

ELECTRICAL SPECIFICATIONS PER LEG ($T_J = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)						
PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Cathode to anode breakdown voltage	V_{BR}	$I_R = 100\text{ }\mu\text{A}$	1200	-	-	V
Maximum forward voltage	V_{FM}	$I_F = 8.0\text{ A}$	-	2.6	3.3	
		$I_F = 16\text{ A}$	-	3.4	4.3	
		$I_F = 8.0\text{ A}, T_J = 125\text{ }^{\circ}\text{C}$	-	2.4	3.1	
Maximum reverse leakage current	I_{RM}	$V_R = V_R\text{ rated}$	-	0.31	10	μA
		$T_J = 125\text{ }^{\circ}\text{C}, V_R = 0.8 \times V_R\text{ rated}$	-	135	1000	
Junction capacitance	C_T	$V_R = 200\text{ V}$	-	11	20	pF
Series inductance	L_S	Measured lead to lead 5 mm from package	-	8.0	-	nH

DYNAMIC RECOVERY CHARACTERISTICS PER LEG ($T_J = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)						
PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Reverse recovery time	t_{rr}	$I_F = 1.0\text{ A}, dI_F/dt = 200\text{ A}/\mu\text{s}, V_R = 30\text{ V}$	-	28	-	ns
	t_{rr1}	$T_J = 25\text{ }^{\circ}\text{C}$	-	63	95	
	t_{rr2}	$T_J = 125\text{ }^{\circ}\text{C}$	-	106	160	
Peak recovery current	I_{RRM1}	$T_J = 25\text{ }^{\circ}\text{C}$	-	4.5	8.0	A
	I_{RRM2}	$T_J = 125\text{ }^{\circ}\text{C}$	-	6.2	11	
Reverse recovery charge	Q_{rr1}	$T_J = 25\text{ }^{\circ}\text{C}$	-	140	380	nC
	Q_{rr2}	$T_J = 125\text{ }^{\circ}\text{C}$	-	335	880	
Peak rate of recovery current during t_b	$dI_{(rec)M}/dt1$	$T_J = 25\text{ }^{\circ}\text{C}$	-	133	-	A/ μs
	$dI_{(rec)M}/dt2$	$T_J = 125\text{ }^{\circ}\text{C}$	-	85	-	

THERMAL - MECHANICAL SPECIFICATIONS						
PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Lead temperature	T_{lead}	0.063" from case (1.6 mm) for 10 s	-	-	300	$^{\circ}\text{C}$
Thermal resistance, junction to case	R_{thJC}		-	-	1.7	K/W
Thermal resistance, junction to ambient	R_{thJA}	Typical socket mount	-	-	40	
Thermal resistance, case to heatsink	R_{thCS}	Mounting surface, flat, smooth and greased	-	0.25	-	
Weight			-	6.0	-	g
			-	0.21	-	oz.
Mounting torque			6.0 (5.0)	-	12 (10)	kgf · cm (lbf · in)
Marking device		Case style TO-247AC (JEDEC)	HFA16PA120C			

