

International **IOR** Rectifier

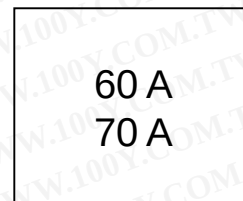
MT..KB SERIES

THREE PHASE BRIDGE

Power Modules

Features

- Package fully compatible with the industry standard INT-A-pak power modules series
- High thermal conductivity package, electrically insulated case
- Outstanding number of power encapsulated components
- Excellent power volume ratio, outline for easy connections to power transistor and IGBT modules
- 4000 V_{RMS} isolating voltage
- UL E78996 approved 



Description

A range of extremely compact, encapsulated three phase bridge rectifiers offering efficient and reliable operation. They are intended for use in general purpose and heavy duty applications.

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

Major Ratings and Characteristics

Parameters	60MT.KB	70MT.KB	Units
I_o	60 (75)	70 (90)	A
@ T_c	85 (61)	85 (57)	°C
I_{FSM}			
@ 50Hz	420	480	A
@ 60Hz	440	500	A
I^2t			
@ 50Hz	870	1150	A ² s
@ 60Hz	790	1050	A ² s
$I^2\sqrt{t}$	8700	11500	A ² √s
V_{RRM} range	800 to 1600		V
T_{STG} range	- 40 to 150		°C
T_j range	- 40 to 150		°C

60-70MT..KB Series

Bulletin I27500 rev. A 05/03

International
 IR Rectifier

ELECTRICAL SPECIFICATIONS

Voltage Ratings

Type number	Voltage Code	V_{RRM} , maximum repetitive peak reverse voltage V	V_{RSM} , maximum non-repetitive peak rev. voltage V	I_{RRM} max. @ T_J max. mA
60-70MT..KB	80	800	900	10
	100	1000	1100	
	120	1200	1300	
	140	1400	1500	
	160	1600	1700	

Forward Conduction

Parameter		60MT.KB	70MT.KB	Units	Conditions			
I _O	Maximum DC output current @ Case temperature	60 (75)	70 (90)	A	120° Rect conduction angle			
		85 (61)	85 (57)	°C				
I _{FSM}	Maximum peak, one-cycle forward, non-repetitive surge current	420	480	A	t = 10ms	No voltage	Initial T _J = T _J max.	
		440	500		t = 8.3ms	reapplied		
		350	400		t = 10ms	100% V _{RRM}		
		370	420		t = 8.3ms	reapplied		
I ² t	Maximum I ² t for fusing	870	1150	A ² s	t = 10ms	No voltage		
		790	1050		t = 8.3ms	reapplied		
		610	800		t = 10ms	100% V _{RRM}		
		560	730		t = 8.3ms	reapplied		
I ² /t	Maximum I ² /t for fusing	8700	11300	A ² √s	t = 0.1 to 10ms, no voltage reapplied			
V _{F(TO)1}	Low level value of threshold voltage	0.85	0.86	V	(16.7% × π × I _{F(AV)}) < I < π × I _{F(AV)} , @ T _J max.			
V _{F(TO)2}	High level value of threshold voltage	1.07	1.08		(I > π × I _{F(AV)}), @ T _J max.			
r _{f1}	Low level value of forward slope resistance	8.04	7.35	mΩ	(16.7% × π × I _{F(AV)}) < I < π × I _{F(AV)} , @ T _J max.			
r _{f2}	High level value of forward slope resistance	7.08	6.53		(I > π × I _{F(AV)}), @ T _J max.			
V _{FM}	Maximum forward voltage drop	1.75	1.55	V	I _{pk} = 100A, T _J = 25°C, t _p = 400μs single junction			
V _{INS}	RMS isolation voltage	4000	4000	V	T _J = 25°C, all terminal shorted f = 50Hz, t = 1s			

Thermal and Mechanical Specifications

Parameter	60MT.KC	70MT.KC	Units	Conditions
T_J Max. junction operating temperature range	-40 to 150		°C	
T_{stg} Max. storage temperature range	-40 to 150		°C	
R_{thJC} Max. thermal resistance, junction to case	0.37	0.29	K/W	DC operation per module
	2.22	1.75	K/W	DC operation per junction
	0.40	0.34	K/W	120° Rect conduction angle per module
	2.42	2.01	K/W	120° Rect conduction angle per junction
R_{thCS} Max. thermal resistance, case to heatsink	0.03		K/W	Per module Mounting surface smooth, flat and greased
T Mounting torque ± 10%	4 to 6		Nm	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.
to heatsink				
to terminal	3 to 4		Nm	
wt Approximate weight	176		g	

