

January 16, 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 ( $I_{RAV}$ ) @ $T_{MB}$			1 Cycle Surge Current $I_{FSM}$ @ $t_p = 8.3mS$		Operating & Storage Temperature Range	
		@ 55°C	100°C	125°C	@ 25°C	@ 100°C	( $T_{OP}$ )	( $T_{STG}$ )
		Amps	Amps	Amps	Amps	Amps	°C	
SET061203	1000	30	22	16	150	100	-55 to +175	
SET061219	1000	20	16	12	150	80	-55 to +175	
SET061212	600	30	22	16	150	100	-55 to +175	
SET061204	400	30	22	16	150	80	-55 to +175	
SET061211	150	30	20	14	175	175	-55 to +150	

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

### MECHANICAL

G52

DIM #	DIMENSIONS				NOTE
	MM		INCHES		
	MIN	MAX	MIN	MAX	
A	19.3	20.1	.76	.79	DIA
B	10.4	11.2	.41	.44	-
C	5.0	5.6	.20	.22	-
D	12.1	13.0	.48	.51	-
E	3.3	3.8	.13	.15	-
F	9.3	10.2	.32	.40	-
G	3.3	4.1	.13	.16	-
H	2.0	2.3	.07	.09	-
X	1.7	2.0	.067	.077	DIA
Y	4.2	4.4	.167	.172	DIA

NOTES:  
1. TERMINAL MARKING  
RED DOT, POSITIVE  
BLACK DOT, NEGATIVE  
YELLOW DOT, A.C.

January 16, 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 <sup>1</sup> $t_{rr}$ @ 25°C
	$T_j = 25^\circ\text{C}$	$T_j = 100^\circ\text{C}$		
	$\mu\text{A}$	$\mu\text{A}$	Volts	nS
SET061203	2.0	40	1.2	2000
SET061219	2.0	50	2.2	150
SET061212	2.0	40	1.2	2000
SET061204	2.0	40	1.5	150
SET061211	20.0	1mA	1.1	30