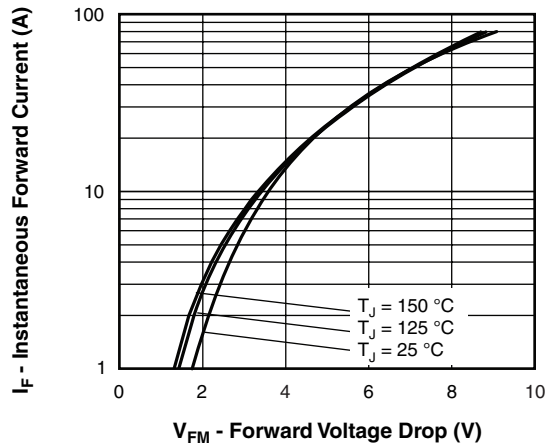


Fig. 1 - Maximum Forward Voltage Drop Characteristics

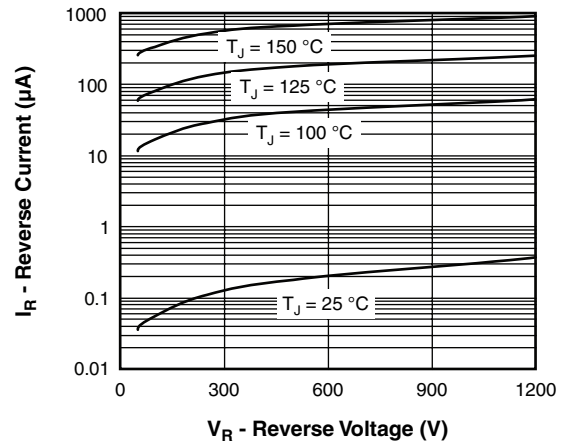


Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage

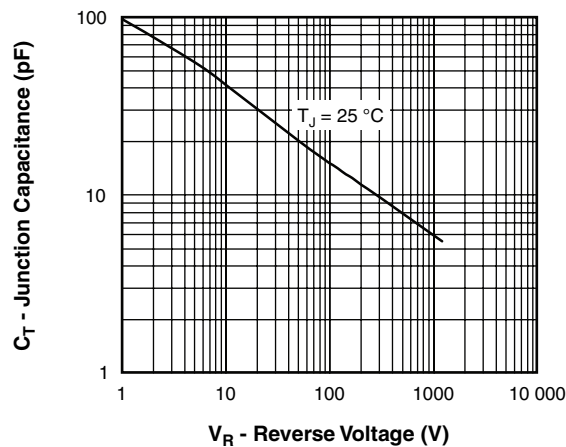


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage

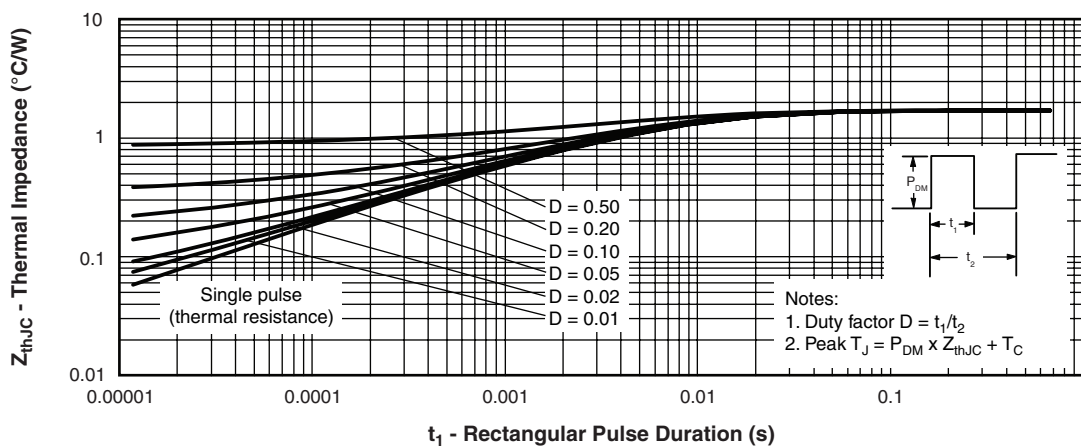
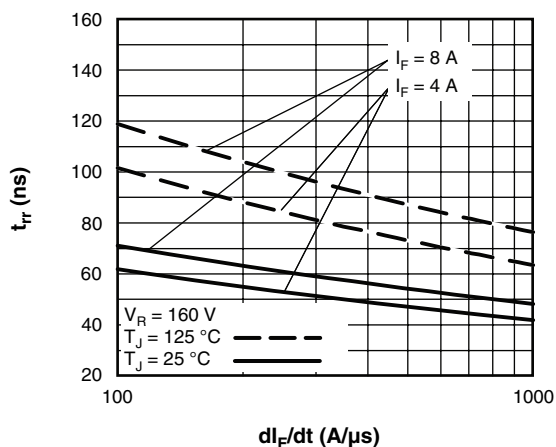
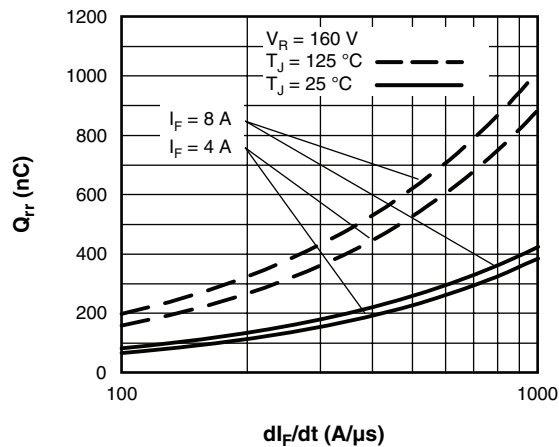
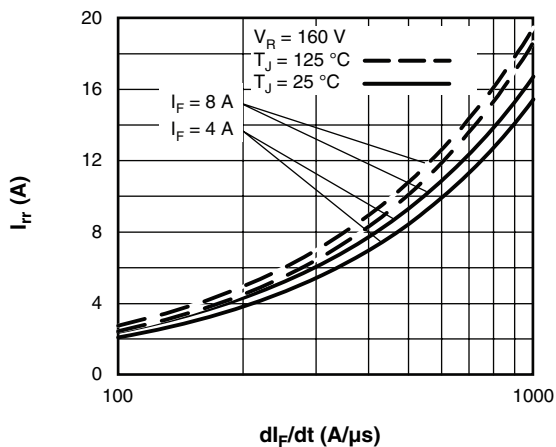
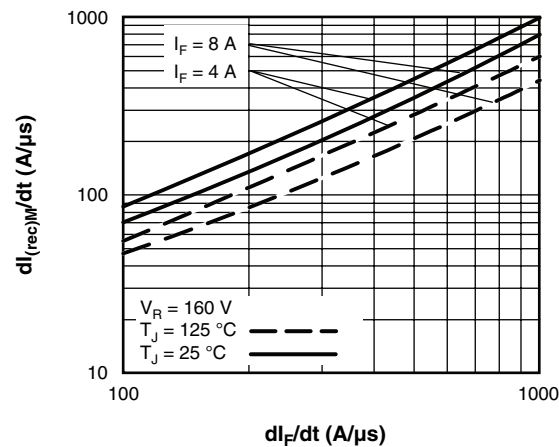


