

CURRENT 25~35 Ampere
VOLTAGE RANG 50 to 1000 Volts

26MT160 THRU 36MT160

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
- Nickel plated terminals solderable using lead (Pb)-free solder; solder alloy Sn/Ag/Cu (SAC305); solder temperature 260 to 275 °C
- RoHS compliant
- Designed and qualified for industrial and consumer level



RoHS
COMPLIANT

D-63



DESCRIPTION

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

PRODUCT SUMMARY

I_o	25 A/35 A
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MAJOR RATINGS AND CHARACTERISTICS

SYMBOL	CHARACTERISTICS	26MT	36MT	UNITS
I_o		25	35	A
	T_c	70	60	°C
I_{FSM}	50 Hz	360	475	A
	60 Hz	375	500	
I^2t	50 Hz	635	1130	A ² s
	60 Hz	580	1030	
V_{RRM}		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 REVERSE VOLTAGE V	I_{RRM} MAXIMUM AT T_J MAXIMUM 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	

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FORWARD CONDUCTION

PARAMETER	SYMBOL	TEST CONDITIONS			VALUES		UNITS
					26MT	36MT	
Maximum DC output current at T _C	I _O	120° rect. conduction angle			25	35	A
					70	60	°C
Maximum peak, one-cycle non-repetitive forward current	I _{FSM}	t = 10 ms	No voltage reapplid	Initial T _J = T _J maximum	360	475	A
		t = 8.3 ms			375	500	
		t = 10 ms	100 % V _{RRM} reapplid		300	400	
		t = 8.3 ms			314	420	
Maximum I ² t for fusing	I ² t	t = 10 ms	No voltage reapplid		635	1130	A ² s
		t = 8.3 ms			580	1030	
		t = 10 ms	100 % V _{RRM} reapplid		450	800	
		t = 8.3 ms			410	730	
Maximum I ² √t for fusing	I ² √t	I ² t for time t _x = I ² √t x √t _x ; 0.1 ≤ t _x ≤ 10 ms, V _{RRM} = 0 V			6360	11 300	A ² √s
Low level of threshold voltage	V _{F(TO)1}	(16.7 % x π x I _{F(AV)}) < I < π x I _{F(AV)}), T _J maximum			0.88	0.86	V
High level of threshold voltage	V _{F(TO)2}	(I > π x I _{F(AV)}), T _J maximum			1.13	1.03	
Low level forward slope resistance	r _{t1}	(16.7 % x π x I _{F(AV)}) < I < π x I _{F(AV)}), T _J maximum			7.9	6.3	mΩ
High level forward slope resistance	r _{t2}	(I > π x I _{F(AV)}), T _J maximum			5.2	5.0	
Maximum forward voltage drop	V _{FM}	T _J = 25 °C, I _{FM} = 40 Apk - per single junction			1.26	1.19	V
Maximum DC reverse current	I _{RRM}	T _J = 25 °C, per junction at rated V _{RRM}			100		μA
RMS isolation voltage	V _{INS}	T _J = 25 °C, all terminal shorted; f = 50 Hz, t = 1 s			2700		V

THERMAL - MECHANICAL SPECIFICATIONS

PARAMETER	SYMBOL	TEST CONDITIONS	VALUES		UNITS
			26MT	36MT	
Maximum junction and storage temperature range	T_J, T_{Stg}		- 55 to 150		°C
Maximum thermal resistance, junction to case	R_{thJC}	DC operation per bridge (based on total power loss of bridge)	1.42	1.35	K/W
Maximum thermal resistance, case to heatsink	R_{thCS}	Mounting surface, smooth, flat and greased	0.2	0.2	
Approximate weight			20		g
Mounting torque ± 10 %		Bridge to heatsink with screw M4	2.0		Nm

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Rating and Characteristic Curves (TA=25°C Unless otherwise noted)

