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HIGH CURRENT, 1-PHASE FULL WAVE BRIDGE ASSEMBLY

SET121203
SET121219
SET121212
SET121204
SET121211

January 29, 1998

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

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

QUICK REFERENCE DATA

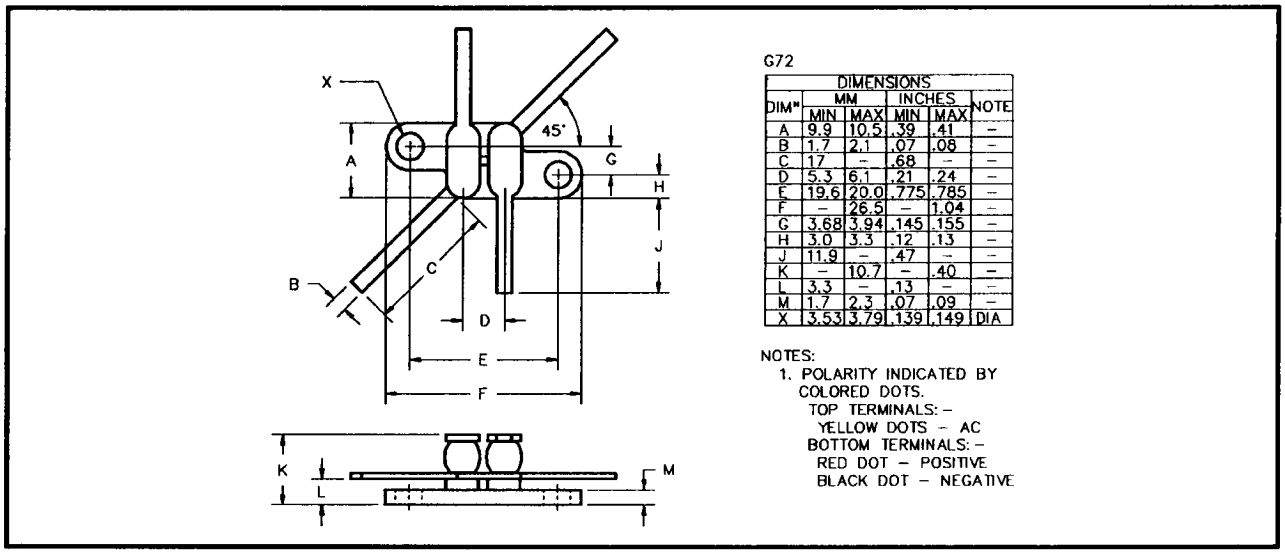
- V_{RWM} = 150V - 1000V
- I_O = 30A
- t_{rr} = 30nS - 2µS
- I_{FSM} ≥ 150A

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°C/W

MECHANICAL



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DIM*	DIMENSIONS MM MIN	MM MAX	INCHES MIN	INCHES MAX	NOTE
A	9.9	10.5	.39	.41	–
B	1.7	2.1	.07	.08	–
C	17	–	.68	–	–
D	5.3	6.1	.21	.24	–
E	19.6	20.0	.775	.785	–
F	–	26.5	–	1.04	–
G	3.68	3.94	.145	.155	–
H	3.0	3.3	.12	.13	–
J	11.9	–	.47	–	–
K	–	10.7	–	.40	–
L	3.3	–	.13	–	–
M	1.7	2.3	.07	.09	–
X	3.53	3.79	.139	.149	DIA

NOTES:
1. POLARITY INDICATED BY COLORED DOTS.
TOP TERMINALS: –
YELLOW DOTS – AC
BOTTOM TERMINALS: –
RED DOT – POSITIVE
BLACK DOT – NEGATIVE

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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 °C	T_j = 100 °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

