



# HFR8A12

## Hyperfast Recovery Rectifier

### Features

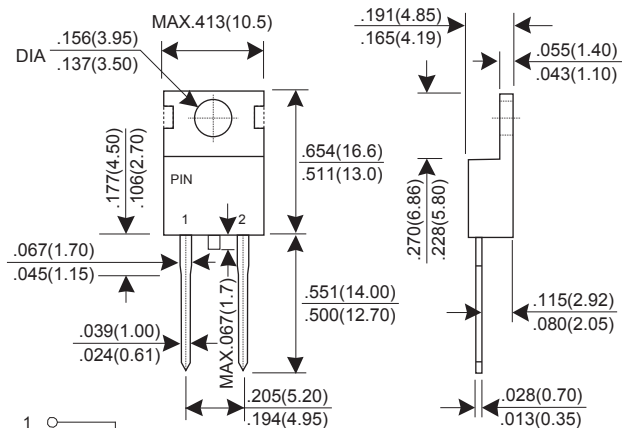
- ★ Fast switching for high efficiency
- ★ Low noise
- ★ Low reverse leakage current
- ★ High surge current capability
- ★ High voltage super FRD
- ★ PFC application

### Mechanical Data

- ★ Case: Molded plastic TO-220AC
- ★ Epoxy: UL 94V-0 rate flame retardant
- ★ Terminals: Solderable per MIL-STD-202 method 208
- ★ Polarity: As marked
- ★ Mounting position: Any
- ★ Weight: 2.07 grams

**Voltage Range 1200 V**  
**Current 8.0 Ampere**

### TO-220AC



Dimensions in inches and (millimeters)

### 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%.

PARAMETER	SYMBOL	HFR8A12			UNIT
		Min.	Typ.	Max.	
Recurrent Peak Reverse Voltage	VRRM	-	-	1200	V
RMS Voltage	VRMS	-	-	840	V
DC Blocking Voltage	VDC	-	-	1200	V
Maximum Average Forward Rectified Current @ Tc=140°C	IF(AV)	-	-	8	A
Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)	IFSM	-	-	100	A
Maximum Instantaneous Forward Voltage @ 8.0 A	VF	-	-	3.2	V
DC Reverse Current @TA=25°C At Rated DC Blocking Voltage @TA=150°C	IR	-	-	100 500	µA
Maximum Reverse Recovery Time (Note 1)	Trr	-	-	40	nS
Maximum Reverse Recovery Time (Note 2)	Trr	-	-	55	nS
Typical junction Capacitance (Note 3)	CJ	-	25	-	pF
Maximum Thermal Resistance (Note 4)	RθJC	-	-	2	°C/W
Operating Junction and Storage Temperature Range	TJ, TSTG	-65	-	175	°C

- NOTES : (1) Reverse recovery test conditions  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{rr} = 0.25A$ .  
 (2) Reverse recovery test conditions  $I_F = 1A$ ,  $dI_F/dt = 200A/\mu s$ .  
 (3) Junction capacitance test conditions  $V_R = 10V$ ,  $I_F = 0A$ .  
 (4) Thermal Resistance junction to case.

# RATINGS AND CHARACTERISTIC CURVES HFR8A12

FIG. 1 - FORWARD CURRENT DERATING CURVE

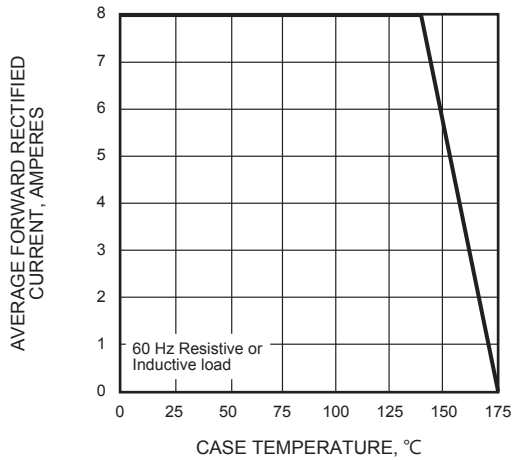


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

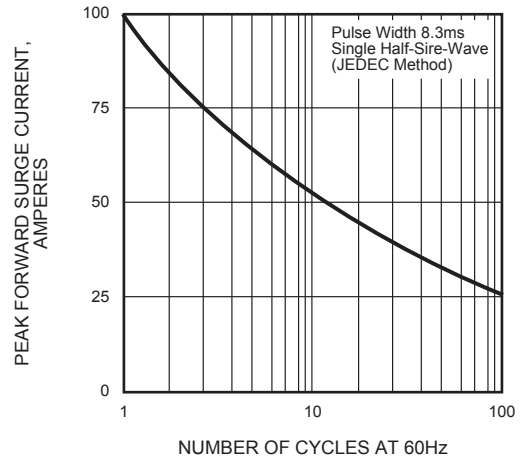


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

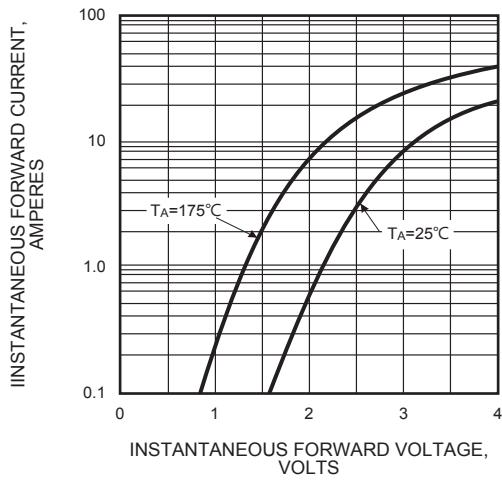


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

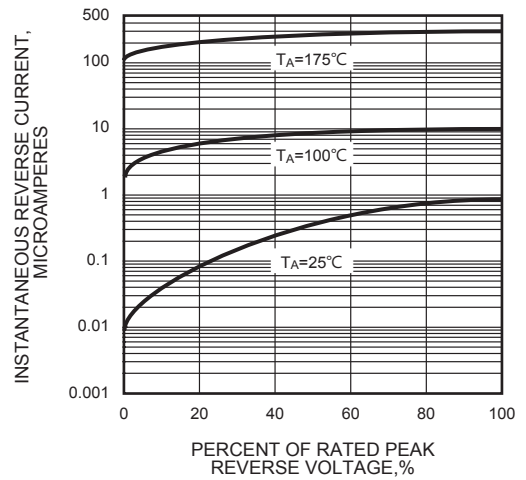


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