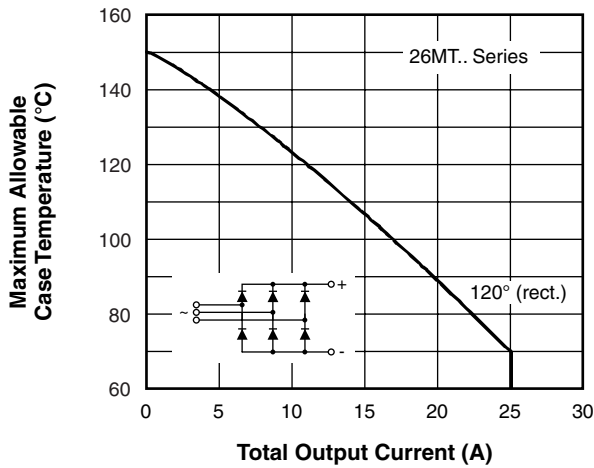


Fig. 1 - Current Ratings Characteristics

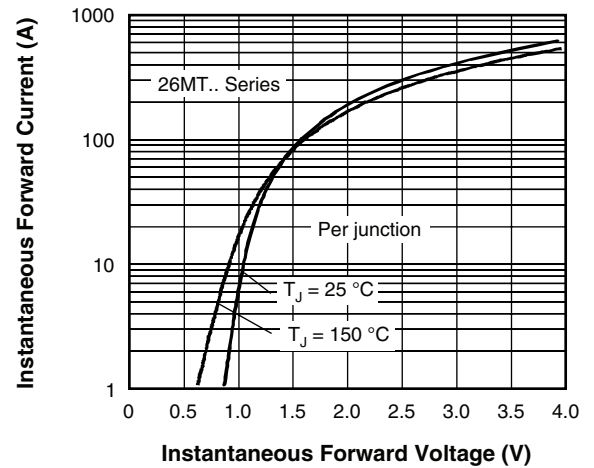


Fig. 2 - Forward Voltage Drop Characteristics

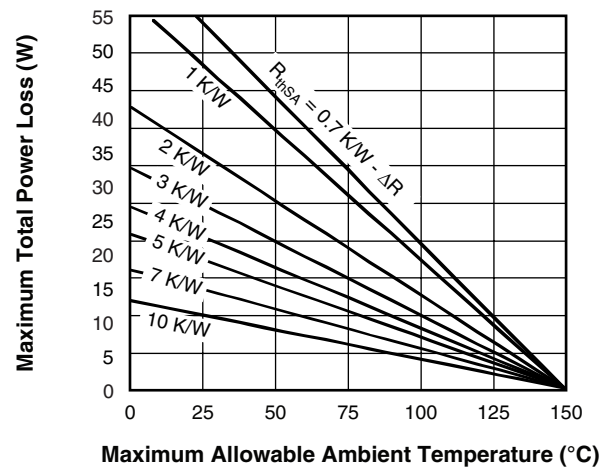
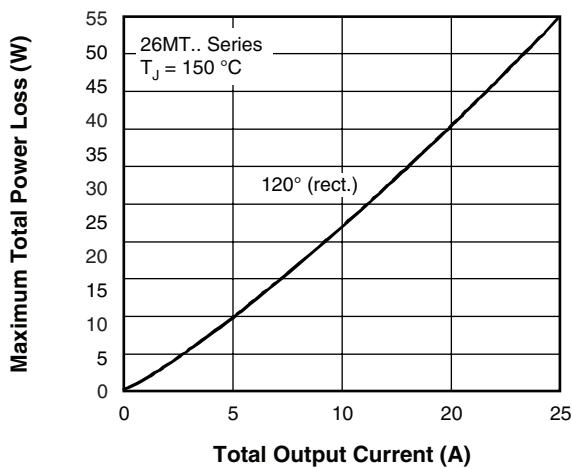


