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AR501/ARS501  
THRU  
AR506/ARS506

**BUTTON DIODES**

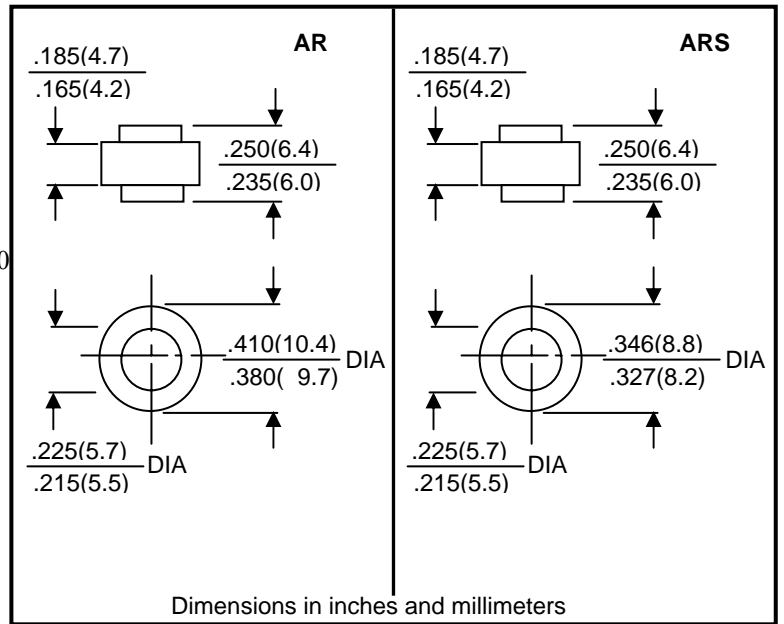
**VOLTAGE RANGE  
100 TO 600 VOLTS  
CURRENT 50AMPS**

**Features**

- Low leakage
- Low forward voltage drop
- High current capability
- High forward surge current capability

**Mechanical Data**

- Case: transfer molded plastic
- Technology: vacuum soldered
- Polarity: color ring denotes cathode
- Lead: Plated lead, solderable per MIL-STD-202E method 20
- Mounting position: Any
- Weight: AR 1.80 grams, ARS 1.60 grams



**Maximum Ratings and Electrical Characteristics**

Rating at 25°C ambient temperature unless otherwise specified  
Single phase, half wave, 60Hz, resistive or inductive load  
For capacitive load derate current by 20%

Parameters	Symbols	AR501 ARS501	AR502 ARS502	AR503 ARS503	AR504 ARS504	AR506 ARS506	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	100	200	300	400	600	Volts
Maximum RMS voltage	$V_{RMS}$	70	140	210	280	420	Volts
Maximum DC blocking voltage	$V_{DC}$	100	200	300	400	600	Volts
Maximum Average rectified forward current at $T_C=110^\circ C$	$I_o$	50					Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	500					Amps
Rating for fusing( $t<8.3ms$ )	$I^2t$	1038					$A^2S$
Maximum instantaneous forward voltage drop at 100A	$V_F$	1.06					Volts
Maximum DC reverse current $T_A=25^\circ C$ at rated DC blocking voltage $T_A=150^\circ C$	$I_R$	5.0 450					$\mu A$
Typical thermal resistance	$R_{\theta JC}$	0.8					$^\circ C/W$
Operating and storage temperature	$T_J, T_{STG}$	-65 to +175					$^\circ C$

Notes: 1. Enough heatsink must be considered in application.

# AR501 THRU AR506 ARS501 THRU ARS506

## Ratings and Characteristic Curves

FIG.1—TYPICAL FORWARD CURRENT DERATING CURVE

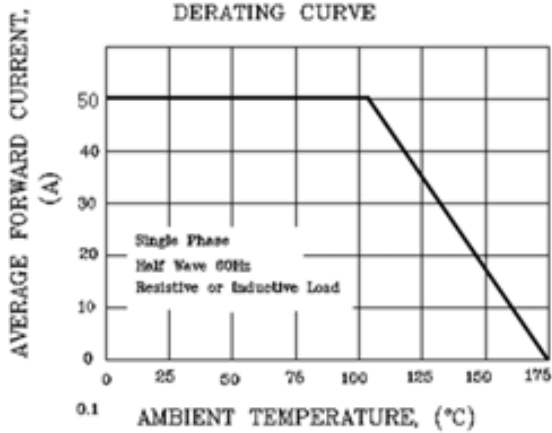


FIG.2—MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

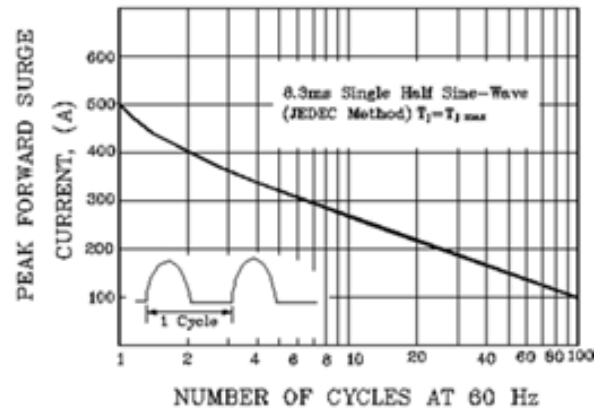


FIG.3—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

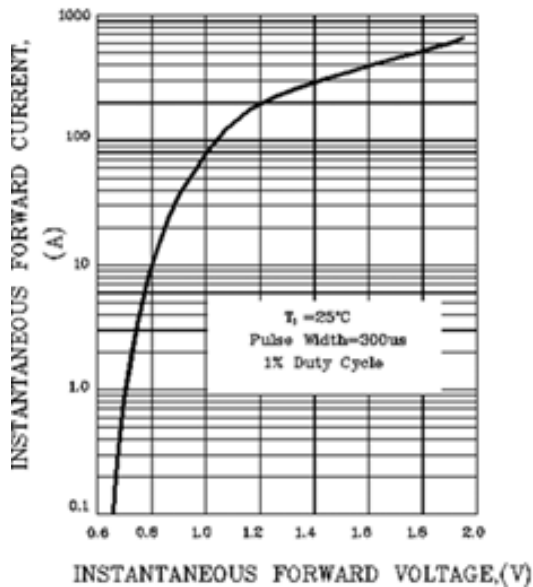


FIG.4— FORWARD POWER DISSIPATION

