


### 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 E300359 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 <sup>2</sup> s
@ 60Hz	580	1030	A <sup>2</sup> s
$V_{RRM}$ 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 @ $T_C$	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 <sup>2</sup> 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 <sup>2</sup> √s	$I^2t$ for time $t_x = I^2\sqrt{t_x} \sqrt{t_x} : 0.1 \leq t_x \leq 10ms, V_{RRM} = 0V$
$V_{F(TO)1}$ 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	$T_J = 25^\circ C, I_{FM} = 40A_{pk}$ - Per single Junction
$I_{RRM}$ Max. DC reverse current	100		μA	$T_J = 25^\circ C$ , per Junction at rated $V_{RRM}$
$V_{INS}$ RMS isolation voltage	2700		V	$T_J = 25^\circ C$ , All terminal shorted f = 50Hz, t = 1s

**Thermal and Mechanical Specifications**

Parameters	26MT	36MT	Units	Conditions
T <sub>J</sub> Max. junction temperature range	-55 to 150		°C	
T <sub>stg</sub> Max. storage temperature range	-55 to 150		°C	
R <sub>thJC</sub> Max. thermal resistance junction to case	1.42	1.35	K/W	DC operation per bridge (Based on total power loss of bridge)
R <sub>thCS</sub> 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<sub>RRM</sub>)

**Outline Table**

6.3 x .8 (.25 x .03)

10 (.39)

25 (.90)

21 (.83)

25.3 (.99) MAX

16 (.63)

5.2 (.20)

28.5 (1.12)

+

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

All dimensions in millimeters (inches)

