



## HA11 THRU HA18

### 1.0 AMP. HIGH EFFICIENCY RECTIFIERS

**FEATURES**

- \* Low forward voltage drop
- \* High current capability
- \* High reliability
- \* High surge current capability

**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
- \* Weight: 0.20 grams

**VOLTAGE RANGE**  
50 to 1000 Volts  
**CURRENT**  
1.0 Ampere

**R-1**

Dimensions in inches and (millimeters)

### 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	SYMBOLS	HA11	HA12	HA13	HA14	HA15	HA16	HA17	HA18	UNITS
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, 8.3 ms 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				$\mu A$ $\mu A$
Maximum Reverse Recovery Time( Note 1)	$T_{RR}$	50				75				nS
Typical Junction Capacitance ( Note 2)	$C_J$	20				15				pF
Operating Temperature Range	$T_J$	- 65 to + 125								°C
Storage Temperature Range	$T_{STG}$	- 65 to + 150								°C

NOTES: 1. Reverse Recovery Test Conditions:  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{RR} = 0.25A$ .  
2. Measured at 1 MHz and applied reverse voltage of 4.0V D. C.



## RATINGS AND CHARACTERISTIC CURVES (HA11 THRU HA18)

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS

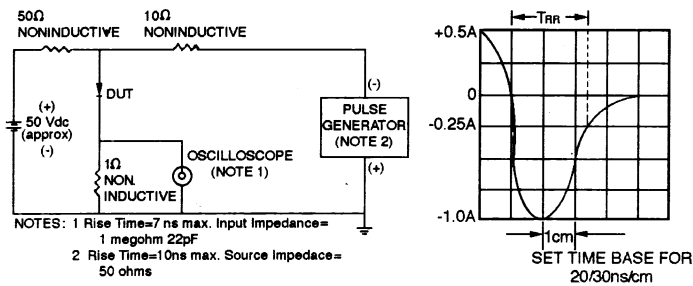


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

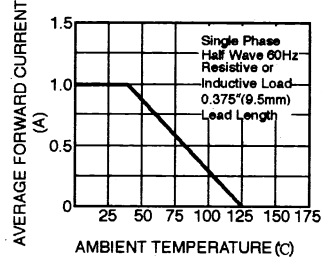


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

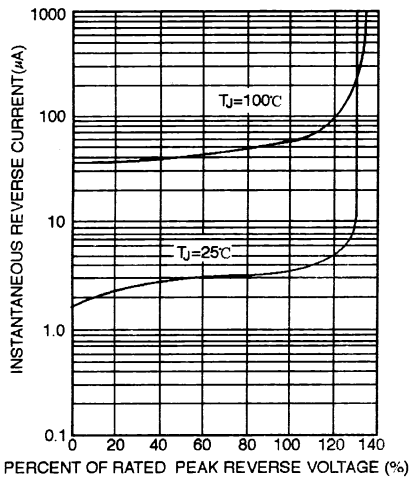


FIG. 4 - TYPICAL FORWARD CHARACTERISTICS

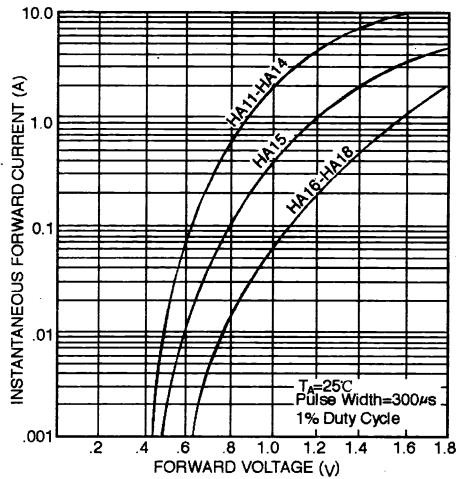


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

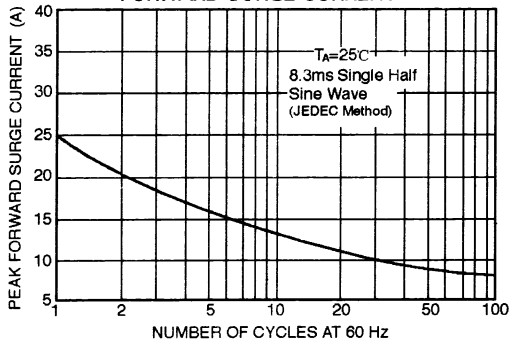


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

