


International
IR Rectifier

MT SERIES

THREE PHASE BRIDGE

Power Modules

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 E302990 approved 
- Nickel plated terminals solderable using Lead-Free solder; Solder
Alloy Sn/Ag/Cu (SAC305); Solder temperature 260-275°C
- RoHS compliant

25 A
35 A

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 ² s
@ 60Hz	580	1030	A ² s
V_{RRM} range	100 to 1600		V
T_J	-55 to 150		°C

26MT../36MT.. Series

Bulletin I2771 rev. F 03/06

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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 @ T_C	25	35	A	120° Rect Conduction angle
	70	60	°C	
I_{FSM} Maximum peak, one-cycle non-repetitive forward current Initial $T_J = T_J$ max.	360	475	A	t = 10ms No voltage
	375	500		t = 8.3ms reapplied
	300	400		t = 10ms 100% V_{RRM}
	314	420		t = 8.3ms reapplied
I^2t Maximum I^2t for fusing Initial $T_J = T_J$ max.	635	1130	A ² s	t = 10ms No voltage
	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 √s	I^2t for time $t_x = I^2\sqrt{t_x}\sqrt{t_x}$; $0.1 \leq t_x \leq 10$ ms, $V_{RRM} = 0$ V
$V_{F(TO)1}$ 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	V	$(I > \pi \times I_{F(AV)})$, @ 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	mΩ	$(I > \pi \times I_{F(AV)})$, @ T_J max.
V_{FM} Maximum forward voltage drop	1.26	1.19	V	$T_J = 25^\circ\text{C}$, $I_{FM} = 40A_{pk}$ - Per single Junction
I_{RRM} Max. DC reverse current	100		μA	$T_J = 25^\circ\text{C}$, per Junction at rated V_{RRM}
V_{INS} RMS isolation voltage	2700		V	$T_J = 25^\circ\text{C}$, 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

36

MT

160

①

②

③

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

2 - Basic part number

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

Outline Table

6.3 x .8 (.25 x .03)

10
(.39) | 23 (.90) | 21 (.83)

25.3 (.99) MAX

1.6 (.63) | 5.2 (.20) | 28.5 (1.12)

Not To Scale

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

All dimensions in millimeters (inches)

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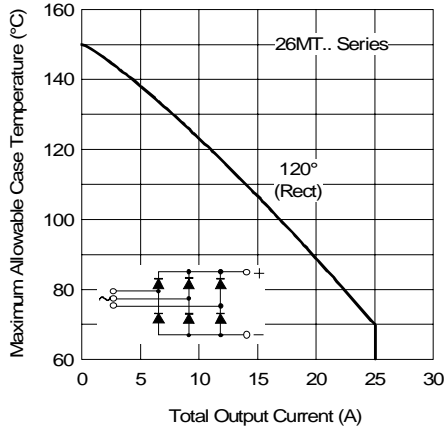


