


HEXFRED® Ultrafast Diodes, 100 A (New INT-A-PAK Power Modules)



New INT-A-PAK

FEATURES

- Electrically isolated: DBC base plate
- Standard JEDEC® package
- Simplified mechanical designs, rapid assembly
- High surge capability
- Large creepage distances
- UL approved file E78996 
- Case style New INT-A-PAK
- Designed and qualified for industrial level
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

PRODUCT SUMMARY	
V_R	1200 V
V_F (typical)	2.5 V
t_{rr} (typical)	150 ns
$I_{F(DC)}$ at T_C	110 A at 100 °C
Package	INT-A-PAK
Circuit	Two diodes doubler circuit

ABSOLUTE MAXIMUM RATINGS				
PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Cathode to anode voltage	V_R		1200	V
Continuous forward current	I_F	$T_C = 25\text{ °C}$	205	A
		$T_C = 100\text{ °C}$	110	
Single pulse forward current	I_{FSM}	Limited by junction temperature	800	
Maximum power dissipation	P_D	$T_C = 25\text{ °C}$	695	W
		$T_C = 100\text{ °C}$	280	
RMS isolation voltage	V_{ISOL}	50 Hz, circuit to base, all terminal shorted, $t = 1\text{ s}$	3500	V
Operating junction and storage temperature range	T_J, T_{Stg}		-40 to + 150	°C

ELECTRICAL SPECIFICATIONS PER LEG ($T_J = 25\text{ °C}$ 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}	$I_F = 100\text{ A}$	-	2.5	3.2	
		$I_F = 160\text{ A}$	-	2.9	3.9	
Maximum reverse leakage current	I_{RM}	$T_J = 150\text{ °C}, V_R = 1200\text{ V}$	-	18	30	mA



DYNAMIC RECOVERY CHARACTERISTICS (T _J = 25 °C unless otherwise specified)						
PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Reverse recovery time	t _{rr}	T _J = 25 °C	-	150	200	ns
Reverse recovery current	I _R RM	T _J = 25 °C	-	20	22	A
Reverse recovery charge	Q _{rr}	T _J = 25 °C	-	2000	2400	nC
Peak rate of recovery current	di _(rec) /dt	T _J = 25 °C	-	-	300	A/μs

THERMAL - MECHANICAL SPECIFICATIONS				
PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Junction operating and storage temperature range	T _J , T _{Stg}		- 40 to 150	°C
Maximum internal thermal resistance, junction to case per leg	R _{thJC}	DC operation	0.18	°C/W
Typical thermal resistance, case to heatsink per module	R _{thCS}	Mounting surface flat, smooth and greased	0.05	
Mounting torque ± 10 %	to heatsink	A mounting compound is recommended and the torque should be rechecked after a period of 3 hours to allow for the spread of the compound.	4	Nm
	busbar		6	
Approximate weight			200	g
			7.1	oz.
Case style			New INT-A-PAK	

