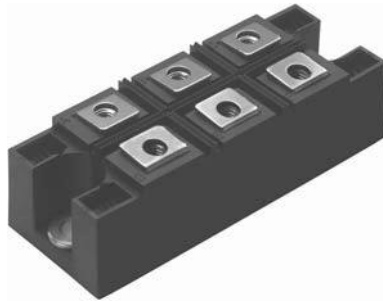


Three Phase Bridge (Power Module), 200 A



MTK

FEATURES

- Package fully compatible with the industry standard INT-A-PAK power modules series
- High thermal conductivity package, electrically insulated case
- Low power loss
- Excellent power volume ratio, outline for easy connections to power transistor and IGBT modules
- 4000 V_{RMS} isolating voltage
- UL E78996 approved
- Totally lead (Pb)-free
- Designed and qualified for industrial level


RoHS
COMPLIANT

PRODUCT SUMMARY

I_o	200 A
-------	-------

DESCRIPTION

It extends the existing range of MT...KB bridges an extremely compact, encapsulated three phase bridge rectifiers offering efficient and reliable operation. They are intended for use in general purpose and heavy duty applications.

MAJOR RATINGS AND CHARACTERISTICS

SYMBOL	CHARACTERISTICS	VALUES	UNITS
I_o		200	A
	T_c	85	°C
I_{FSM}	50 Hz	1800	A
	60 Hz	1880	
I^2t	50 Hz	16.2	kA ² s
	60 Hz	14.7	
$I^2\sqrt{t}$		162	kA ² √s
V_{RRM}		400	V
T_{Stg}	Range	- 40 to 150	°C
T_J			

ELECTRICAL SPECIFICATIONS

VOLTAGE RATINGS

TYPE NUMBER	V_{RRM} , MAXIMUM REPETITIVE PEAK REVERSE VOLTAGE V	V_{RSM} , MAXIMUM NON-REPETITIVE PEAK REVERSE VOLTAGE V	I_{RRM} MAXIMUM AT $T_J = 150\text{ °C}$ mA
200MT40KPbF	400	500	6

FORWARD CONDUCTION					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum RMS output current at case temperature	I_O	120° rect. conduction angle		200	A
				85	°C
Maximum peak, one-cycle forward, non-repetitive on state surge current	I_{TSM}	t = 10 ms	No voltage reapplied	1800	A
		t = 8.3 ms			
		t = 10 ms	100 % V_{RRM} reapplied	1520	
		t = 8.3 ms		1590	
Maximum I^2t for fusing	I^2t	t = 10 ms	No voltage reapplied	16.2	kA ² s
		t = 8.3 ms			
		t = 10 ms	100 % V_{RRM} reapplied	11.6	
		t = 8.3 ms		12.6	
Maximum $I^2\sqrt{t}$ for fusing	$I^2\sqrt{t}$	t = 0.1 to 10 ms, no voltage reapplied		162	kA ² √s
Value of threshold voltage	$V_{F(TO)}$	T_J maximum		0.76	V
Slope resistance	r_t			2.4	mΩ
Maximum forward voltage drop	V_{FM}	$I_{pk} = 200$ A, $T_J = 25$ °C, $t_p = 400$ μs single junction		1.40	V
Isolation voltage	V_{ISOL}	$T_J = 25$ °C all terminal shorted, f = 50 Hz, t = 1 s		4000	

THERMAL AND MECHANICAL SPECIFICATIONS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum junction operating and storage temperature range	T_J, T_{Stg}			- 40 to 150	°C
Maximum thermal resistance, junction to case	R_{thJC}	DC operation per module		0.12	K/W
		DC operation per junction		0.69	
		120° rect. conduction angle per module		0.14	
		120° rect. conduction angle per junction		0.82	
Maximum thermal resistance, case to heatsink per module	R_{thCS}	Mounting surface smooth, flat and greased. Heatsink compound thermal conductivity = 0.42 W/mK		0.033	
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. Lubricated threads.		4 to 6	Nm
Approximate weight				176	g