Fig. 3 - Total Power Loss Characteristics

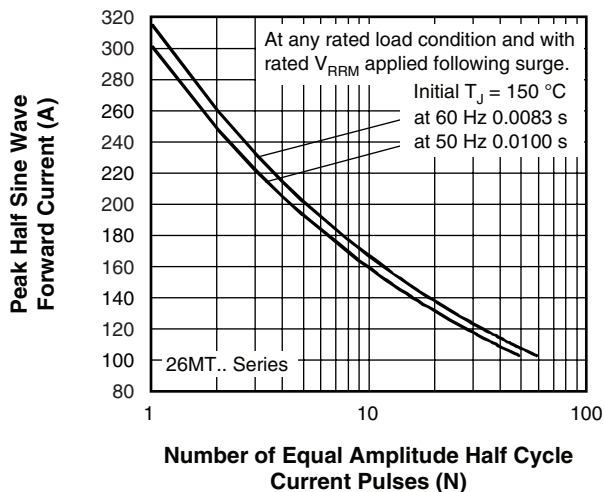


Fig. 4 - Maximum Non-Repetitive Surge Current

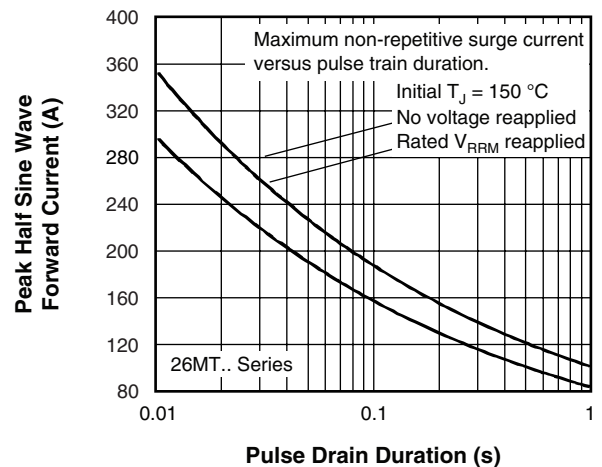


Fig. 5 - Maximum Non-Repetitive Surge Current

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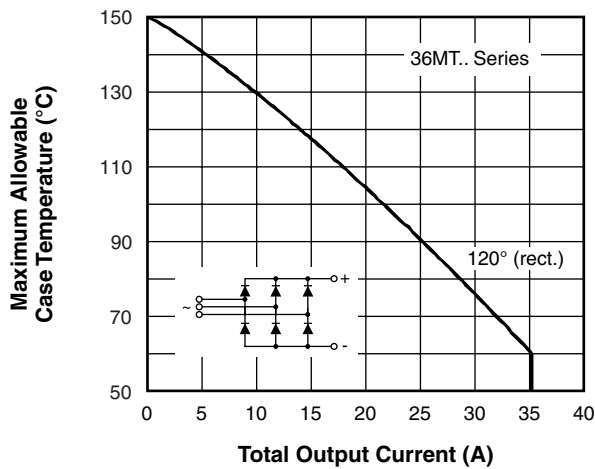