Fig. 1 - Current Ratings Characteristics

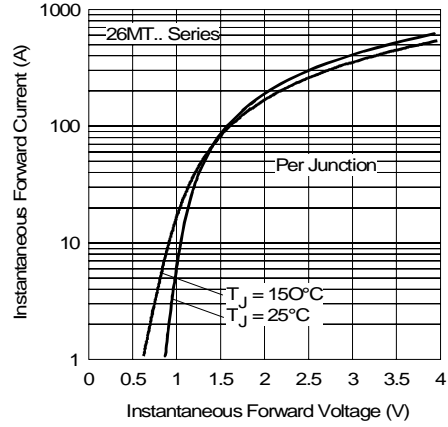


Fig. 2 - Forward Voltage Drop Characteristics

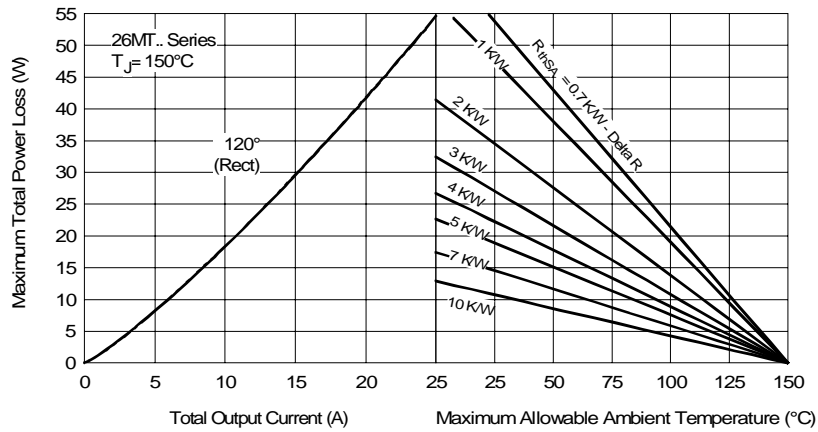


Fig. 3 - Total Power Loss Characteristics

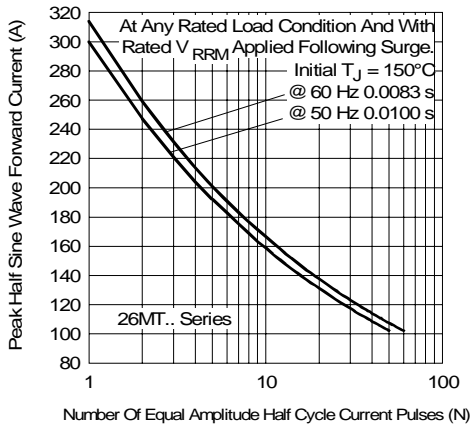


Fig. 4 - Maximum Non-Repetitive Surge Current

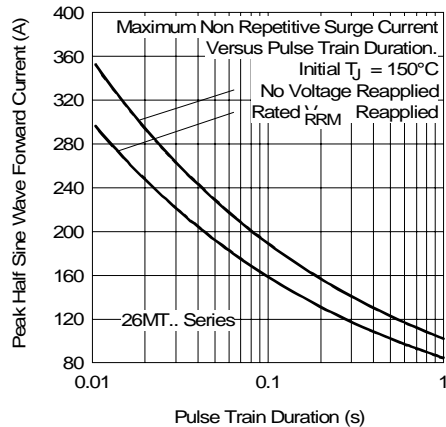


Fig. 5 - Maximum Non-Repetitive Surge Current

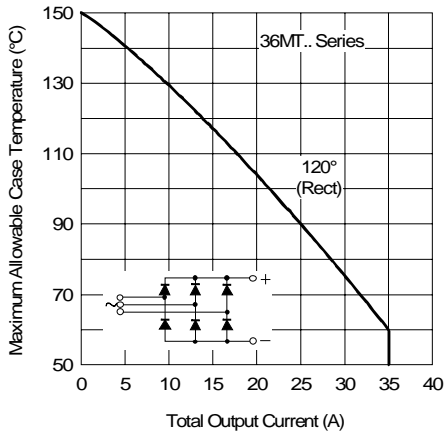


Fig. 6 - Current Ratings Characteristics

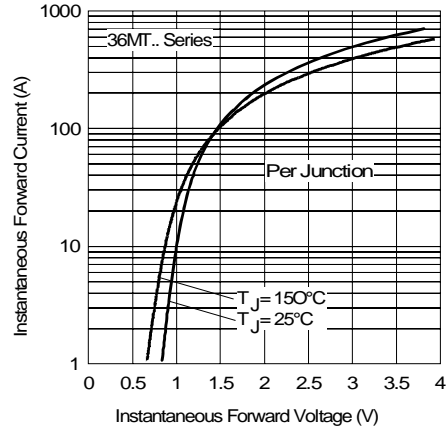


Fig. 7 - Forward Voltage Drop Characteristics

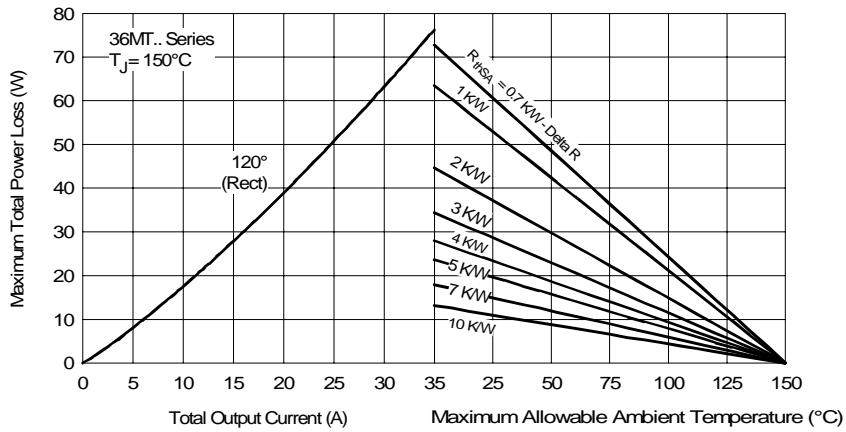


Fig. 8 - Total Power Loss Characteristics