Fig. 4 - Maximum Thermal Impedance Z_{thJC} Characteristics

Fig. 5 - Typical Reverse Recovery Time vs. dI_F/dt Fig. 7 - Typical Stored Charge vs. dI_F/dt Fig. 6 - Typical Recovery Current vs. dI_F/dt Fig. 8 - Typical $dI_{(rec)M}/dt$ vs. dI_F/dt

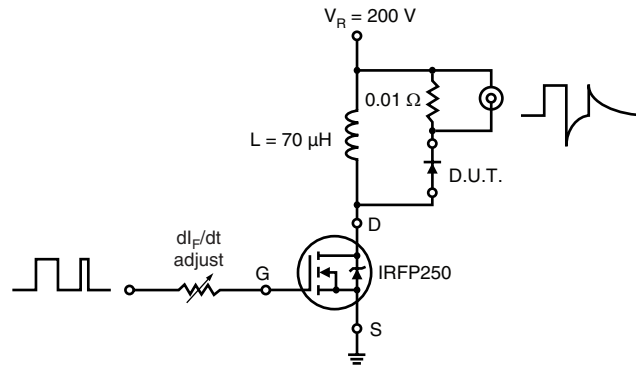


Fig. 9 - Reverse Recovery Parameter Test Circuit

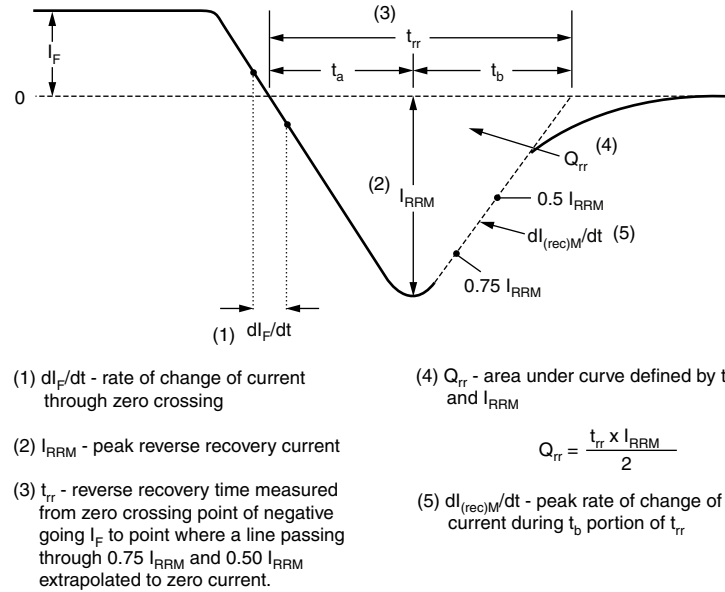


Fig. 10 - Reverse Recovery Waveform and Definitions

HFA16PA120CPbF



Vishay High Power Products

HEXFRED®
Ultrafast Soft Recovery Diode, 2 x 8 A

ORDERING INFORMATION TABLE

Device code	HF	A	16	PA	120	C	PbF
	1	2	3	4	5	6	7
1	- HEXFRED® family						
2	- Process designator: A = Subs. electron irradiated B = Subs. platinum						
3	- Current rating (16 = 16 A)						
4	- Package outline (PA = TO-247, 3 pins)						
5	- Voltage rating (120 = 1200 V)						
6	- Configuration (C = Center tap common cathode)						
7	- • None = Standard production • PbF = Lead (Pb)-free						

LINKS TO RELATED DOCUMENTS	
Dimensions	http://www.vishay.com/doc?95223
Part marking information	http://www.vishay.com/doc?95226



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.