Bulletin I2771 rev. E 04/03

International
IOR Rectifier

MT SERIES

THREE PHASE BRIDGE **Power Modules**

25 A
35 A

Features

- Universal, 3 way terminals: push-on, wrap around or solder
- High thermal conductivity package, electrically insulated case
- Center hole fixing
- Excellent power/volume ratio
- UL E 62320 approved
- Terminals Solderable as per MIL-STD-202 METHOD 208, solder: Sn/Pb (60/40); solder temperature: 235-260°C mx. time: 8-10 sec.

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 instrumentation applications.

Major Ratings and Characteristics

Parameters		26MT	36MT	Units
I_O		25	35	A
	@ T_C	70	60	°C
I_{FSM}	@ 50Hz	360	475	A
	@ 60Hz	375	500	A
I^2t	@ 50Hz	635	1130	A^2s
	@ 60Hz	580	1030	A^2s
V_{RRM}	range	100 to 1600		V
T_J		-55 to 150		°C

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
26MT../ 36MT..	10	100	150	2
	20	200	275	
	40	400	500	
	60	600	725	
	80	800	900	
	100	1000	1100	
	120	1200	1300	
	140	1400	1500	
	160	1600	1700	

Forward Conduction

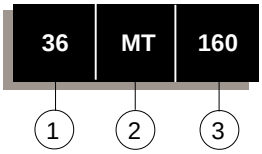
	Parameters	26MT	36MT	Units	Conditions		
I_O	Maximum DC output current	25	35	A	120° Rect Conduction angle		
	@ T_C	70	60	°C			
I_{FSM}	Maximum peak, one-cycle	360	475	A	t = 10ms	No voltage	
	non-repetitive forward current	375	500		t = 8.3ms	reapplied	
	Initial $T_J = T_J$ max.	300	400		t = 10ms	100% V_{RRM}	
		314	420		t = 8.3ms	reapplied	Initial $T_J = T_J$ max.
I^2t	Maximum I^2t for fusing	635	1130	A^2s	t = 10ms	No voltage	
	Initial $T_J = T_J$ max.	580	1030		t = 8.3ms	reapplied	
		450	800		t = 10ms	100% V_{RRM}	
		410	730		t = 8.3ms	reapplied	
$I^2\sqrt{t}$	Maximum $I^2\sqrt{t}$ for fusing	6360	11300	$A^2\sqrt{s}$	I^2t for time $t_x = I^2\sqrt{t} \times \sqrt{t_x}$; $0.1 <= t_x <= 10ms$, $V_{RRM} = 0V$		
$V_{F(TO)1}$	Low-level of threshold voltage	0.88	0.86	V	$(16.7\% \times \pi \times I_{F(AV)} < I < \pi \times I_{F(AV)})$, @ T_J max.		
$V_{F(TO)2}$	High-level of threshold voltage	1.13	1.03		$(I > \pi \times I_{F(AV)})$, @ T_J max.		
r_{t1}	Low-level forward slope resistance	7.9	6.3	mΩ	$(16.7\% \times \pi \times I_{F(AV)} < I < \pi \times I_{F(AV)})$, @ T_J max.		
r_{t2}	High-level forward slope resistance	5.2	5.0		$(I > \pi \times I_{F(AV)})$, @ T_J max.		
V_{FM}	Maximum forward voltage drop	1.26	1.19	V	$T_J = 25°C$, $I_{FM} = 40A_{pk}$ - Per single Junction		
I_{RRM}	Max. DC reverse current	100		µA	$T_J = 25°C$, per Junction at rated V_{RRM}		
V_{INS}	RMS isolation voltage	2700		V	$T_J = 25°C$, All terminal shorted f= 50Hz , t= 1s		

Thermal and Mechanical Specifications

	Parameters	26MT	36MT	Units	Conditions
T_J	Max. junction temperature range	-55 to 150		°C	
T_{stg}	Max. storage temperature range	-55 to 150		°C	
R_{thJC}	Max. thermal resistance junction to case	1.42	1.35	K/W	DC operation per bridge (Based on total power loss of bridge)
R_{thCS}	Max. thermal resistance, case to heatsink	0.2	0.2	K/W	Mounting surface, smooth, flat and greased
wt	Approximate weight	20		g	
T	Mounting Torque ± 10%	2.0		Nm	Bridge to heatsink with screw M4