<sup>1</sup> Measured on discrete devices prior to assembly

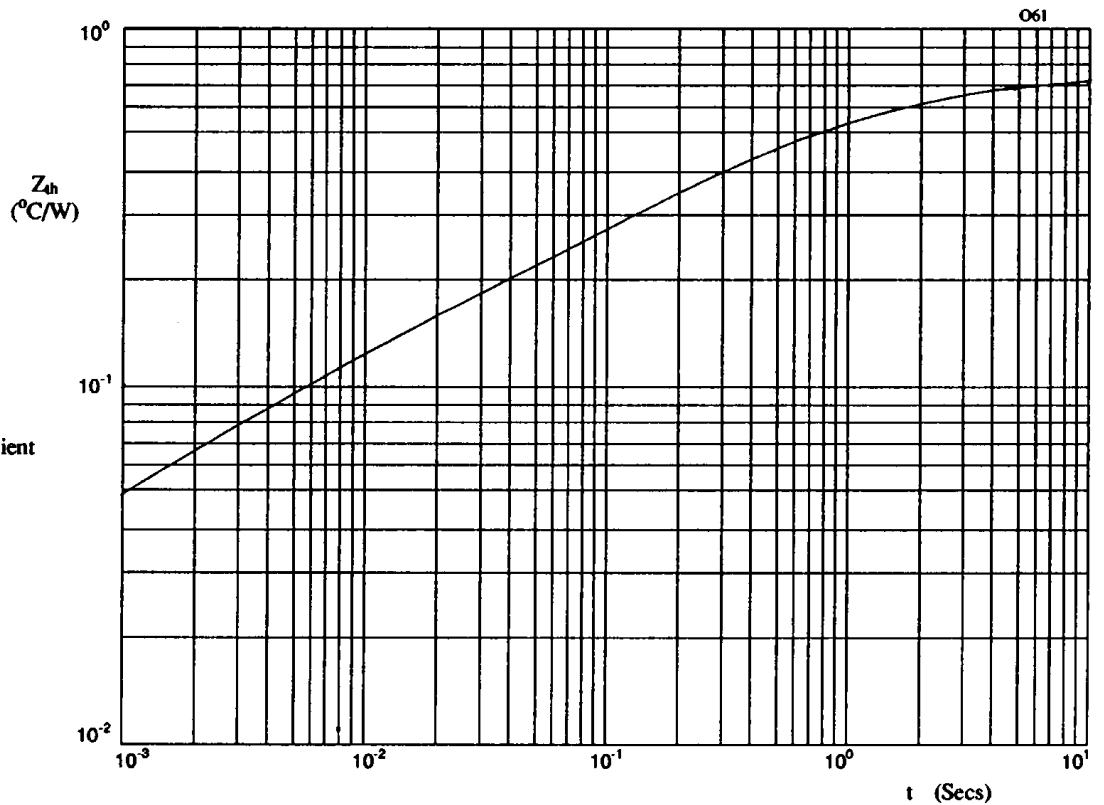


Figure 1. Typical transient thermal impedance characteristic.

January 16, 1998

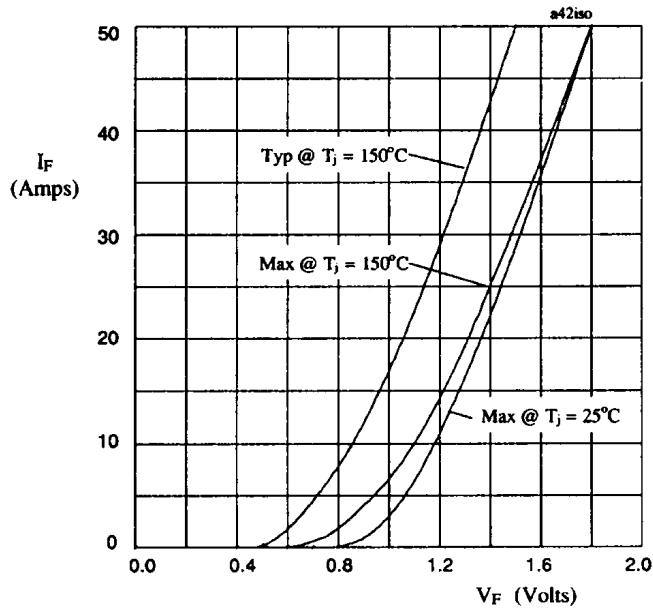


Figure 2. Forward voltage drop per leg as a function of forward current for SET061203 & SET061212.

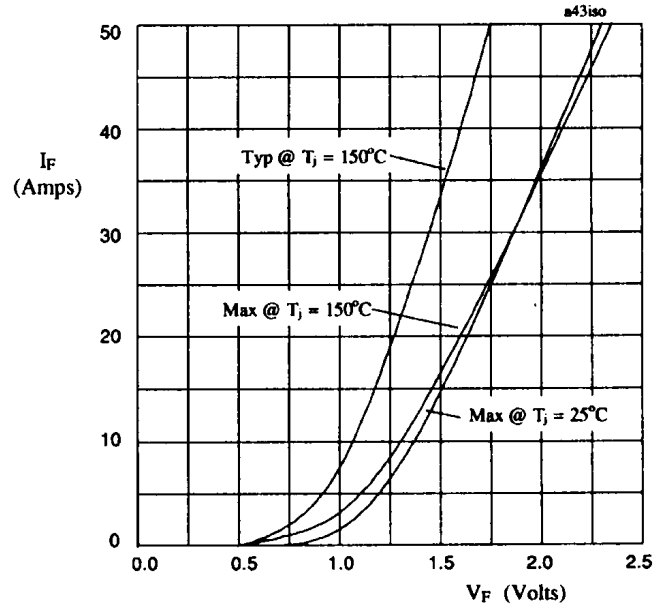


Figure 3. Forward voltage drop per leg as a function of forward current for SET061204.

