

January 29, 1998

TEL:805-498-2111 FAX:805-498-3804 WEB:<http://www.semtech.com>

HIGH CURRENT, HIGH DENSITY, SINGLE PHASE FULL WAVE BRIDGE RECTIFIER.

QUICK REFERENCE DATA

- Low thermal impedance
- Small size and low weight
- High current applications
- Isolated for direct heatsink mounting
- High surge ratings

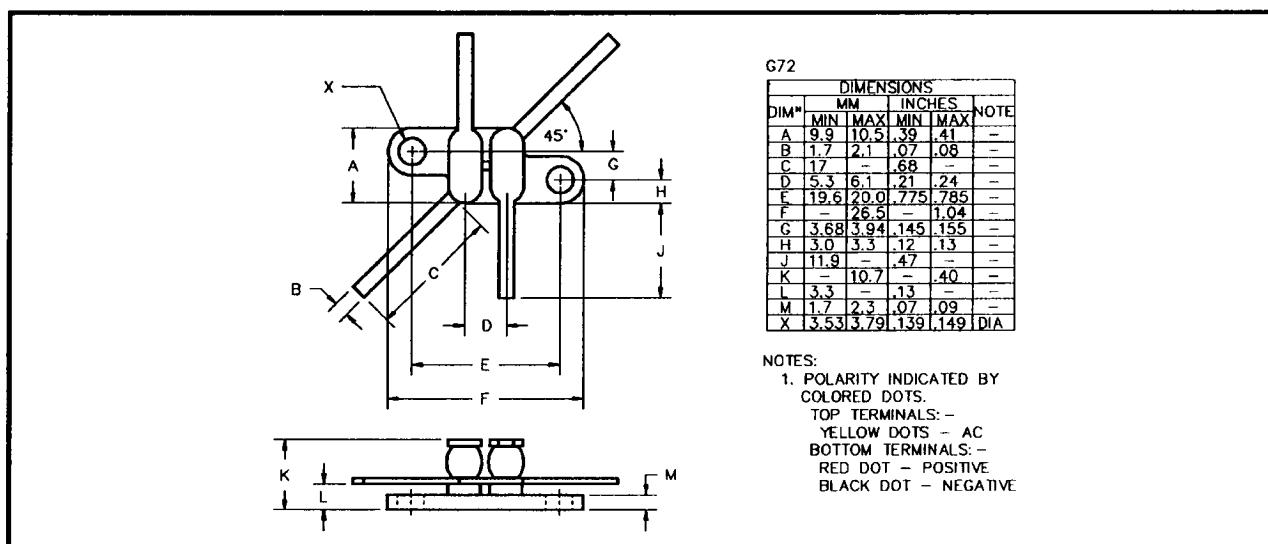
- $V_{RWM} = 150V - 1000V$
- $I_O = 30A$
- $t_{rr} = 30nS - 2\mu S$
- $I_{FSM} \geq 150A$

ABSOLUTE MAXIMUM RATINGS

Device Type	Working Reverse Voltage (V_{RWM})	Average Rectified Current ($I_{F(AV)}$) @ T_{MB}			1 Cycle Surge Current I_{FSM} @ $t_p = 8.3mS$		Operating & Storage Temperature Range	
		@ 55°C	100°C	125°C	@ 25°C	@ 100°C	(T_{OP})	(T_{STG})
	Volts	Amps	Amps	Amps	Amps	Amps	°C	
SET121203	1000	30	22	16	150	100	-55 to +175	
SET121219	1000	20	16	12	150	80	-55 to +175	
SET121212	600	30	22	16	150	100	-55 to +175	
SET121204	400	30	22	16	150	80	-55 to +175	
SET121211	150	30	20	14	175	175	-55 to +150	

$$R_{\theta JMB} = 0.75^{\circ}C/W$$

MECHANICAL



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ELECTRICAL CHARACTERISTICS

Device Type	Maximum Leakage Current I_R @ V_{RWM}		Maximum Forward Voltage V_F @ 9A/leg @ 25°C	Maximum Reverse Recovery Time t_{rr} @ 25°C
	$T_j = 25^\circ\text{C}$	$T_j = 100^\circ\text{C}$		
	μA	μA	Volts	nS
SET121203	2.0	40	1.2	2000
SET121219	2.0	50	2.2	150
SET121212	2.0	40	1.2	2000
SET121204	2.0	40	1.5	150
SET121211	20.0	1mA	1.1	30