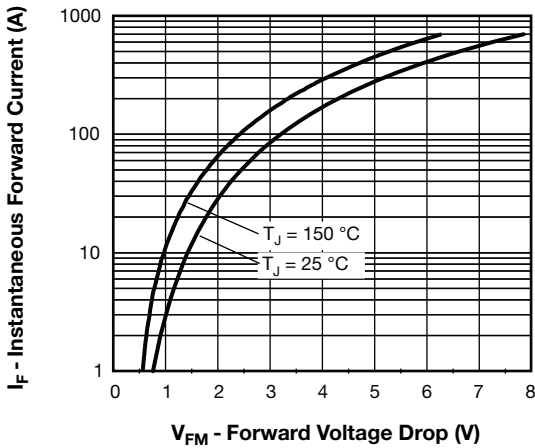


Fig. 1 - Maximum Forward Voltage Drop Characteristics

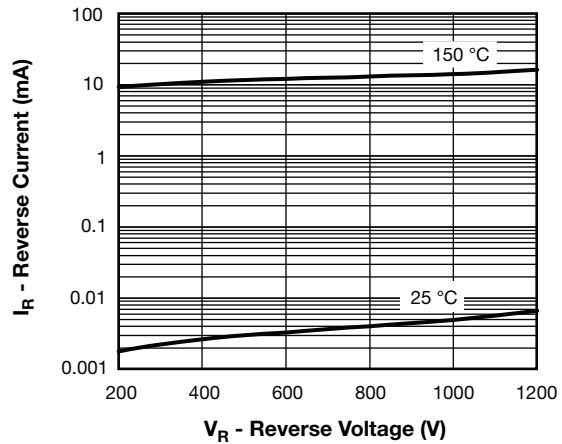


Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage

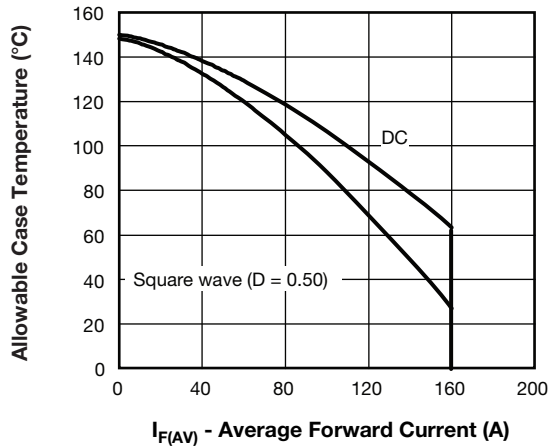


Fig. 3 - Maximum Allowable Case Temperature vs. Average Forward Current

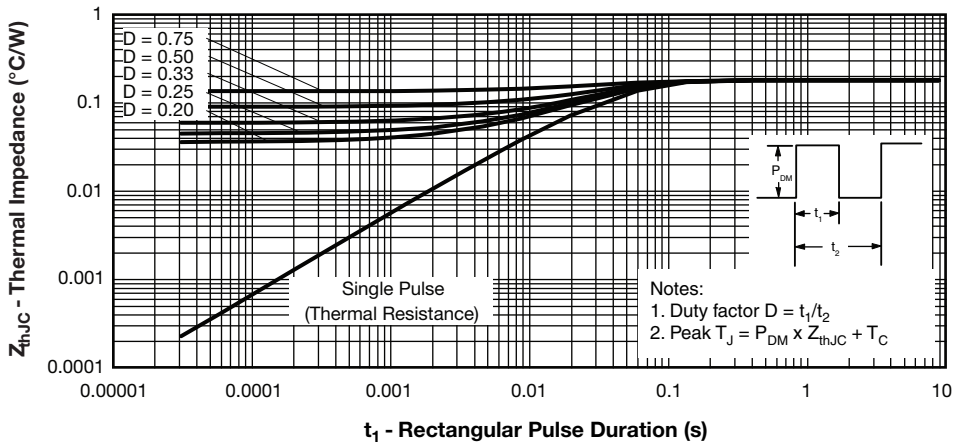


Fig. 4 - Maximum Thermal Impedance Z_{thJC} Characteristics

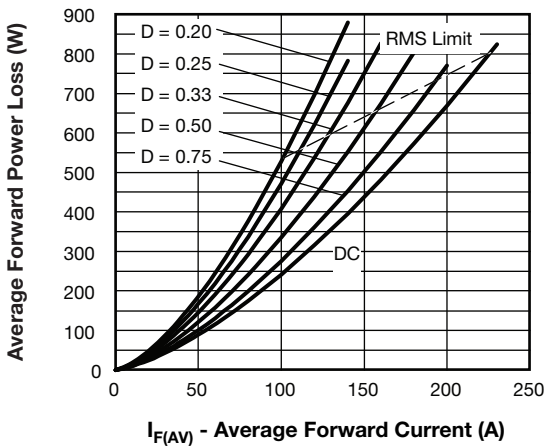


Fig. 5 - Forward Power Loss Characteristics

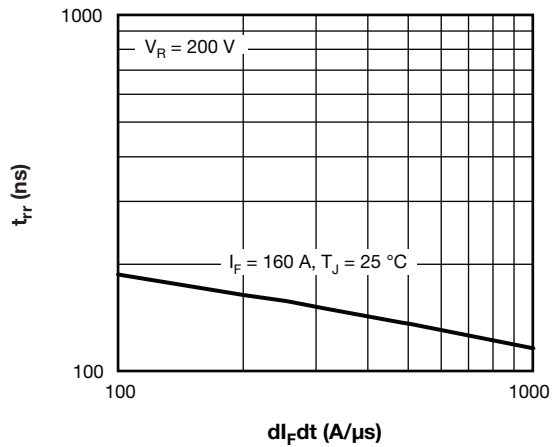


Fig. 6 - Typical Reverse Recovery Time vs. di/dt (Per Leg)

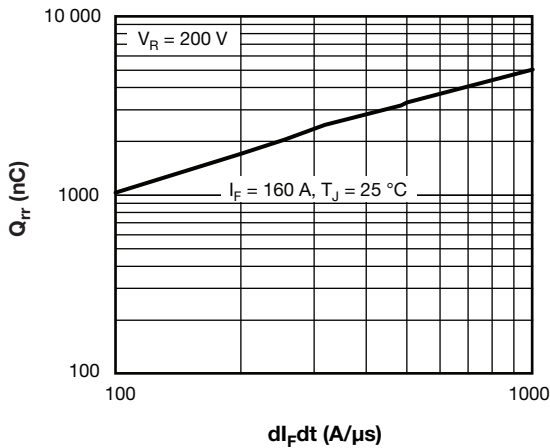


Fig. 7 - Typical Reverse Recovery Charge vs. di_F/dt (Per Leg)

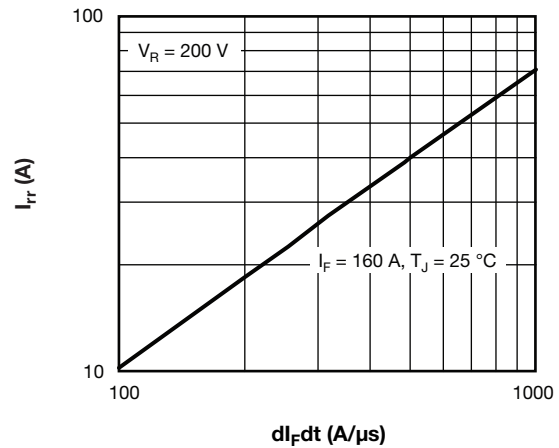
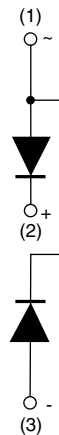