Not To Scale

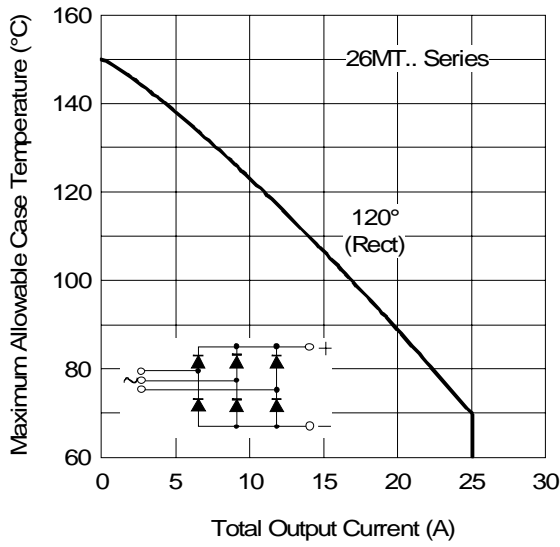


Fig. 1 - Current Ratings Characteristics

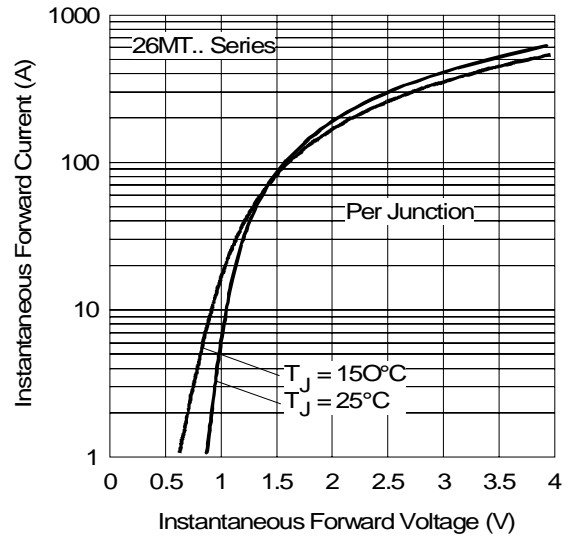


Fig. 2 - Forward Voltage Drop Characteristics

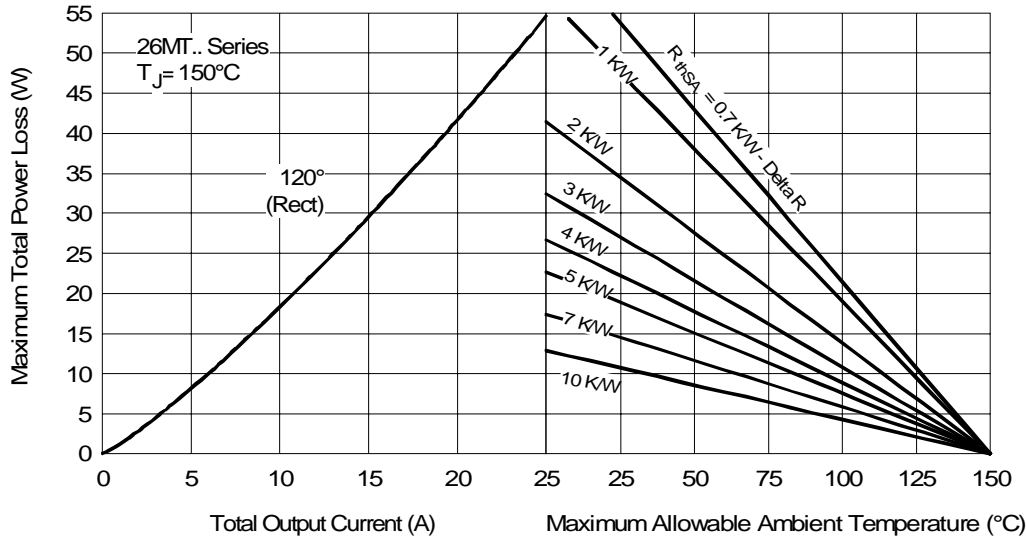


Fig. 3 - Total Power Loss Characteristics

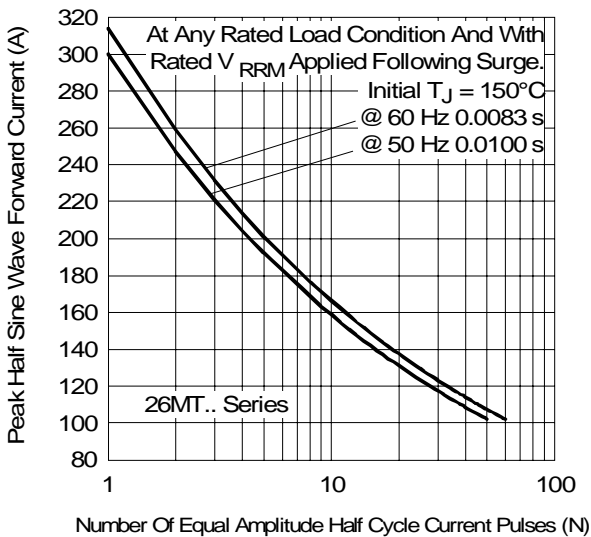


Fig. 4 - Maximum Non-Repetitive Surge Current

