International IOR Rectifier

HEXFRED™ 1200V, 15A **ULTRA FAST, SOFT RECOVERY DIODE**

Major Ratings and Characteristics

Characteristics		Units
V _{br} (per leg)	1200	V
IF(AV)	15	Α
t _{rr} (per leg)	95	ns
Q _{rr} (per leg)	180	nC
IRRM (per leg)	8.0	Α
VF (per leg)	3.3	V

Description

International Rectifier's HFA35HA120C is a state of the art ultra fast recovery diode. Employing the latest in epitaxial construction and advanced processing techniques it features a superb combination of characteristics which result in performance which is unsurpassed by any rectifier previously available.

With basic ratings of 1200 volts and 15 amps continuous current, the HFA35HA120C is especially well suited for use as the companion diode for IGBTs and MOSFETs. In addition to ultra fast recovery time, the HEXFRED product line features extremely low values of peak recovery current (IRRM) and does not exhibit any tendency to "snap-off" during the th portion of recovery.

Features:

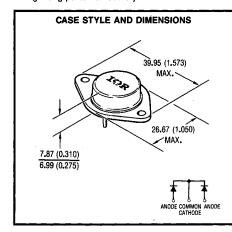
- Ultrafast Recovery
- Ultra Soft Recovery Very Low IRRM
- Very Low Q_{rr} Guaranteed Avalanche
- Specified at Operating Conditions
- Hermetic
- Center Tap

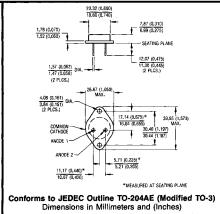
Benefits:

- Reduced RFI and EMI
- Reduced Power Loss in Diode and Switching Transistor
- Higher Frequency Operation
 Reduced Shubbing
- Reduced Parts Count

The HEXFRED features combine to offer designers a rectifier with lower noise and significantly lower switching losses in both the diode and the switching transistor. These HEXFRED advantages can help to significantly reduce snubbing, component count and heatsink sizes.

The HEXFRED HFA35HA120C is ideally suited for applications in power supplies and power conversion systems (such as inverters, converters, UPS systems, and power factor correction circuits), motor drives, and many other similar applications where high speed, high efficiency rectification is needed.







Voltage Ratings: T_J = 25 - 150°C

Parameter			Units	- · · · · · · · · · · · · · · · · · · ·
V _{br} (per leg)	Max D.C. Reverse Voltage (V)	1200	v	
V _{ISO} (per leg)	Max PK Repetitive Reverse Voltage (V)	600		70K ft, I _R < 25μA

Absolute Maximum Ratings

Parameter		Min	Тур	Max	Units	Conditions
IF(AV)	Max Average Forward Current	-	-	15		$T_C = 100$ °C, d.c. = 50%, rect. wave $V_R = 0.8 V_{RRM}$
IFSM (per leg)	Max Single Pulse Forward Current	-		130	A	T _C = 25°C, 1/2 Sine Wave, 60 Hz P.W. = 8.33 ms
las	Max Single Pulse Avalanche Current	T	~	2		L = 100 μH

Electrical Specifications: T_J = 25°C unless otherwise specified

Parameter		Min	Тур	Max	Units	Conditions
V _{FM} (per leg)	Max Forward Voltage		1	3.3	v	!F = 7A
		_		4.3		1 _F = 15A
		_	-	3.1		IF = 15A, TJ = 125°C
IRM (per leg)	Max Reverse Leakage Current	_	_	20	μА	V _R ≈ V _R Rated
			_	1.0	mA	T _J = 125°C, V _R = 0.8 x V _R Rated
CT (per leg)	Junction Capacitance	_	1	20	pF	V _R = 200V
Ls	Internal Source Inductance	-	13	_	nН	Measured lead to lead 5mm from package body

Dynamic Recovery Specifications: T_J = 25°C unless otherwise specified

Parameter		Min	Тур	Max	Units	Conditions
t _{rr} (per leg)	Reverse Recovery Time	-	-	95	ns	$I_F = 7.0A$, $di/dt \le 200A/\mu s$, $V_R = 200V$
IRRM (per leg)	Max Reverse Recovery Current	_	Γ-	8.0	Α	$I_F = 7.0A$, $di/dt \le 200A/\mu s$, $V_R = 200V$
Q _{RR} (per leg)	Reverse Recovered Charge	-		380	nC	$I_F = 7.0A$, di/dt $\leq 200A/\mu s$, $V_R = 200V$

Thermal-Mechanical Specifications

Parameter		Min	Тур	Max	Units	Conditions
TJ, TSTG	Junction and Storage Temp Range	-55		150	°C	
R _θ JC	Thermal Resistance; Junction to Case	L-		2.00	K/W	
WT	Weight	Ι	11.5	_	g	
Case	TO-204AA	<u> </u>	JE	DEC	_	