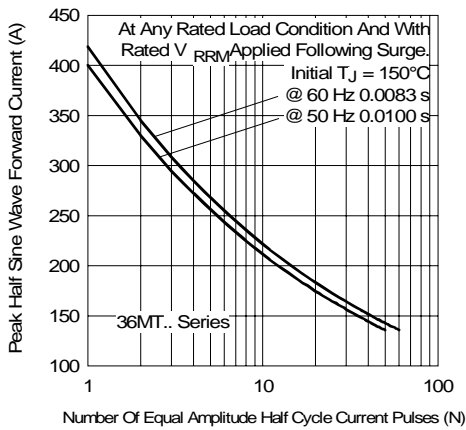


Fig. 9 - Maximum Non-Repetitive Surge Current

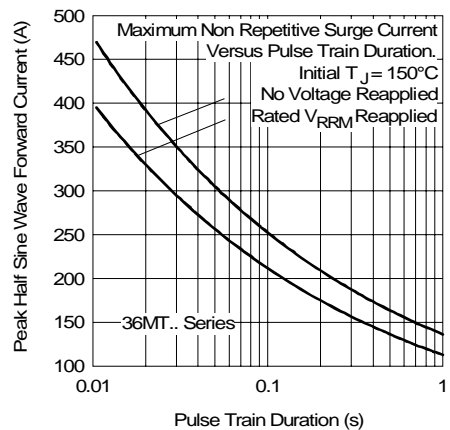


Fig. 10 - Maximum Non-Repetitive Surge Current

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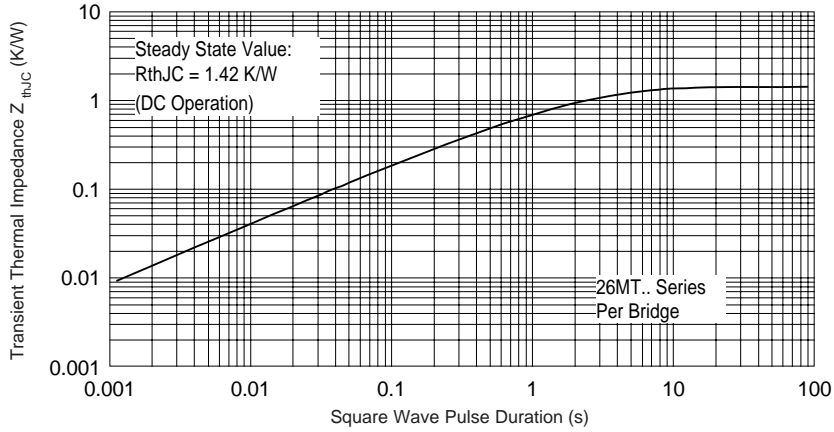


Fig. 11 - Thermal Impedance Z_{thJC} Characteristics

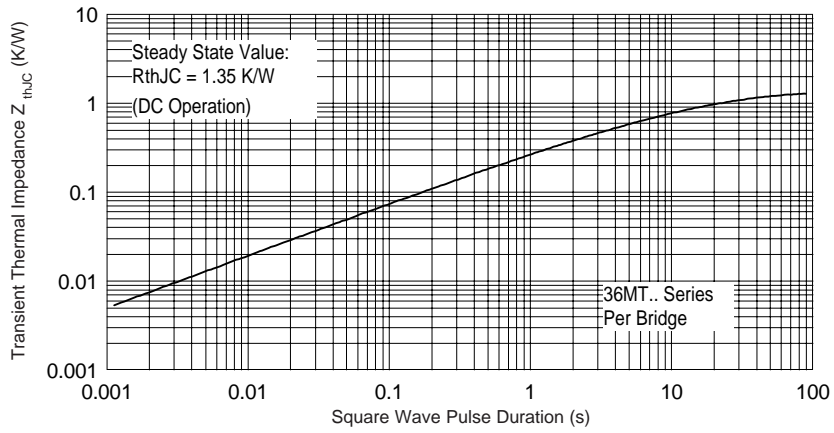


Fig. 12 - Thermal Impedance Z_{thJC} Characteristics

Data and specifications subject to change without notice.
This product has been designed and qualified for Industrial and Consumer Level.
Qualification Standards can be found on IR's Web site.

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