

SEMTECH

**HIGH CURRENT, 1-PHASE FULL
WAVE BRIDGE ASSEMBLY**

**SET121203
SET121219
SET121212
SET121204
SET121211**

January 29, 1998

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**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 (T_{OP}) (T_{STG})
		@ 55°C	100°C	125°C	@ 25°C	@ 100°C	
	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

G72

DIM*	MM		INCHES		NOTE
	MIN	MAX	MIN	MAX	
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



January 29, 1998

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

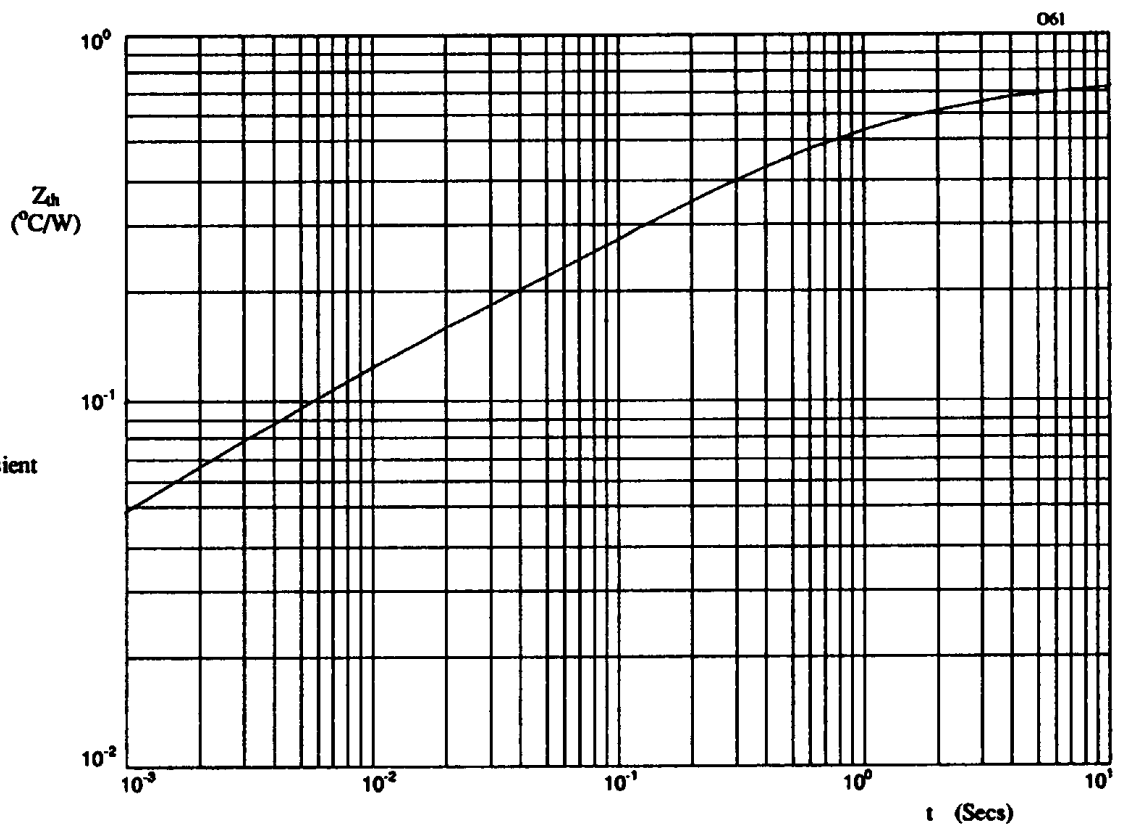


Figure 1. Typical transient thermal impedance characteristic.

January 29, 1998

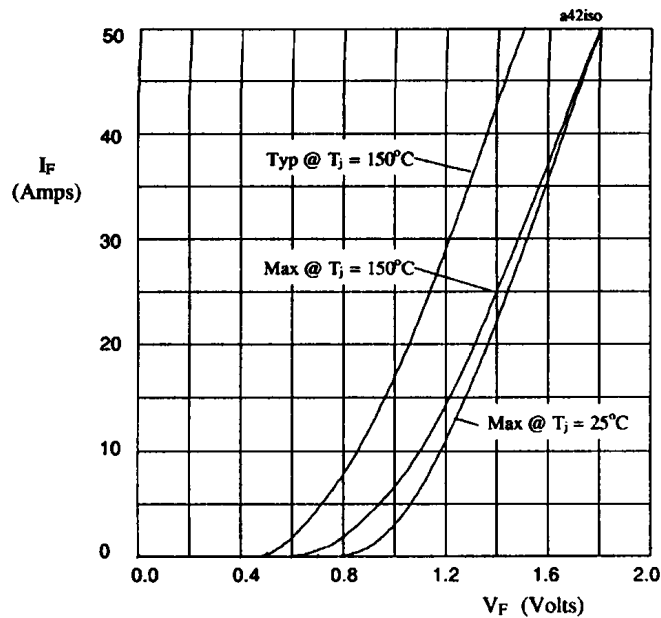


Figure 2. Forward voltage drop per leg as a function of forward current for SET121203 & SET121212.

