

### Features

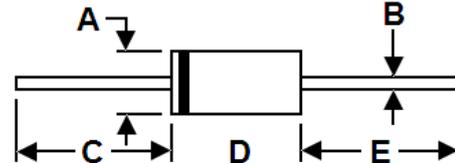
- \* Low Forward Voltage Drop
- \* High Current Capability
- \* High Reliability
- \* High Surge Current Capability



RoHS  
COMPLIANT

### Package Outline Dimensions

R-1:



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.0	2.7	0.080	0.107
B	0.53	0.64	0.021	0.025
C	25.4	-	1.0	-
D	3.0	3.3	0.118	0.130
E	25.4	-	1.0	-

### Mechanical Data

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting Position: Any

### Maximum Ratings and Electrical Characteristics

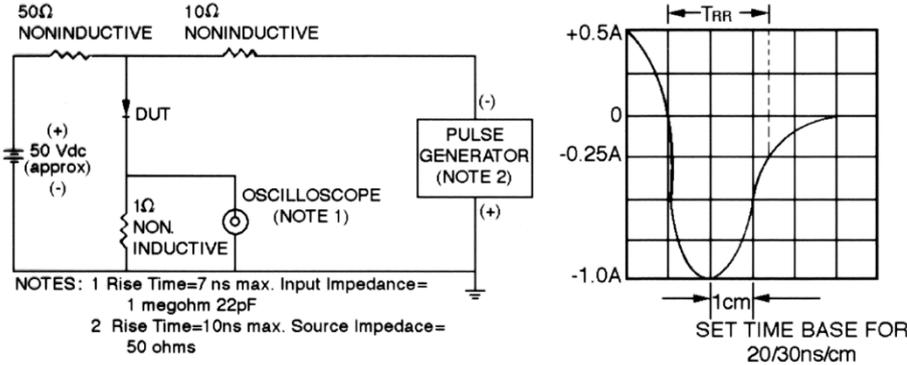
Rating at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Type Number	Symbol	HA 11	HA 12	HA 13	HA 14	HA 15	HA 16	HA 17	HA 18	Unit	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	300	400	600	800	1000	V	
Maximum RMS Voltage	$V_{RMS}$	35	70	140	210	280	420	560	700	V	
Maximum D.C Blocking Voltage	$V_{DC}$	50	100	200	300	400	600	800	1000	V	
Maximum Average Forward Rectified Current .375" (9.5mm)Lead Length @ $T_A=40^\circ C$	$I_{F(AV)}$	1.0								A	
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load(JEDEC method)	$I_{FSM}$	25								A	
Maximum Instantaneous Forward Voltage at 1.0A	$V_F$	1.0			1.3		1.7			V	
Maximum D.C Reverse Current @ $T_A=25^\circ C$ at Rated D.C Blocking Voltage @ $T_A=100^\circ C$	$I_R$	5.0 100								$\mu A$	
Maximum Reverse Recovery Time(Note1)	$T_{rr}$	50					75				nS
Typical Junction Capacitance(Note2)	$C_J$	20					15				pF
Operating and Storage Temperature Range	$T_J/T_{STG}$	-55 to +125 / -55 to +150								$^\circ C$	

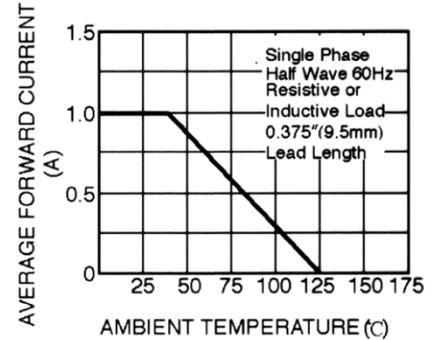
Note:1、 Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$ . 2、 Measured at 1MHz and Applied Reverse Voltage of 4.0V D.C.

### Ratings and Characteristic Curves

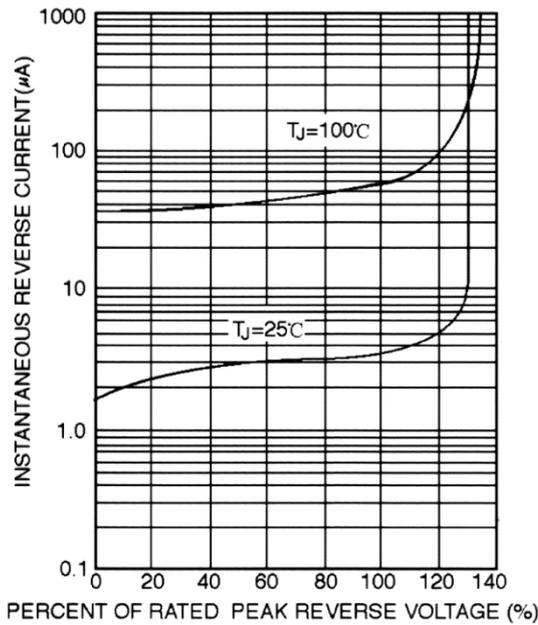
**FIG. 1 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS**