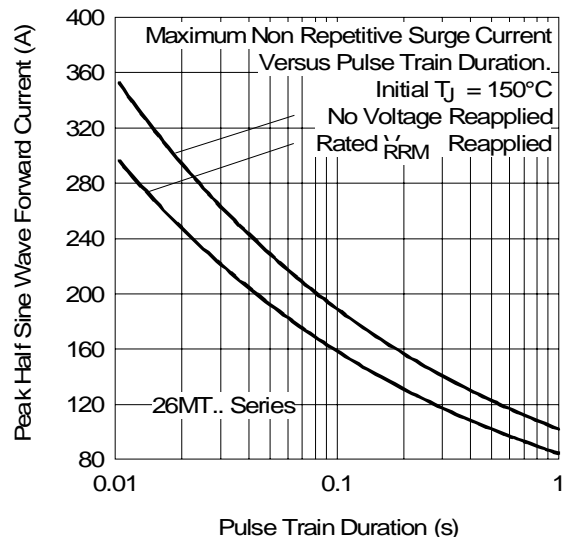


Fig. 5 - Maximum Non-Repetitive Surge Current

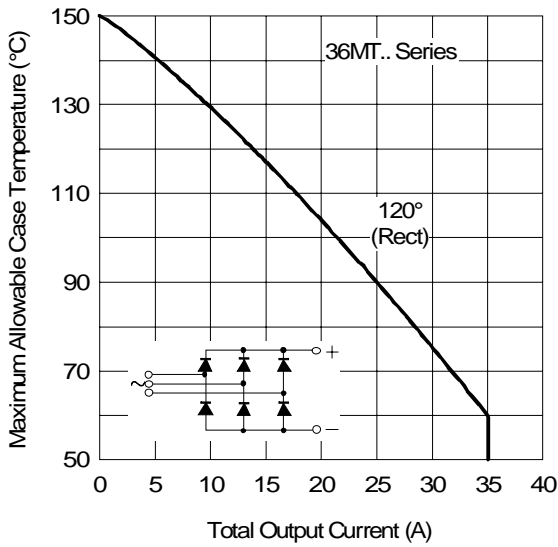


Fig. 6 - Current Ratings Characteristics

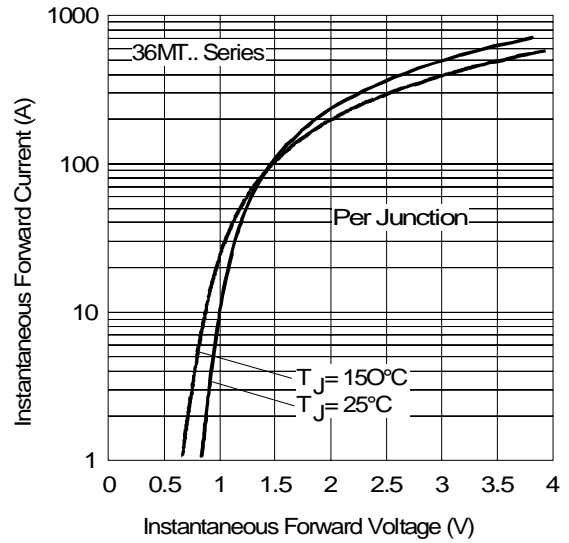


Fig. 7 - Forward Voltage Drop Characteristics

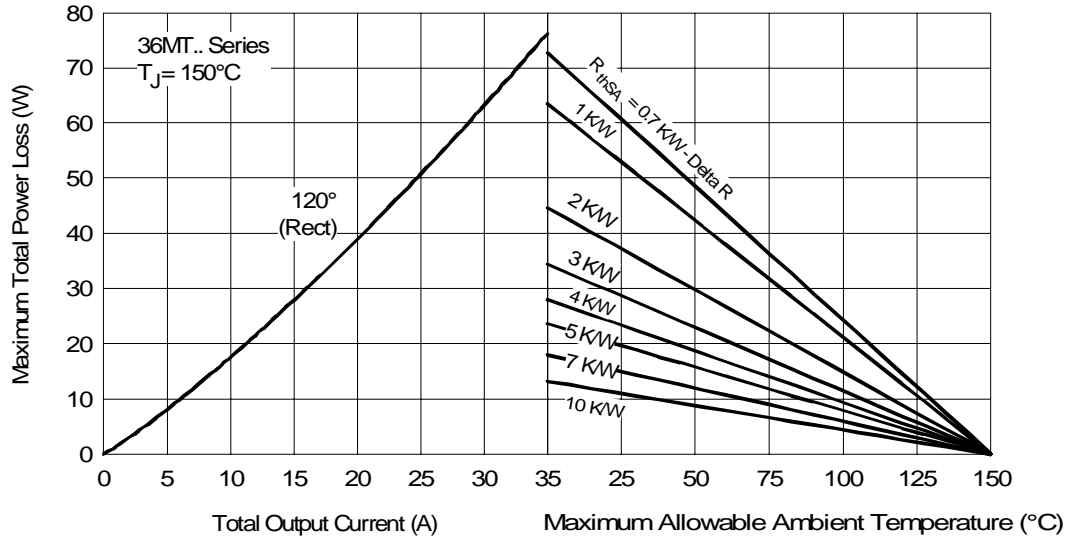


Fig. 8 - Total Power Loss Characteristics

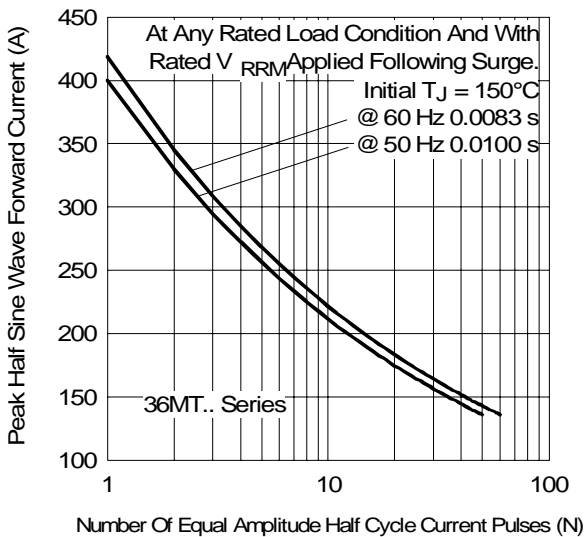