Three Phase Bridge
(Power Module), 200 A

Vishay High Power Products

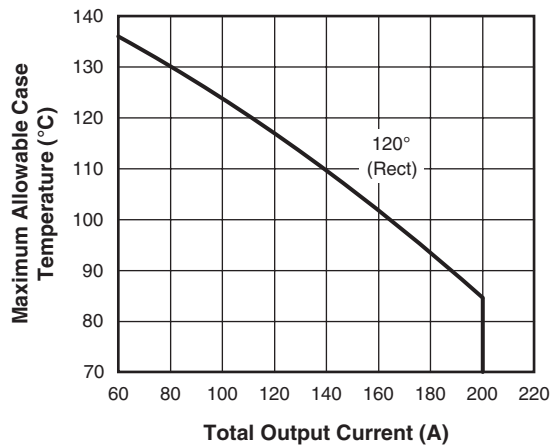


Fig. 1 - Current Rating Characteristics

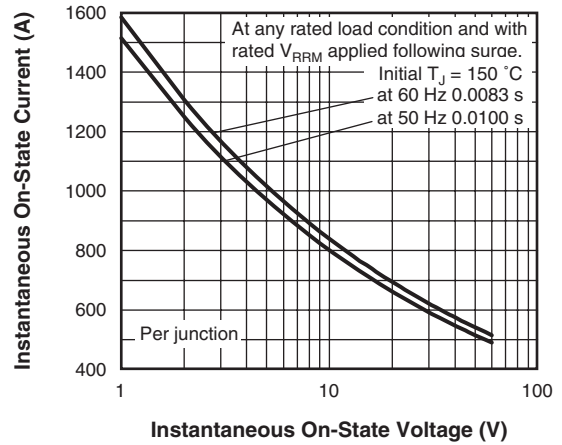


Fig. 3 - Maximum Non-Repetitive Surge Current

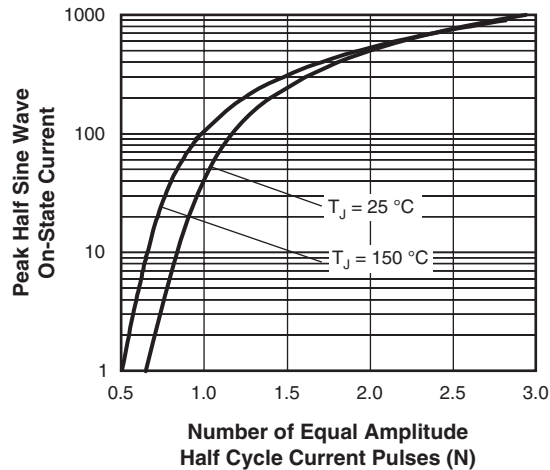


Fig. 2 - On-State Voltage Drop Characteristics

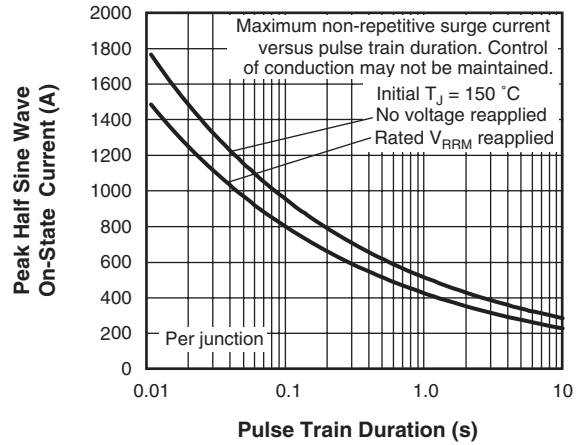


Fig. 4 - Maximum Non-Repetitive Surge Current

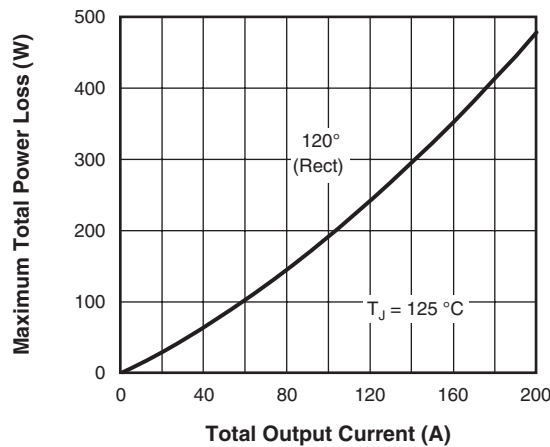
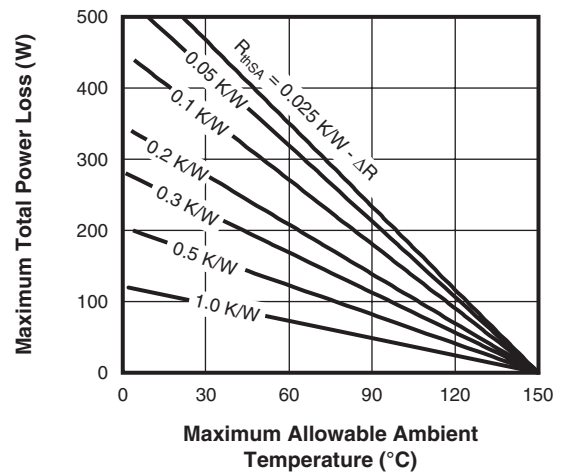


Fig. 5 - Current Rating Nomogram (1 Module Per Heatsink)



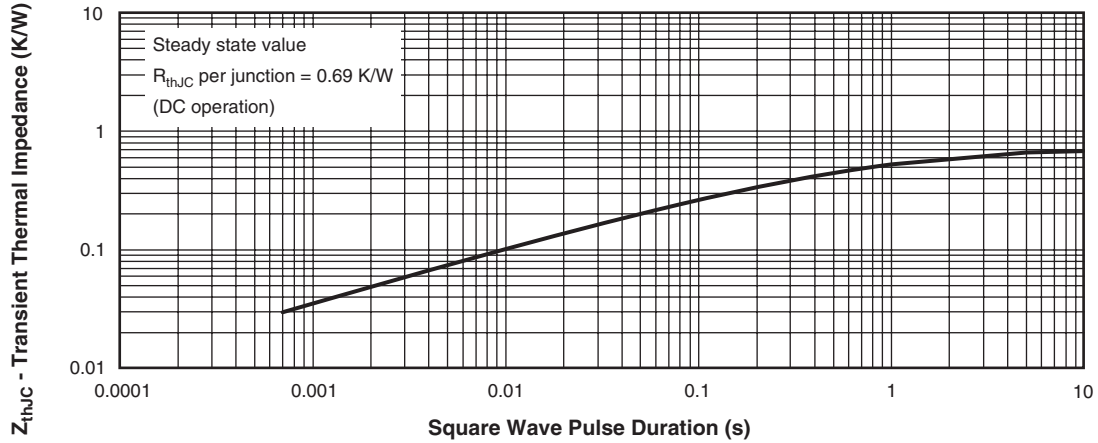


Fig. 6 - Thermal Impedance Z_{thJC} Characteristics

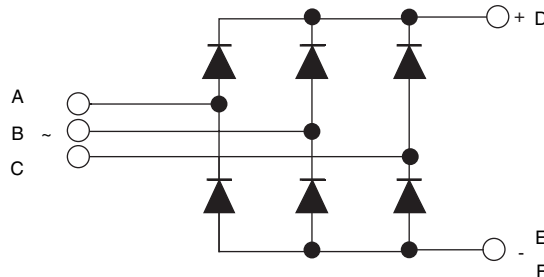
ORDERING INFORMATION TABLE

Device code	20	0	MT	40	K	PbF
	①	②	③	④	⑤	
	1	-	Current rating code: 20 = 200 A (average)			
	2	-	Three phase diodes bridge			
	3	-	Essential part number			
	4	-	Voltage code x 10 = V_{RRM} (40 = 400 V)			
	5	-	PbF = Lead (Pb)-free			

Note

- To order the optional hardware go to www.vishay.com/doc?95172

CIRCUIT CONFIGURATION



LINKS TO RELATED DOCUMENTS

Dimensions

<http://www.vishay.com/doc?95004>



Disclaimer

All product specifications and data are subject to change without notice.

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 herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

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.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.