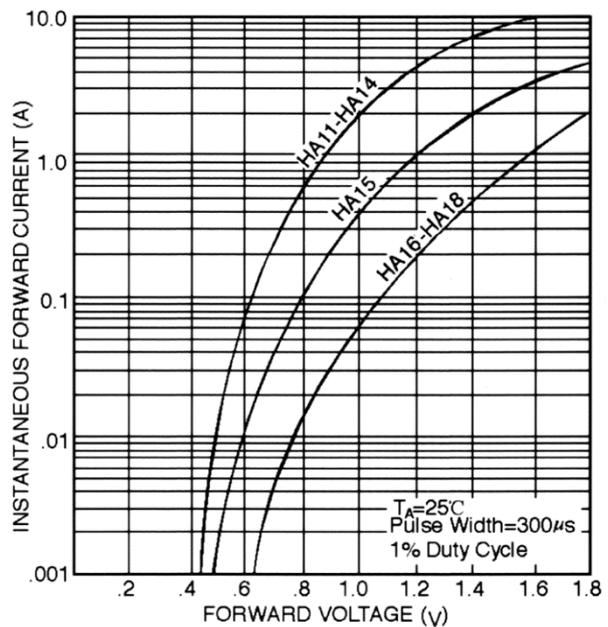
**FIG. 2 – TYPICAL FORWARD CURRENT DERATING CURVE**



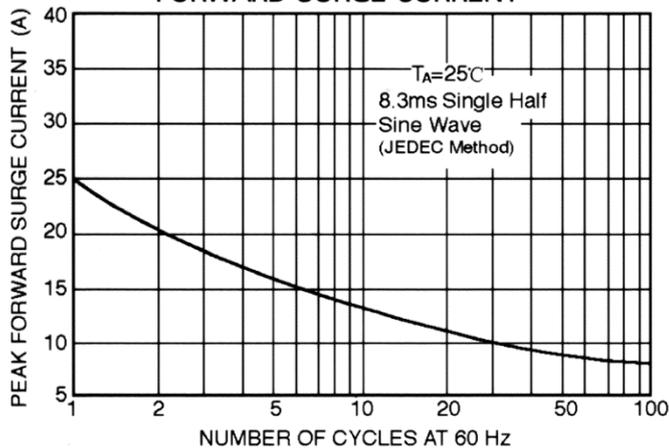
**FIG. 3 – TYPICAL REVERSE CHARACTERISTICS**



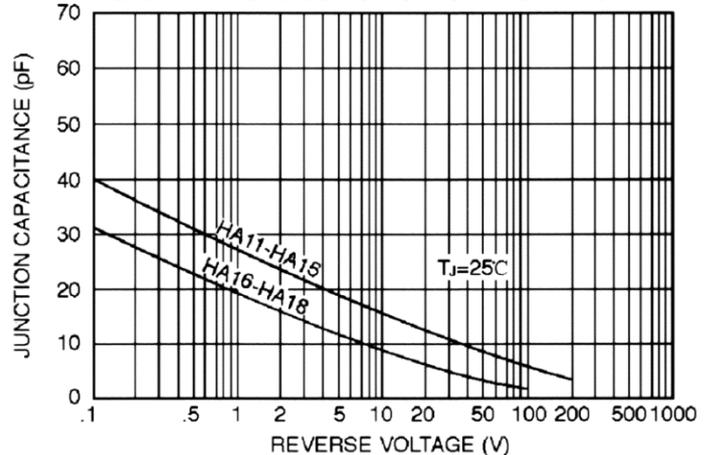
**FIG. 4 – TYPICAL FORWARD CHARACTERISTICS**



**FIG. 5 – MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG. 6 – TYPICAL JUNCTION CAPACITANCE**





# HA11 THRU HA18

*1.0 Amp. High Efficiency Rectifiers*

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## Ordering Information

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Part No.	Package	Packing
HA11~HA18	R-1	3K/AMMO box
HA11~HA18	R-1	5K/AMMO box
HA11~HA18	R-1	5K/13" Paper reel
HA11~HA18	R-1	1K/Bulk packing