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Outline Table (with optional barriers)

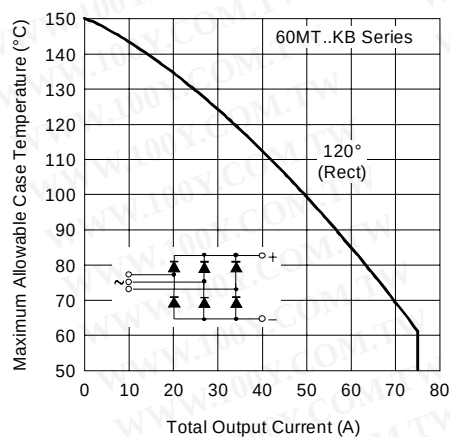
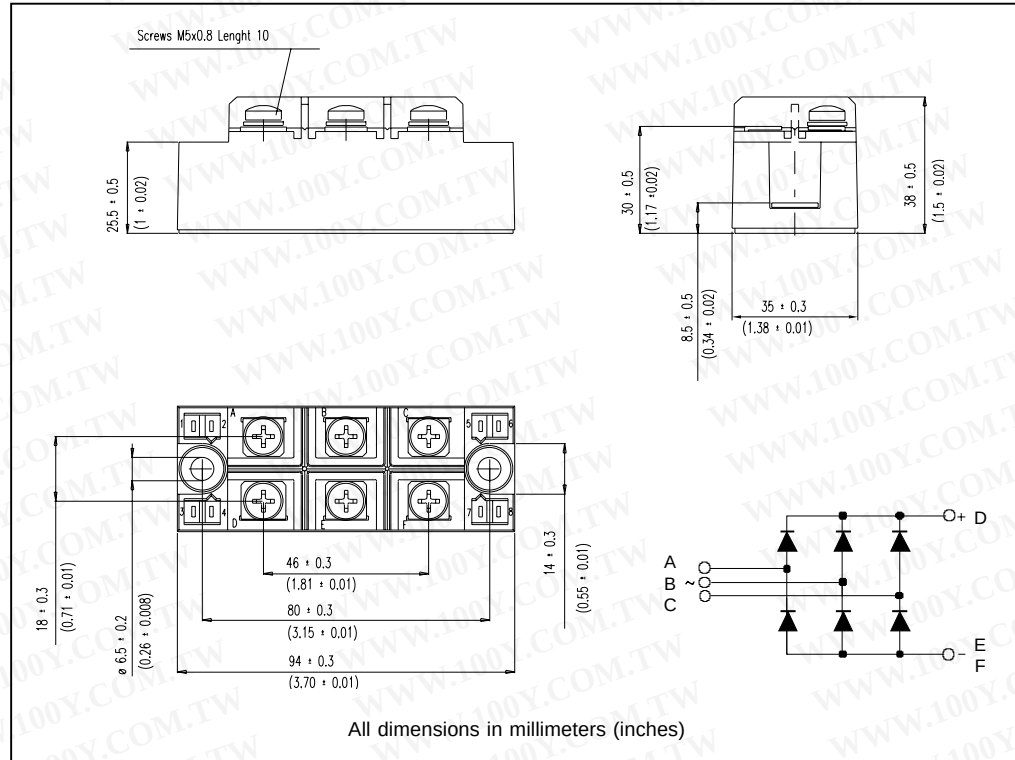


