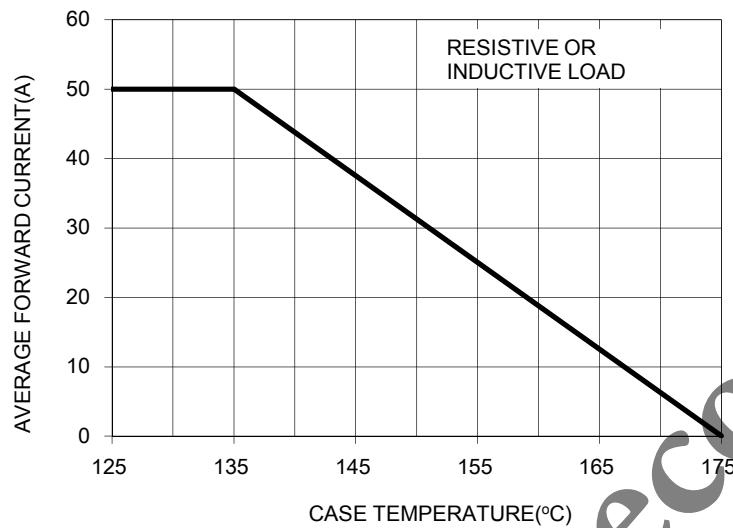
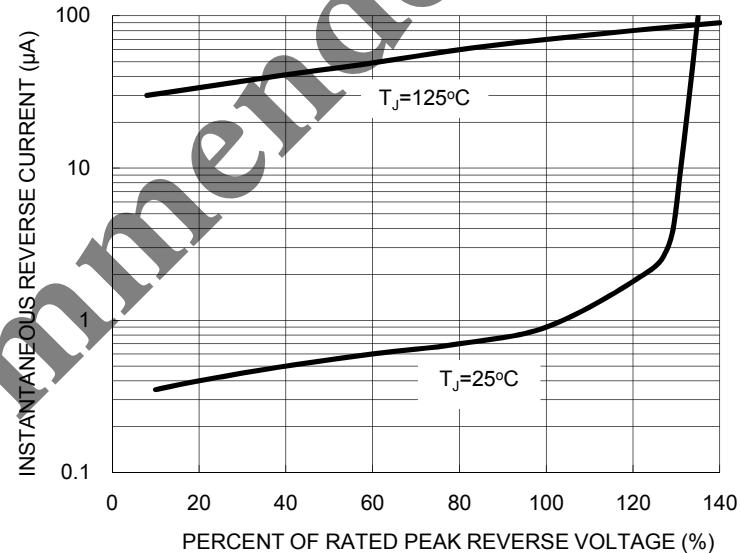
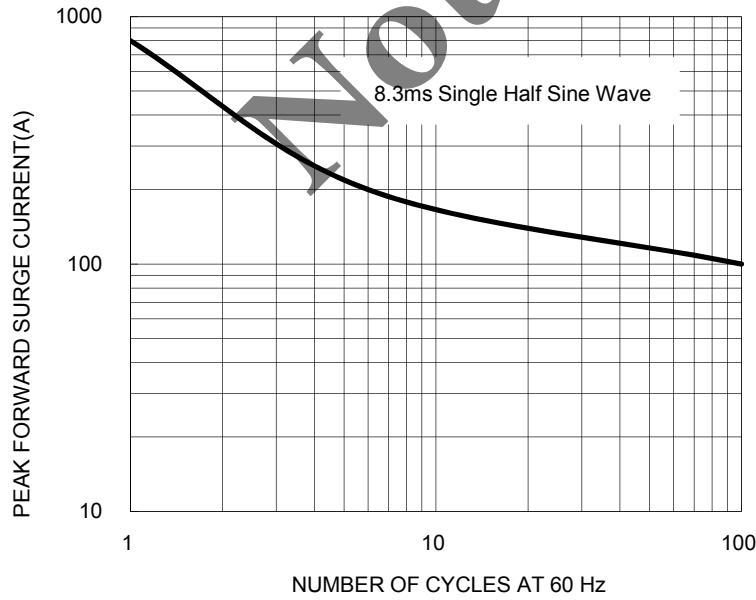
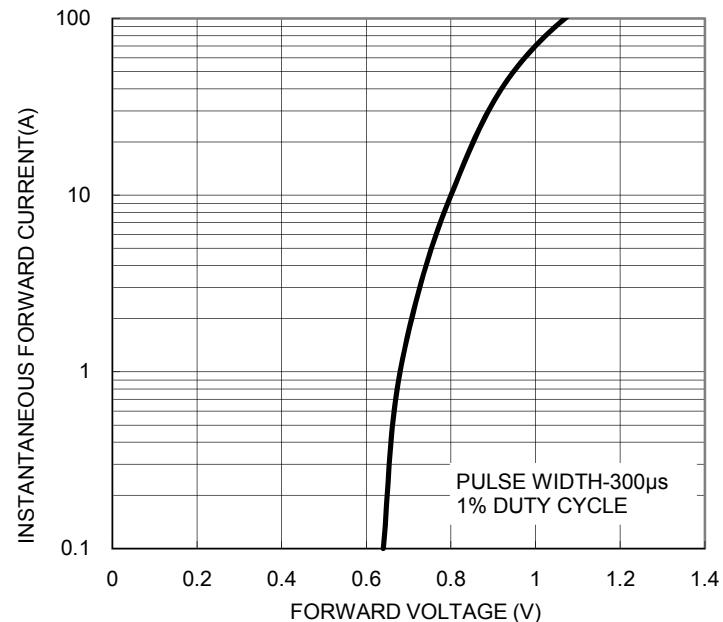
Note 1: "x" defines voltage from 50V (AR50A) to 1000V (AR50M)