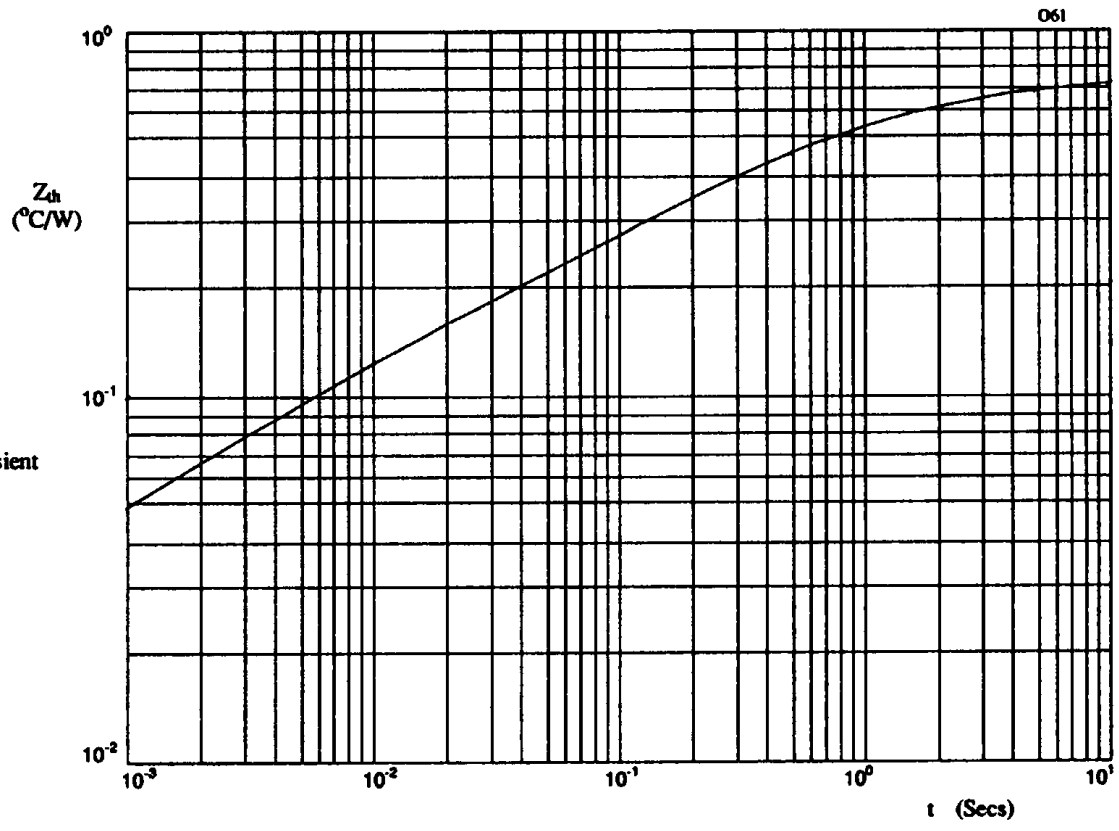

Figure 1. Typical transient thermal impedance characteristic.

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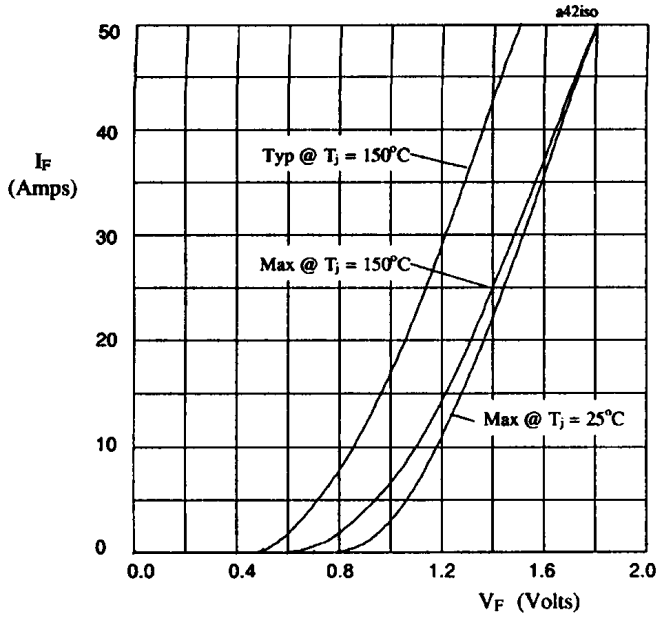

Figure 2. Forward voltage drop per leg as a function of forward current for SET121203 & SET121212.