Ordering Information Table

Device Code

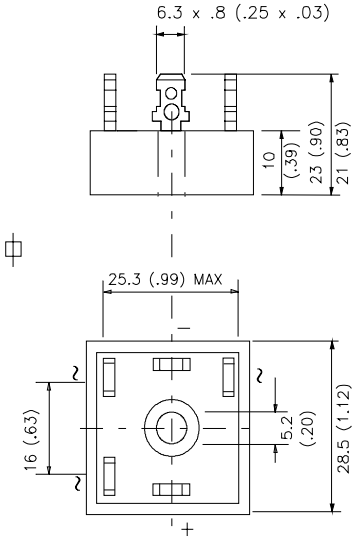


1 - Current rating code: 26 = 25A (Avg), 36 = 35A (Avg)

2 - Basic part number

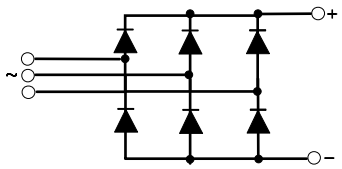
3 - Voltage code (code x 10 = V_{RRM})

Outline Table



Not To Scale

Suggested plugging force:
400 N max; axially applied to faston terminals



All dimensions in millimeters (inches)

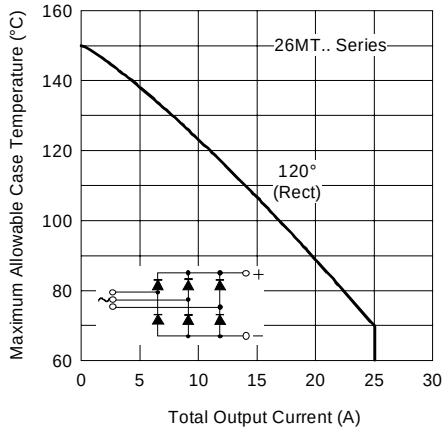


Fig. 1 - Current Ratings Characteristics

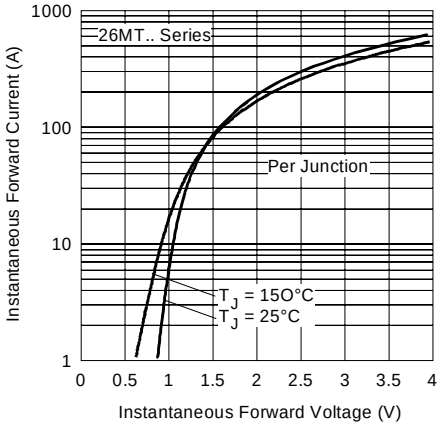