Fig. 6 - Current Ratings Characteristics

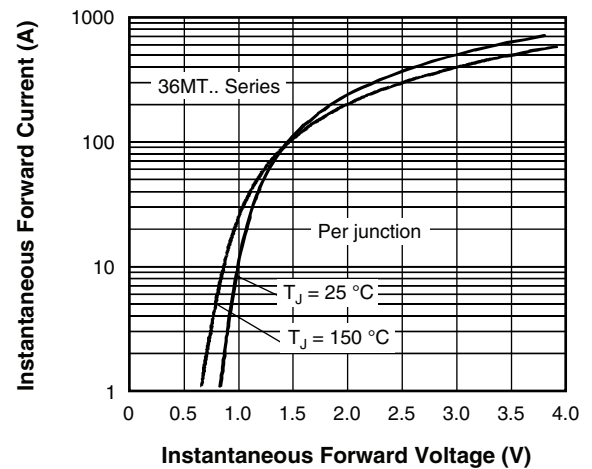


Fig. 7 - Forward Voltage Drop Characteristics

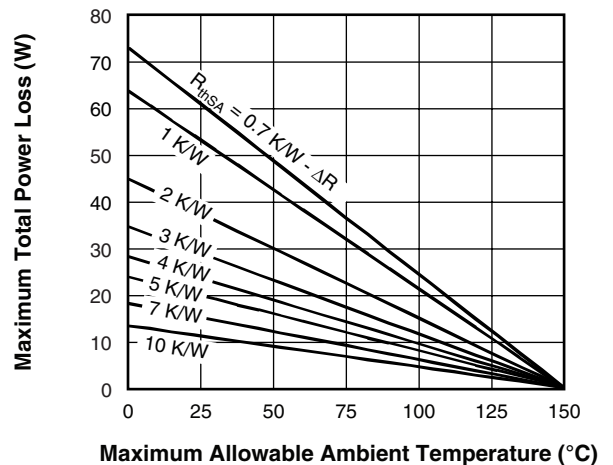
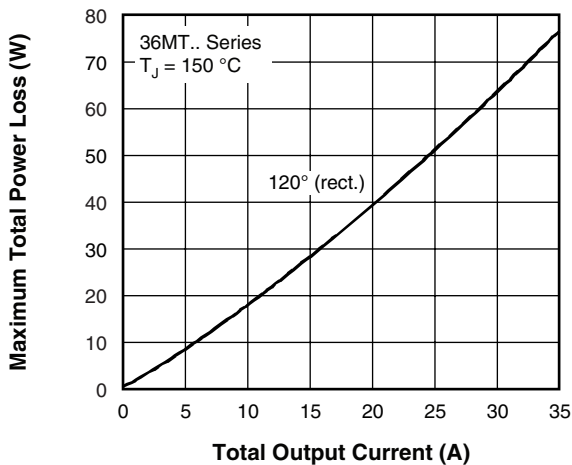


Fig. 8 - Total Power Loss Characteristics

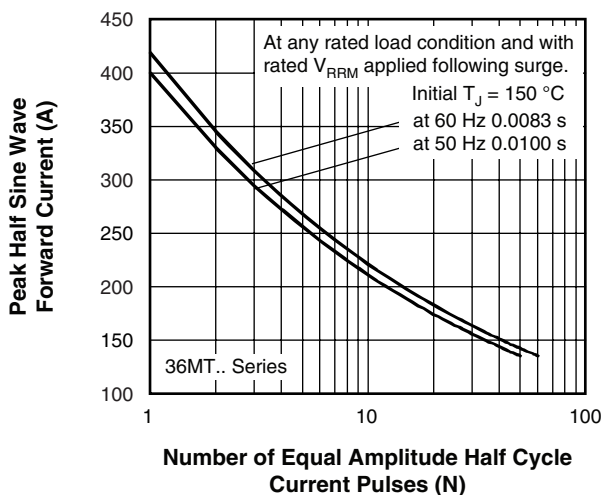


Fig. 9 - Maximum Non-Repetitive Surge Current

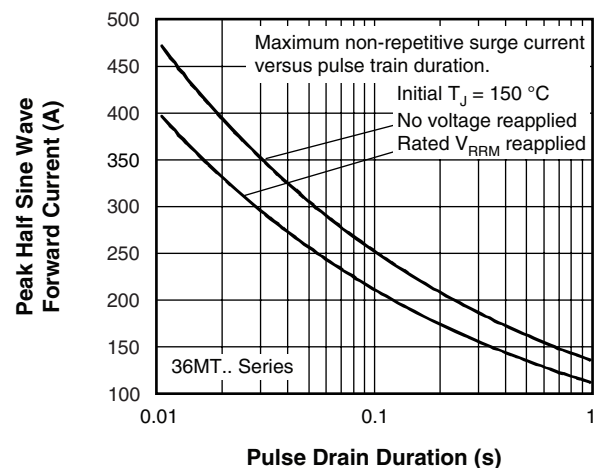


Fig. 10 - Maximum Non-Repetitive Surge Current

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Rating and Characteristic Curves ($T_A = 25^{\circ}\text{C}$ Unless otherwise noted)