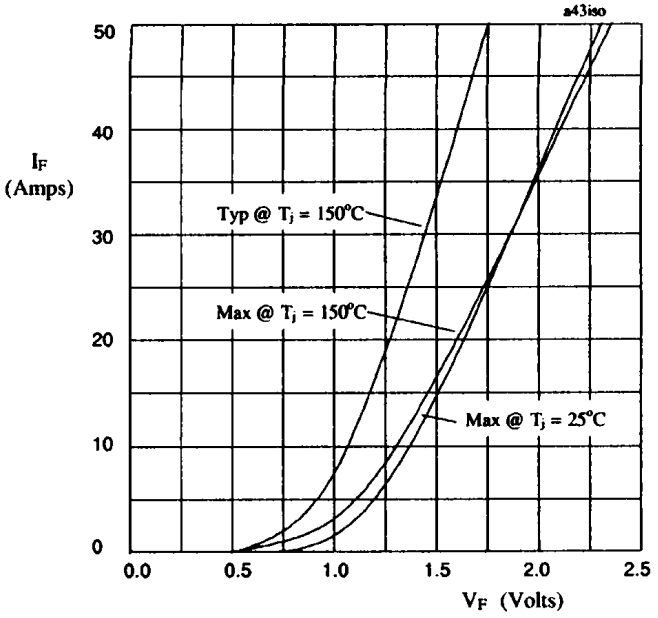

Figure 3. Forward voltage drop per leg as a function of forward current for SET121204.

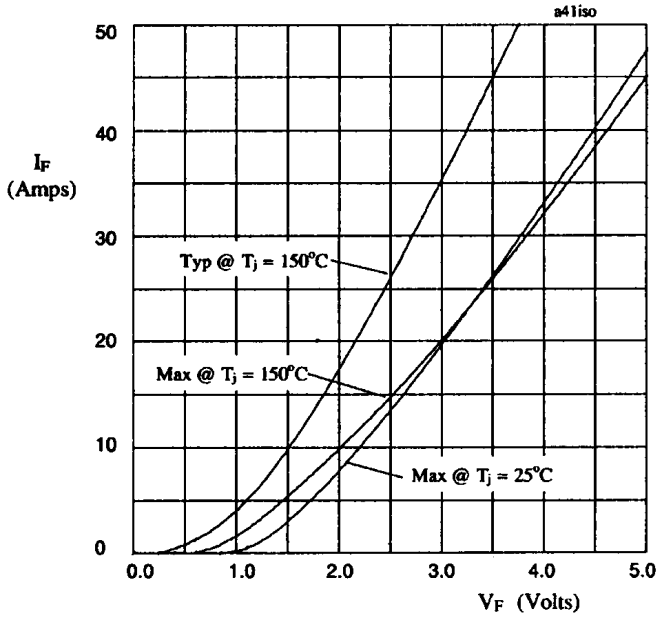

Figure 4. Forward voltage drop per leg as a function of forward current for SET121219.

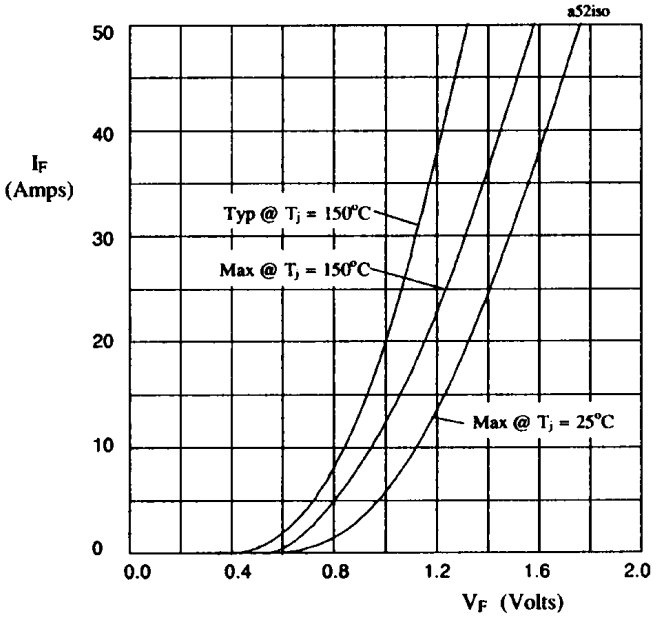

Figure 5. Forward voltage drop per leg as a function of forward current for SET121211.