Fig. 2 - Forward Voltage Drop Characteristics

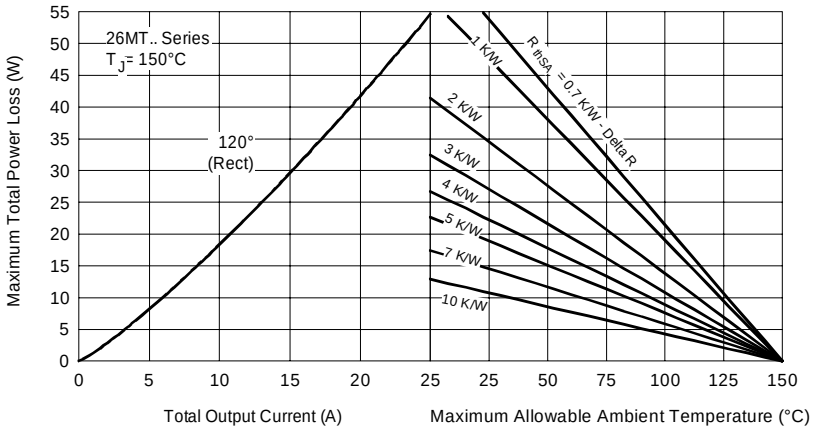


Fig. 3 - Total Power Loss Characteristics

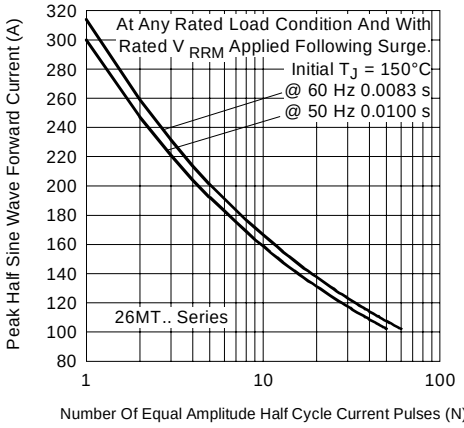


Fig. 4 - Maximum Non-Repetitive Surge Current

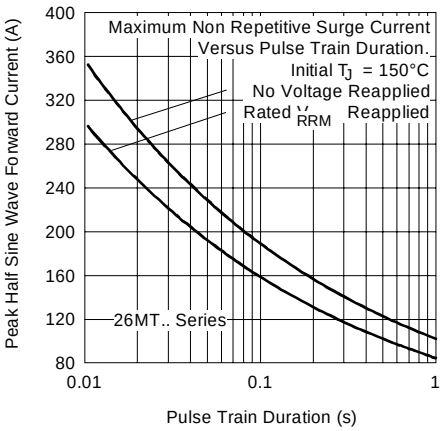


Fig. 5 - Maximum Non-Repetitive Surge Current

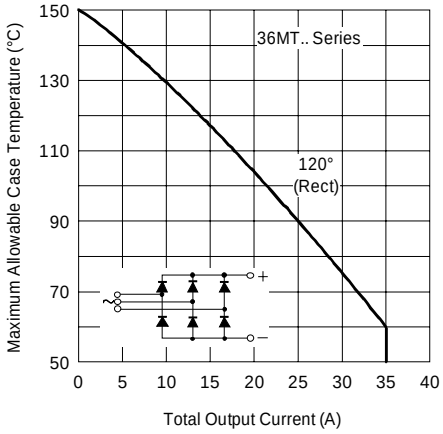


Fig. 6 - Current Ratings Characteristics

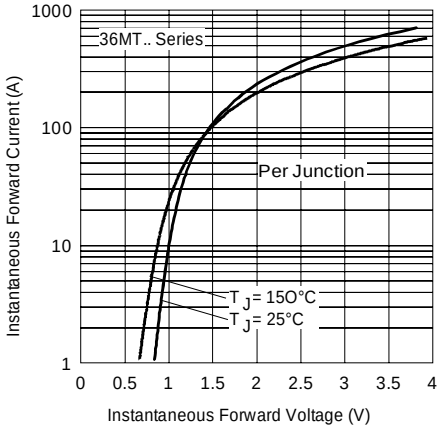


Fig. 7 - Forward Voltage Drop Characteristics