Fig. 1 - Current Ratings Characteristics

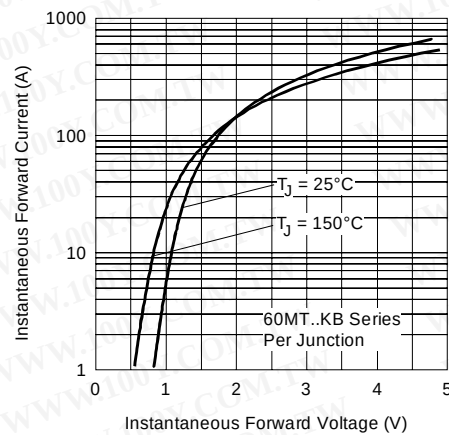


Fig. 2 - Forward Voltage Drop Characteristics

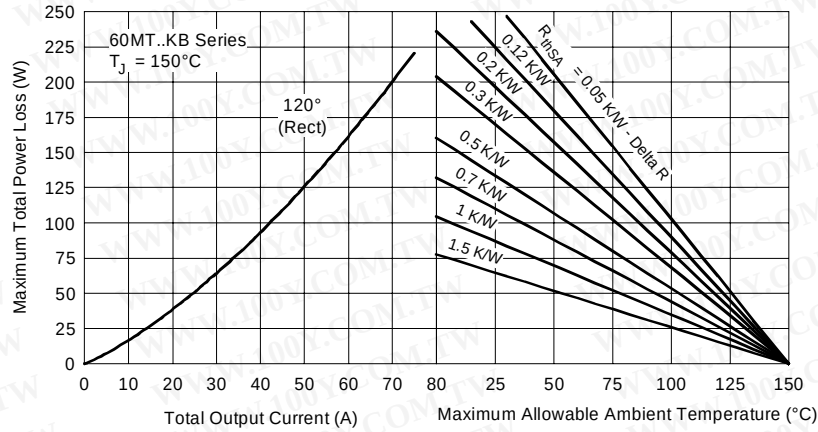


Fig. 3 - Total Power Loss Characteristics

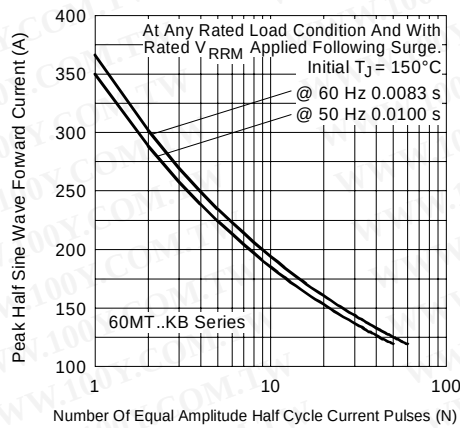


Fig. 4 - Maximum Non-Repetitive Surge Current

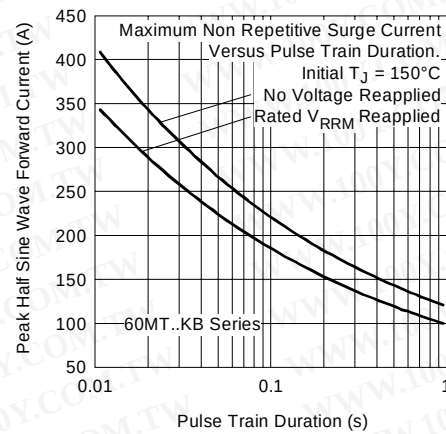


Fig. 5 - Maximum Non-Repetitive Surge Current

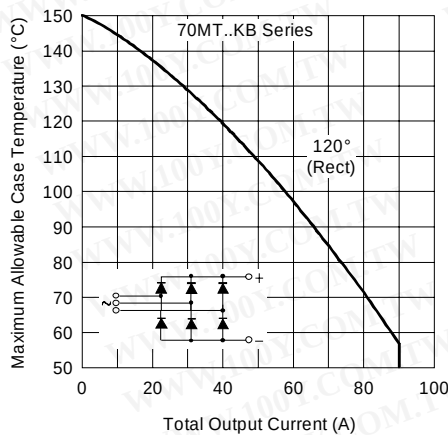


Fig. 6 - Current Ratings Characteristics

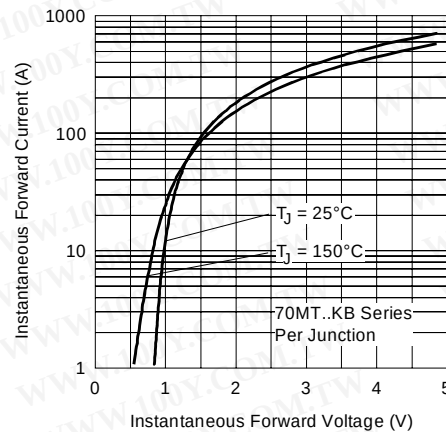