Fig. 8 - Typical Reverse Recovery Current vs. di_F/dt (Per Leg)

ORDERING INFORMATION TABLE

Device code	VS-VS	KD	U	162	12	PbF
	①	②	③	④	⑤	⑥
1	- Vishay Semiconductors product					
2	- Circuit configuration					
3	- U = HEXFRED® ultrafast diode					
4	- Current rating					
5	- Voltage rating (12 = 1200 V)					
6	- PbF = Lead (Pb)-free					

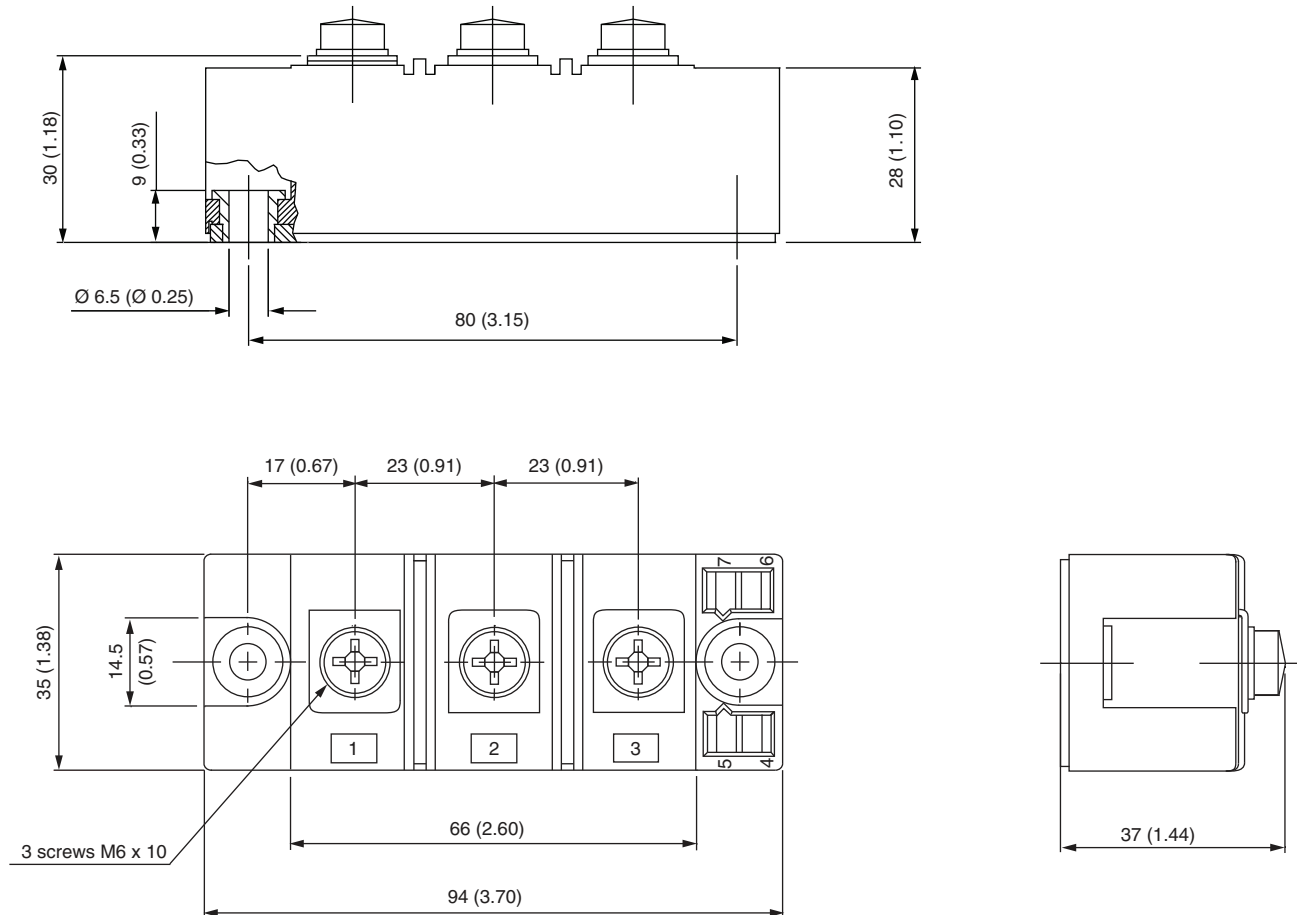
CIRCUIT CONFIGURATION



LINKS TO RELATED DOCUMENTS	
Dimensions	www.vishay.com/doc?95254

INT-A-PAK DBC

DIMENSIONS in millimeters (inches)





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Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

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Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

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Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9