¹ Measured on discrete devices prior to assembly

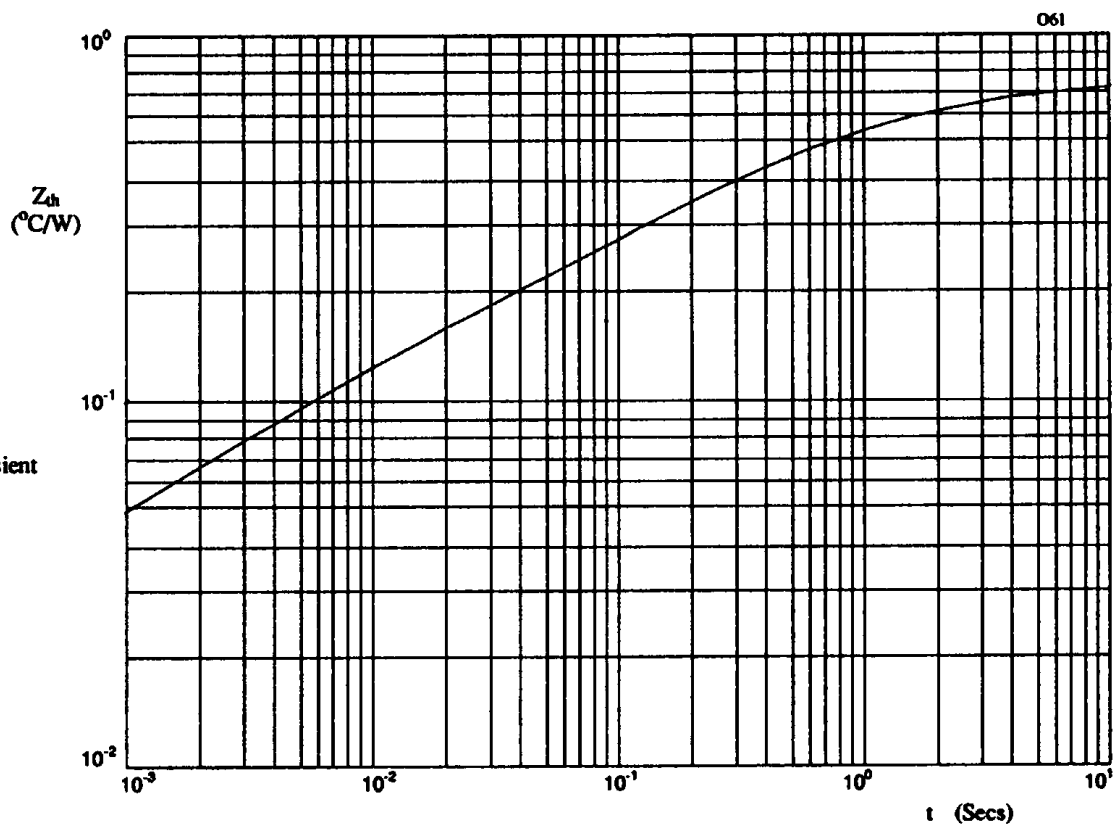


Figure 1. Typical transient thermal impedance characteristic.

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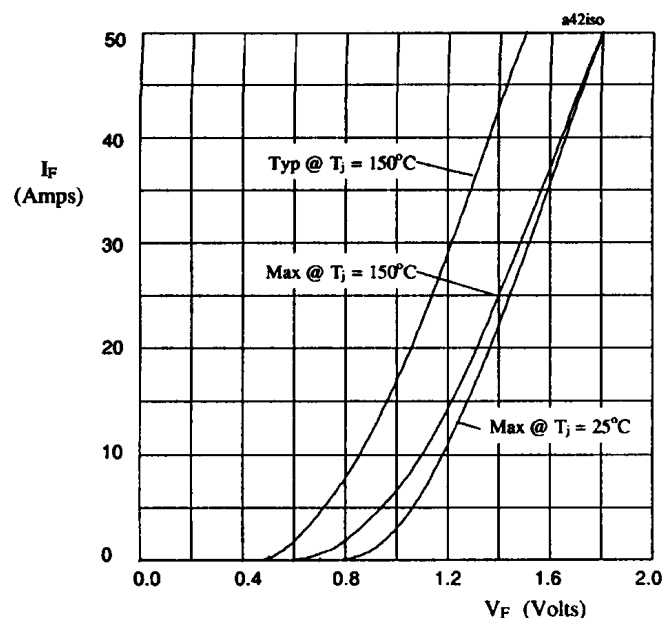


Figure 2. Forward voltage drop per leg as a function of forward current for SET121203 & SET121212.