Fig. 7 - Forward Voltage Drop Characteristics

60-70MT..KB Series

Bulletin 127500 rev. A 05/03

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IRF Rectifier

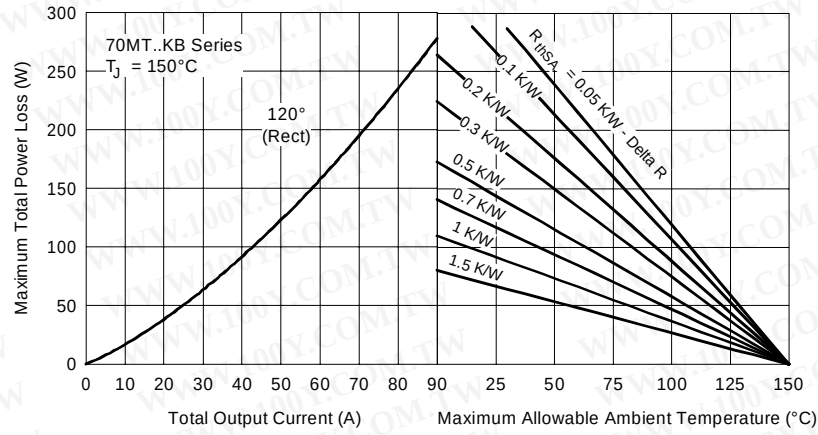


Fig. 8 - Total Power Loss Characteristics

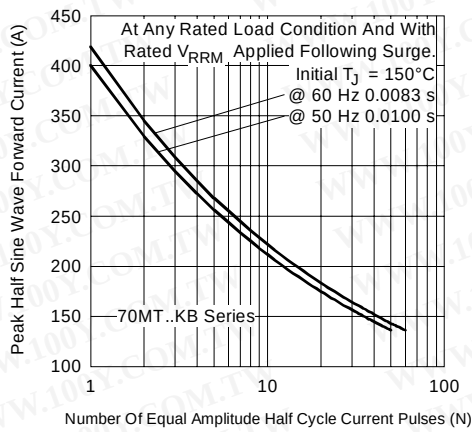


Fig. 9 - Maximum Non-Repetitive Surge Current

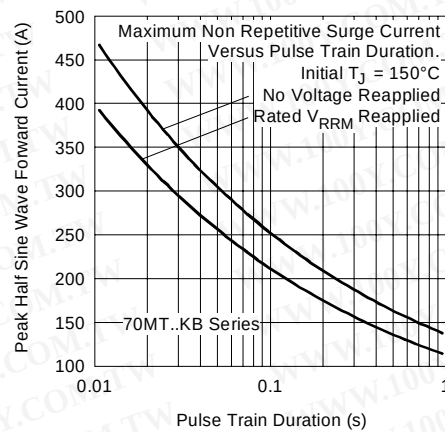


Fig. 10 - Maximum Non-Repetitive Surge Current

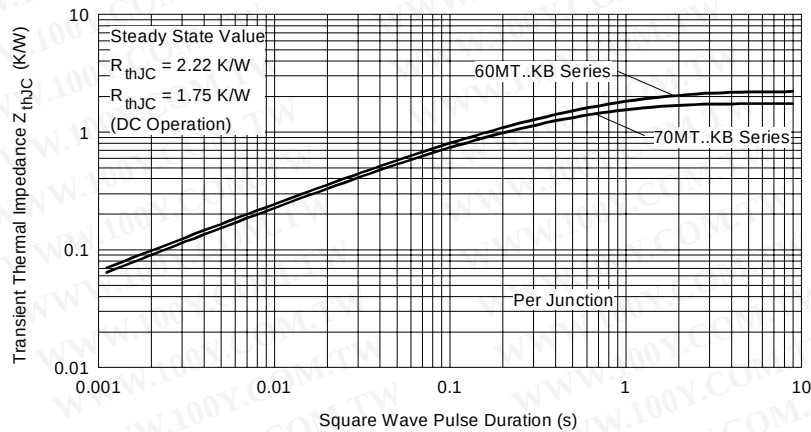


Fig. 11 - Thermal Impedance Z_{thJC} Characteristic