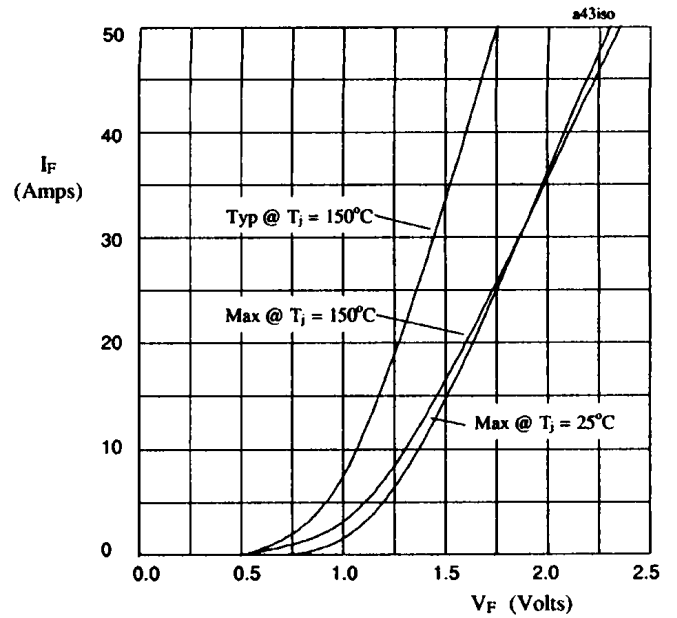


Figure 3. Forward voltage drop per leg as a function of forward current for SET121204.

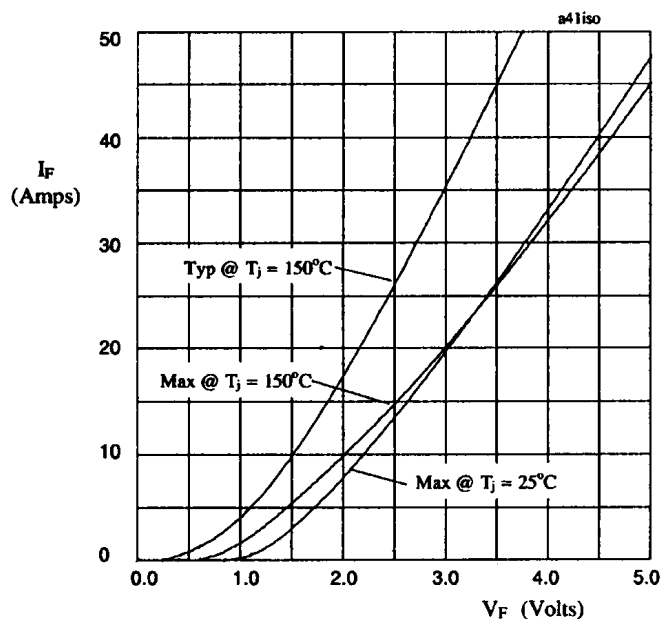


Figure 4. Forward voltage drop per leg as a function of forward current for SET121219.

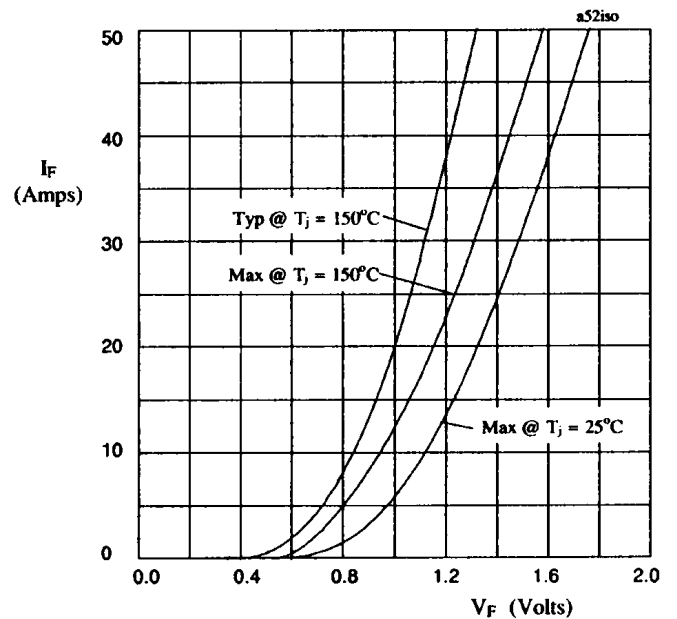


Figure 5. Forward voltage drop per leg as a function of forward current for SET121211.