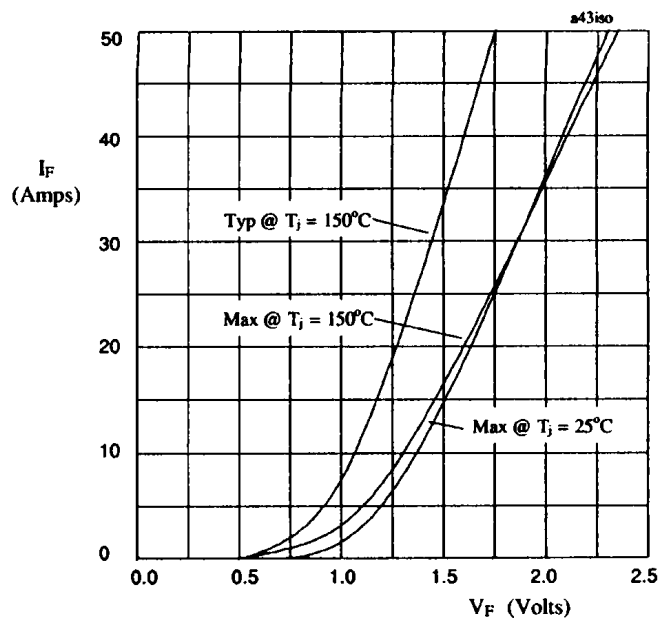


Figure 3. Forward voltage drop per leg as a function of forward current for SET121204.

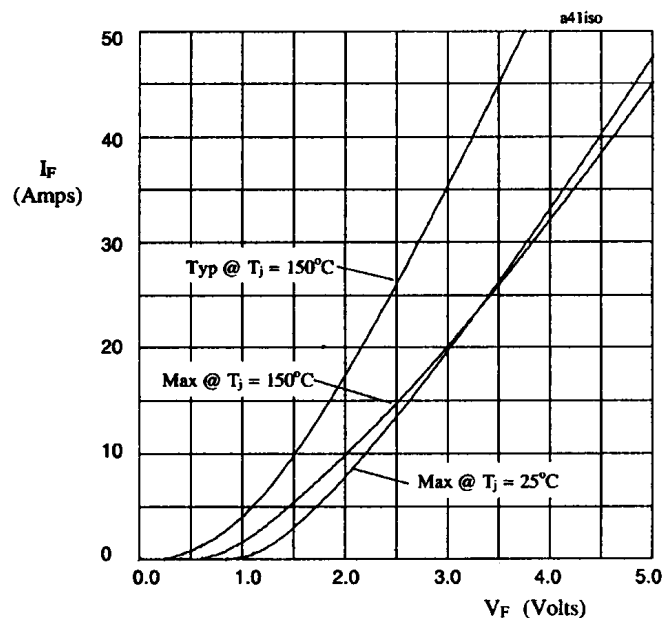


Figure 4. Forward voltage drop per leg as a function of forward current for SET121219.

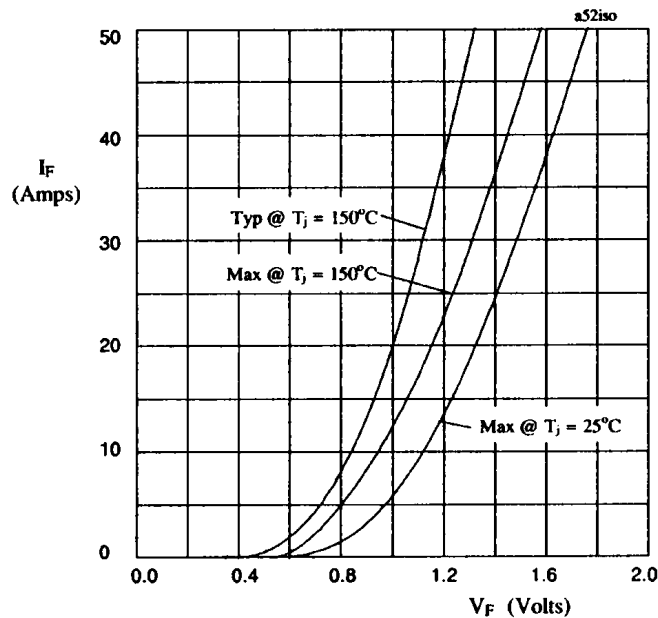


Figure 5. Forward voltage drop per leg as a function of forward current for SET121211.