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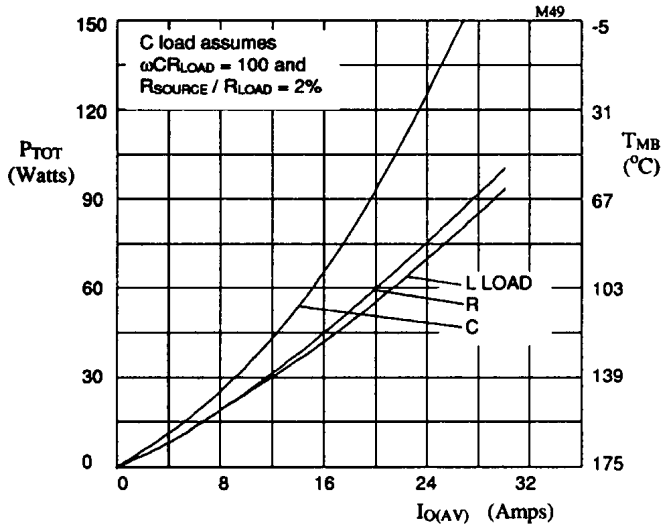

Figure 6. Forward power dissipation and maximum allowable mounting base temperature as a function of output current for sinusoidal operation, for SET121203 and SET121212.

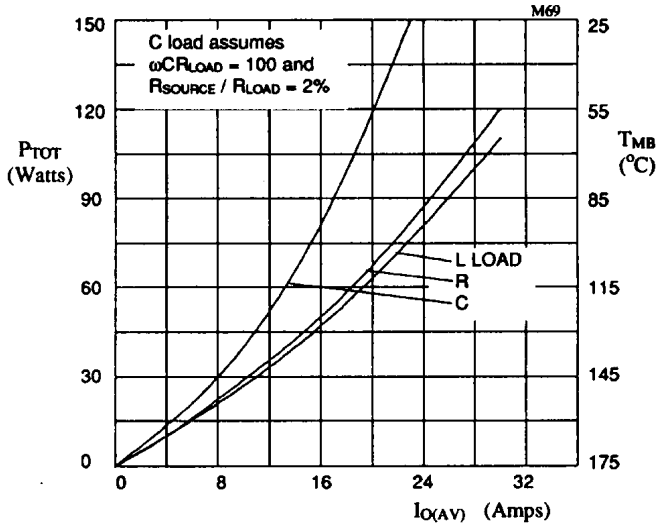

Figure 7. Forward power dissipation and maximum allowable mounting base temperature as a function of output current for sinusoidal operation, for SET121204.

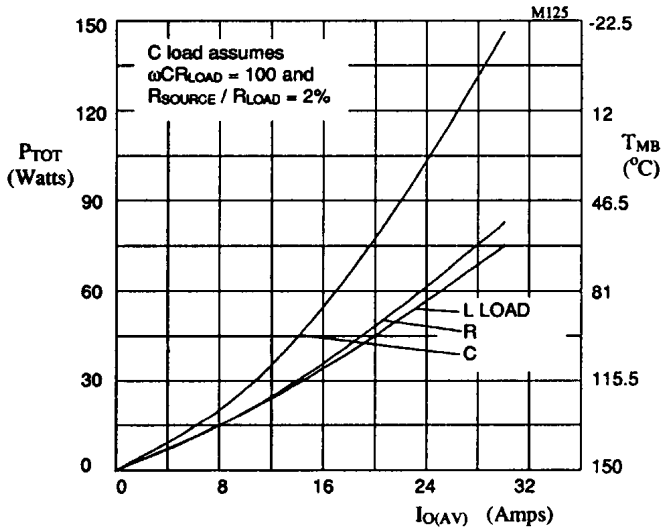

Figure 8. Forward power dissipation and maximum allowable mounting base temperature as a function of output current for sinusoidal operation, for SET121211.

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