

# AR/S50A – AR/S50M



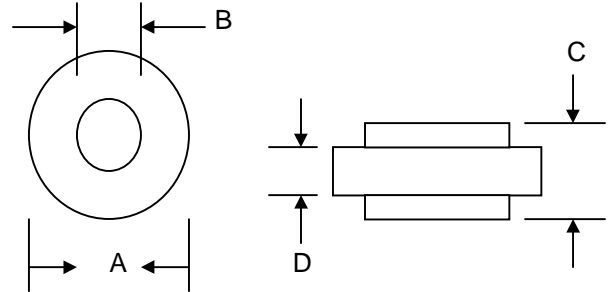
## 50A AUTOMOTIVE BUTTON DIODE

### Features

- Diffused Junction
- Low Leakage
- Low Cost
- High Surge Current Capability
- Low Cost Construction Utilizing Void-Free Molded Plastic Technique

### Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Terminals Solderable per MIL-STD-202, Method 208
- Polarity: Color Ring Denotes Cathode End
- Weight: 1.8 grams (approx.)
- Mounting Position: Any
- Marking: Color Band



Dim	AR		ARS	
	Min	Max	Min	Max
A	9.70	10.40	8.30	8.90
B	5.50	5.70	5.50	5.70
C	6.0	6.40	6.0	6.40
D	4.2	4.7	4.2	4.7

All Dimensions in mm

S Suffix Designates ARS Package  
No Suffix Designates AR Package

### Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	AR/S 50A	AR/S 50B	AR/S 50D	AR/S 50G	AR/S 50J	AR/S 50K	AR/S 50M	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	$V_{RWM}$								
DC Blocking Voltage	$V_R$								
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current @ $T_A = 150^\circ\text{C}$	$I_O$	50							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) at $T_J = 150^\circ\text{C}$	$I_{FSM}$	500							A
Forward Voltage @ $I_F = 50\text{A}$	$V_{FM}$	1.2							V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	$I_{RM}$	5.0 250							$\mu\text{A}$
Reverse Recovery Time (Note 1)	$t_{rr}$	3.0							$\mu\text{S}$
Typical Junction Capacitance (Note 2)	$C_j$	300							pF
Typical Thermal Resistance Junction to Case (Note 3)	$R_{\theta JC}$	1.0							K/W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-50 to +175							$^\circ\text{C}$
Polarity and Voltage Denotation Color Band		Red	Yellow	Silver	Orange	Green	Blue	Violet	

#### \*Glass passivated forms are available upon request

- Note: 1. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $IRR = 0.25\text{A}$   
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.  
3. Thermal Resistance: Junction to case, single side cooled.