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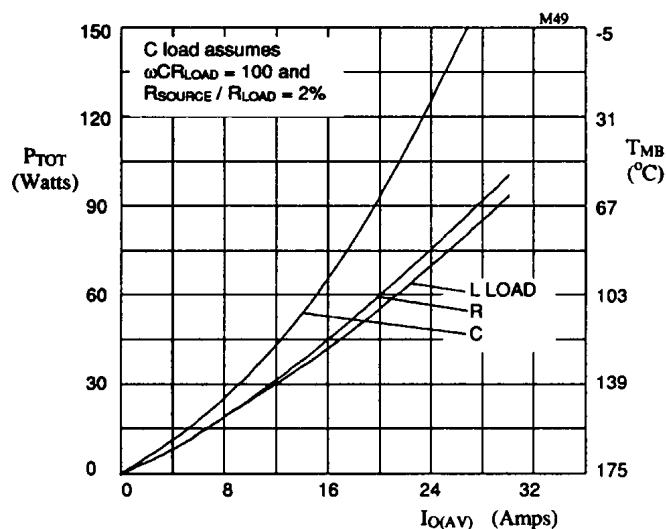


Figure 6. Forward power dissipation and maximum allowable mounting base temperature as a function of output current for sinusoidal operation, for SET121203 and SET121212.

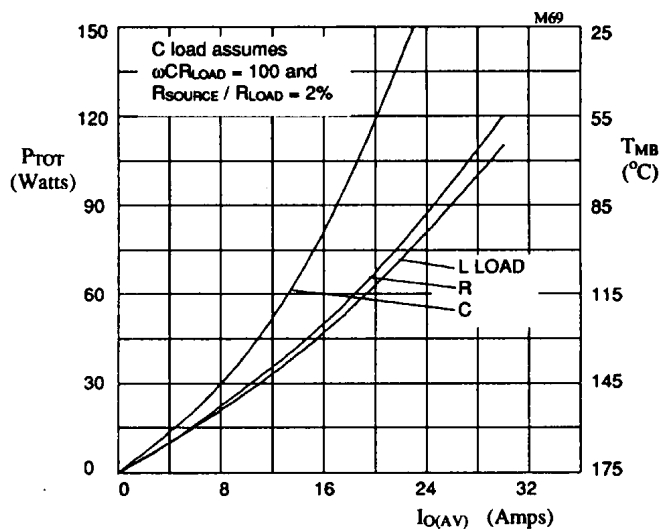


Figure 7. Forward power dissipation and maximum allowable mounting base temperature as a function of output current for sinusoidal operation, for SET121204.

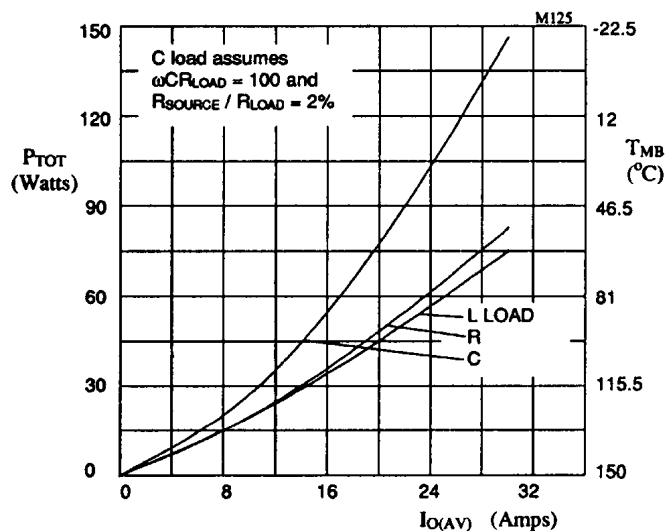


Figure 8. Forward power dissipation and maximum allowable mounting base temperature as a function of output current for sinusoidal operation, for SET121211.

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