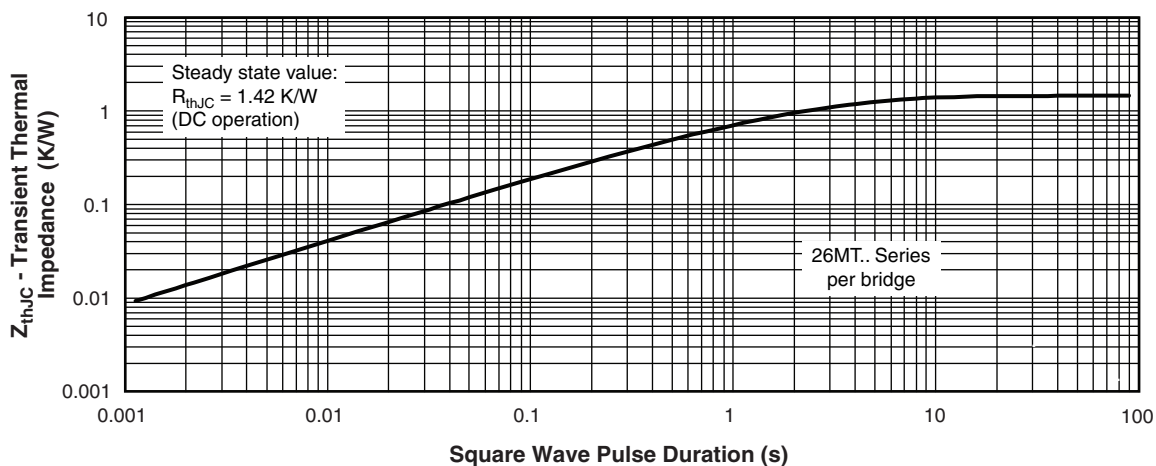


Fig. 11 - Thermal Impedance Z_{thJC} Characteristics

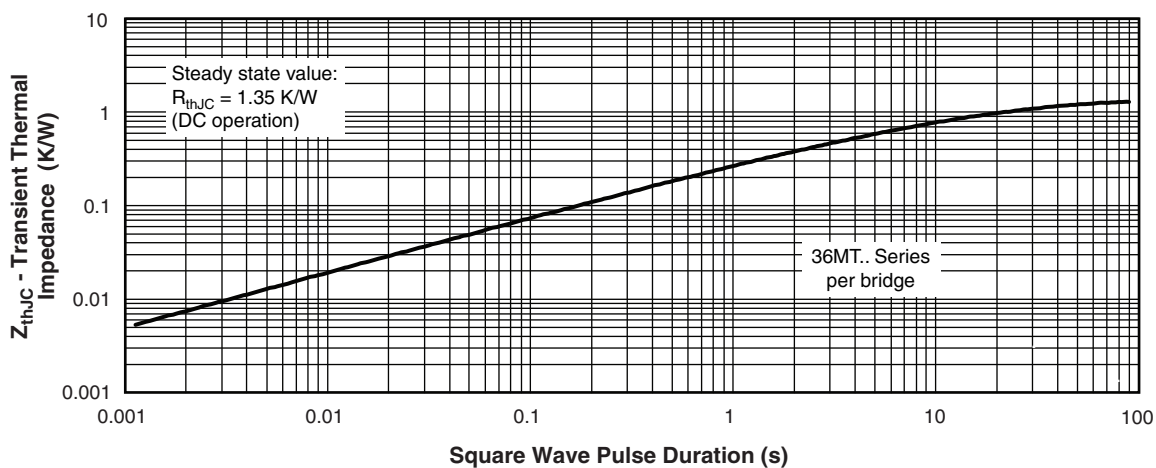
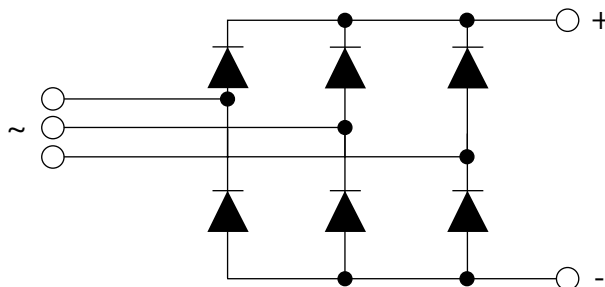


Fig. 12 - Thermal Impedance Z_{thJC} Characteristics

CIRCUIT CONFIGURATION



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ORDERING INFORMATION TABLE

Device code	36	MT	160
	①	②	③
1	- Current rating code		
2	- Basic part number		
3	- Voltage code x 10 = V_{RRM}		

26 = 25 A (average)
 36 = 35 A (average)

Outline Table