Fig. 9 - Maximum Non-Repetitive Surge Current

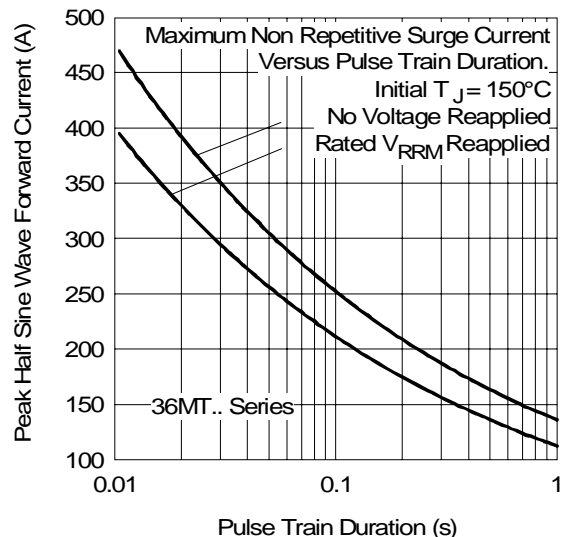


Fig. 10 - Maximum Non-Repetitive Surge Current

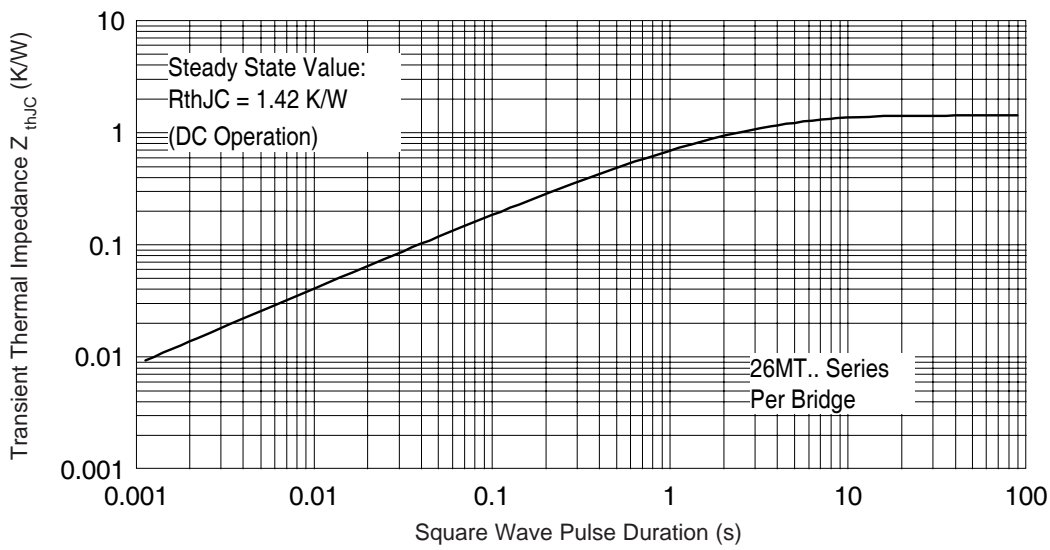


Fig. 11 - Thermal Impedance  $Z_{thJC}$  Characteristics

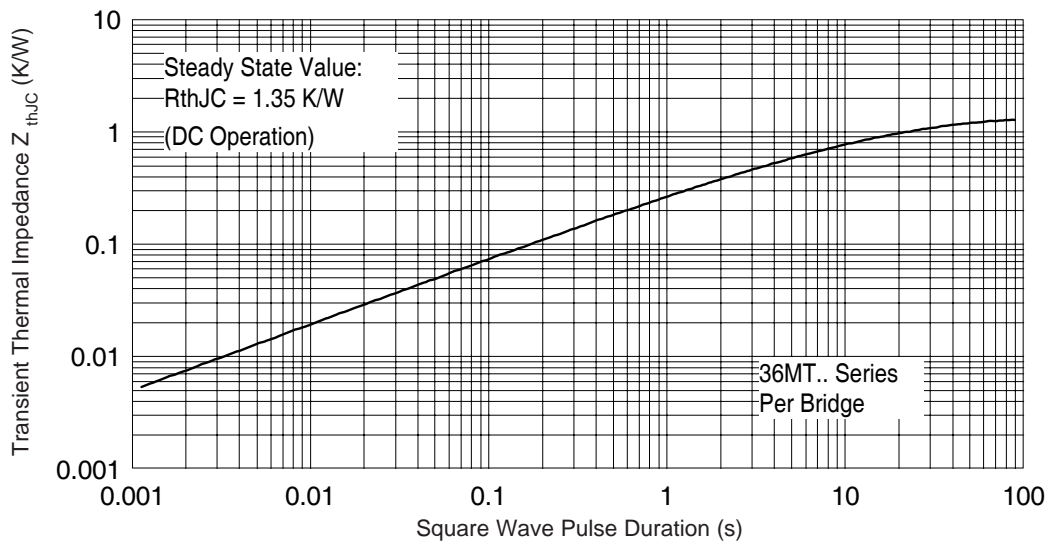


Fig. 12 - Thermal Impedance  $Z_{thJC}$  Characteristics

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.