January 29, 1998

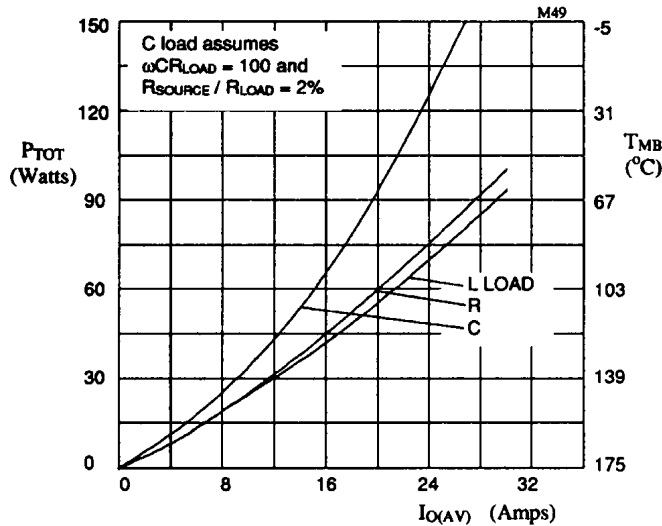


Figure 6. Forward power dissipation and maximum allowable mounting base temperature as a function of output current for sinusoidal operation, for SET121203 and SET121212.

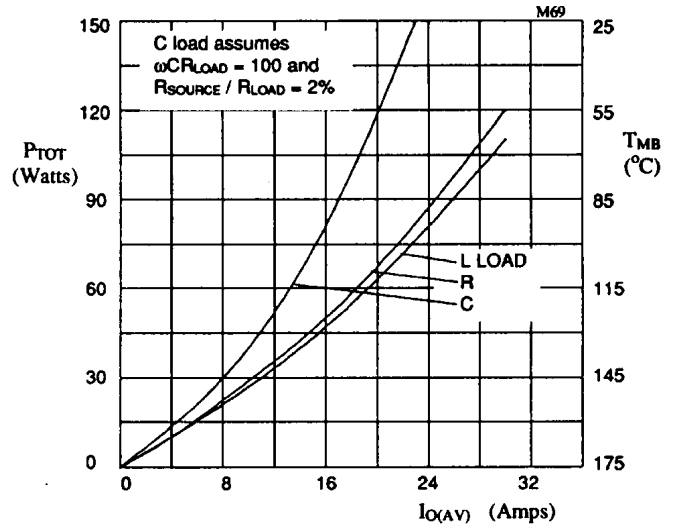


Figure 7. Forward power dissipation and maximum allowable mounting base temperature as a function of output current for sinusoidal operation, for SET121204.

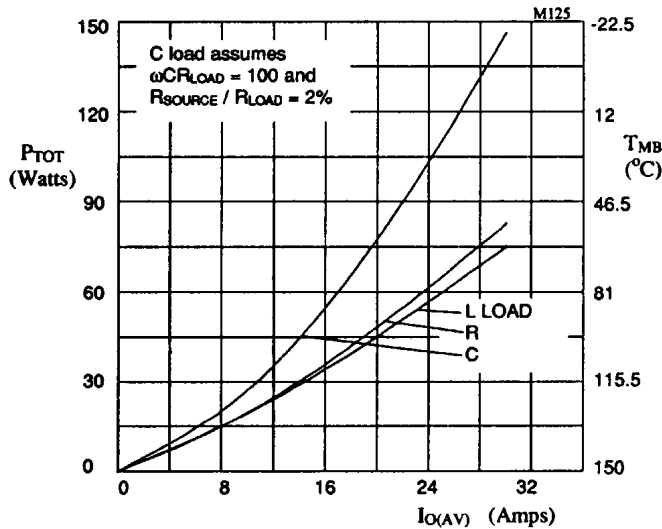


Figure 8. Forward power dissipation and maximum allowable mounting base temperature as a function of output current for sinusoidal operation, for SET121211.