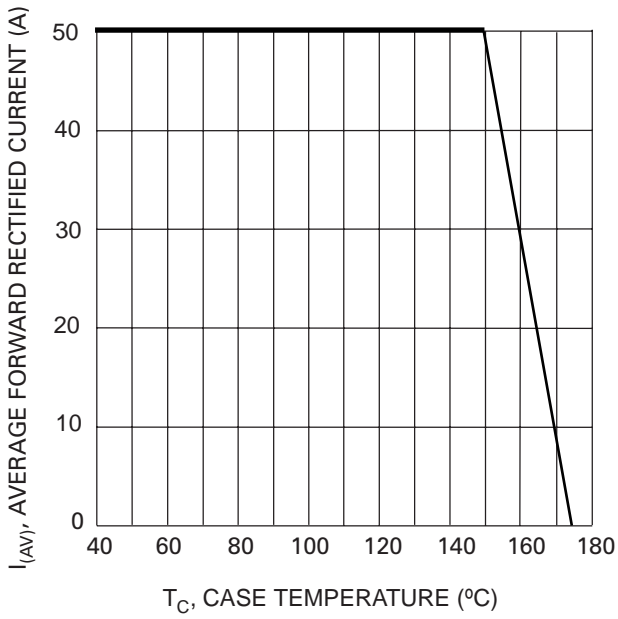


Fig. 1 Forward Current Derating Curve

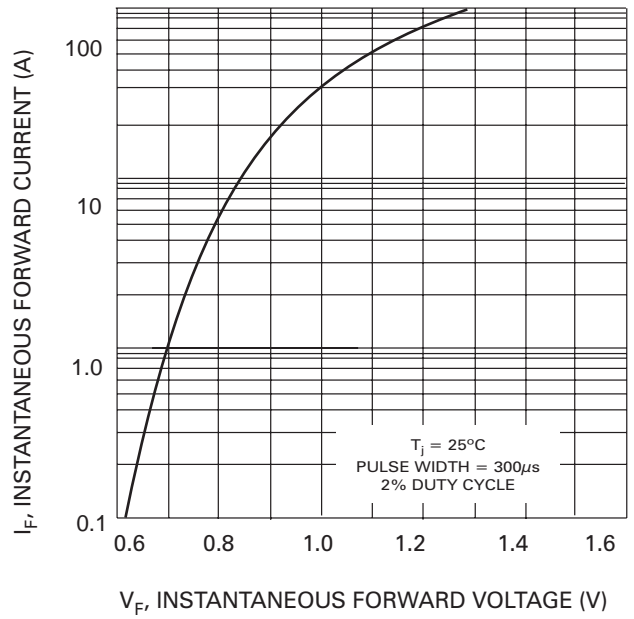


Fig. 2 Typical Forward Characteristics

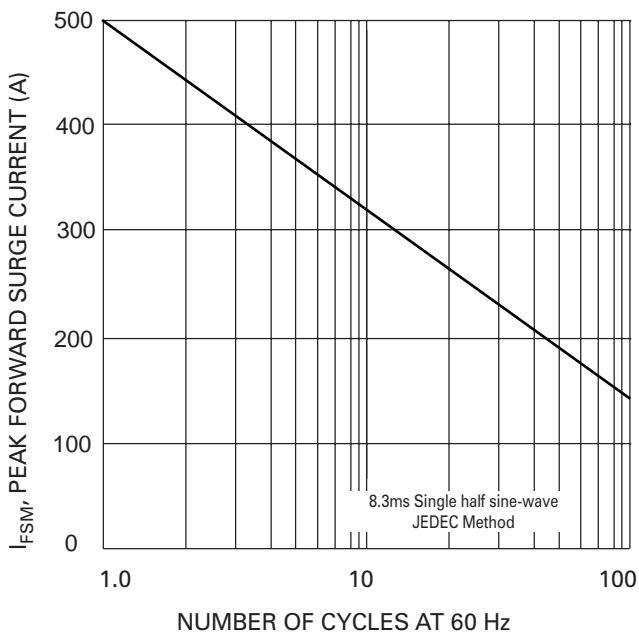


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

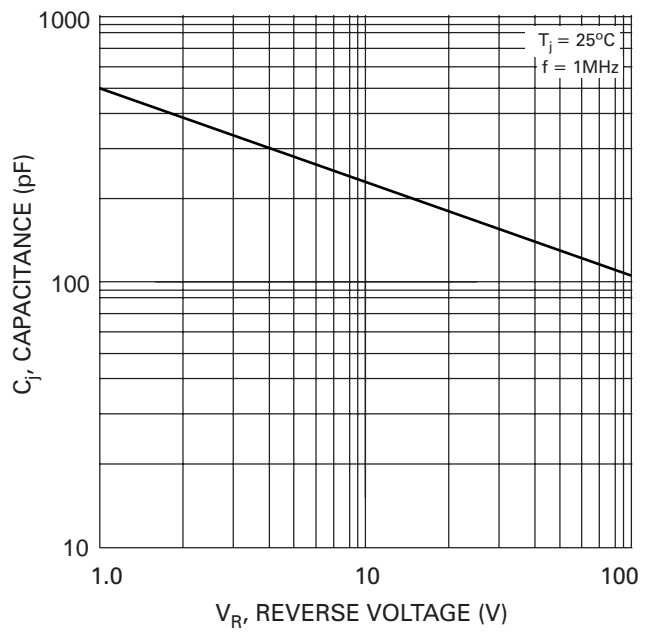


Fig. 4 Typical Junction Capacitance

## ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
AR50A	10mm Button	1000 Units/Box
ARS50A	8.6mm Button	1000 Units/Box
AR50B	10mm Button	1000 Units/Box
ARS50B	8.6mm Button	1000 Units/Box
AR50D	10mm Button	1000 Units/Box
ARS50D	8.6mm Button	1000 Units/Box
AR50G	10mm Button	1000 Units/Box
ARS50G	8.6mm Button	1000 Units/Box
AR50J	10mm Button	1000 Units/Box
ARS50J	8.6mm Button	1000 Units/Box
AR50K	10mm Button	1000 Units/Box
ARS50K	8.6mm Button	1000 Units/Box
AR50M	10mm Button	1000 Units/Box
ARS50M	8.6mm Button	1000 Units/Box

Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.