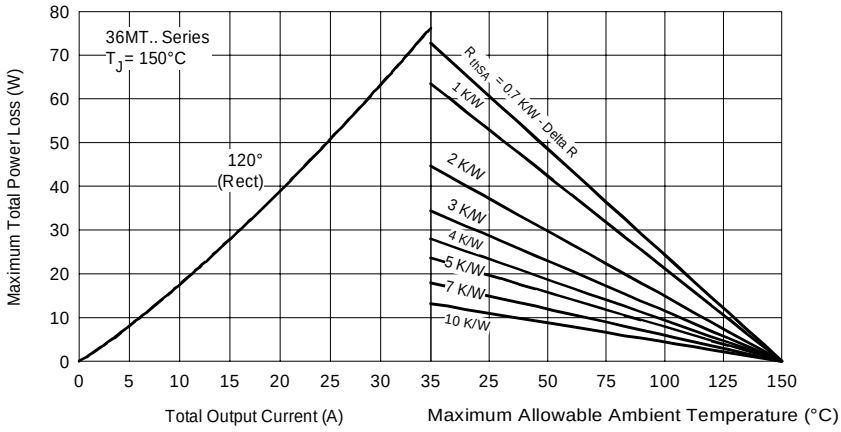


Fig. 8 - Total Power Loss Characteristics

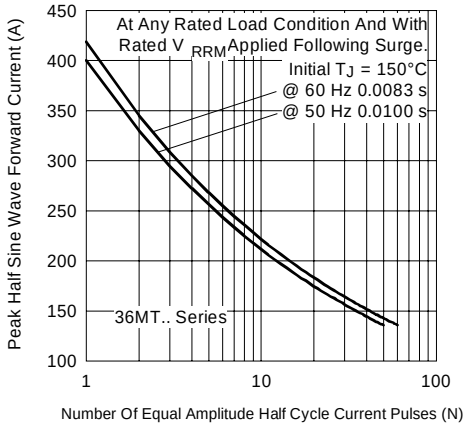


Fig. 9 - Maximum Non-Repetitive Surge Current

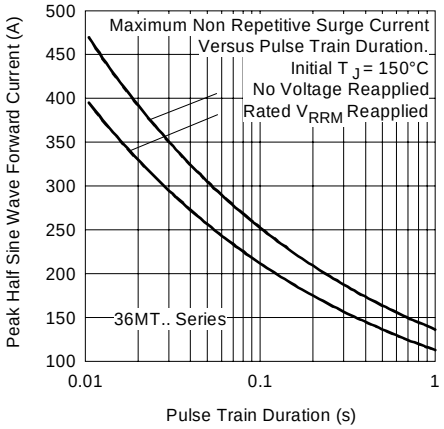


Fig. 10 - Maximum Non-Repetitive Surge Current

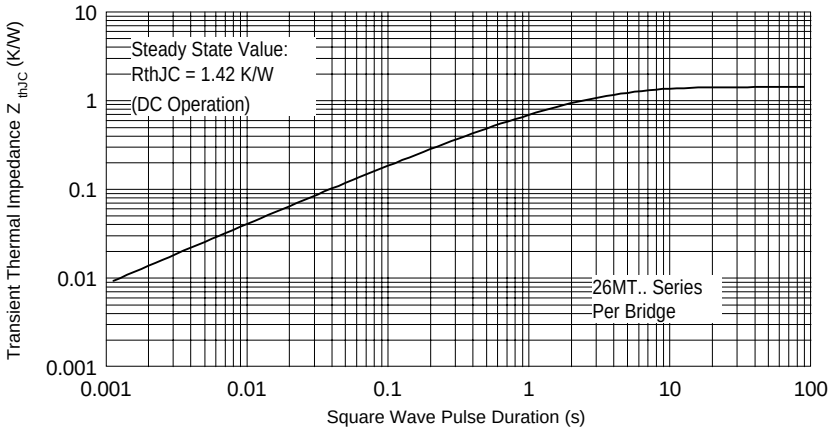


Fig. 11 - Thermal Impedance Z_{thJC} Characteristics

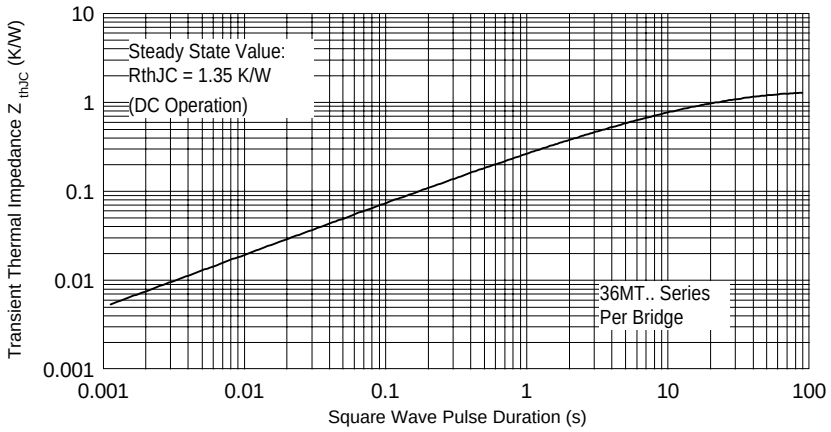


Fig. 12 - Thermal Impedance Z_{thJC} Characteristics

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