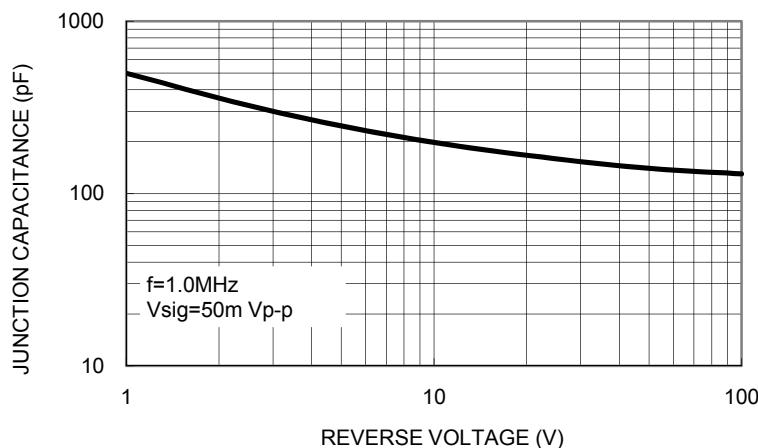
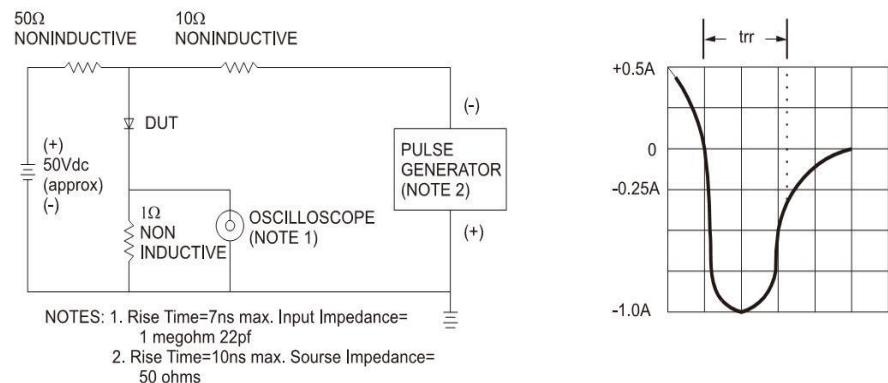
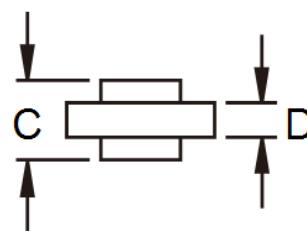
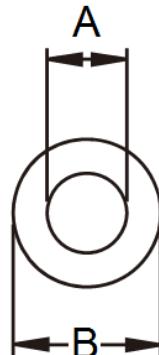
**EXAMPLE**

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<sub>A</sub>=25°C unless otherwise noted)

**FIG.1- MAXIMUM 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

Not Recommended

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Taiwan Semiconductor:

[AR50A](#) [AR50B](#) [AR50D](#) [AR50G](#) [AR50J](#) [AR50K](#) [AR50M](#)