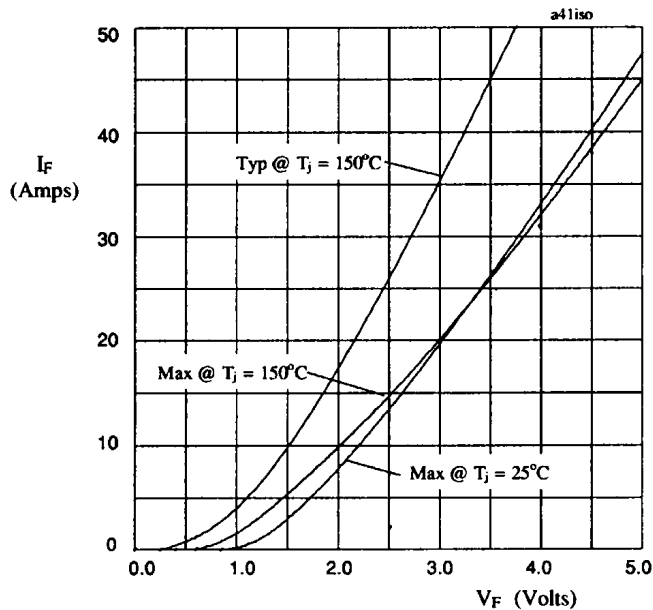


Figure 4. Forward voltage drop per leg as a function of forward current for SET061219.

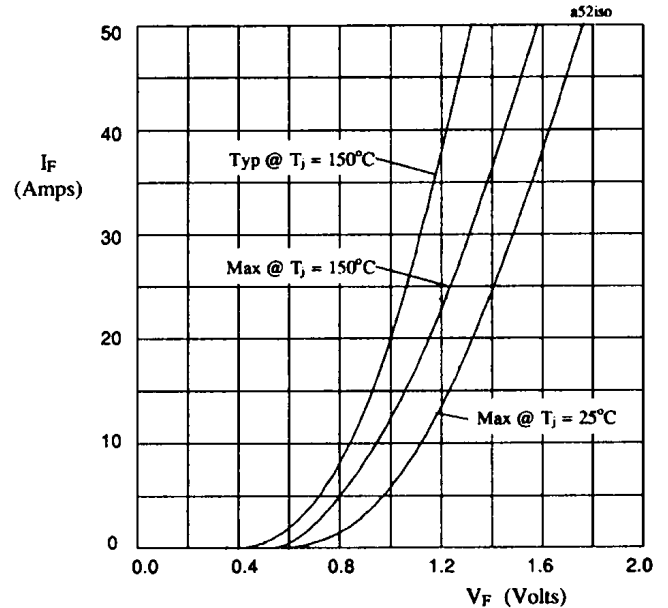


Figure 5. Forward voltage drop per leg as a function of forward current for SET061211.

January 16, 1998

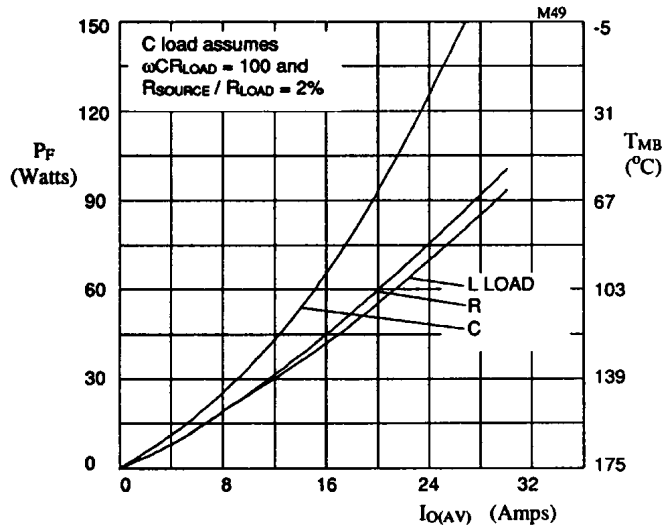


Figure 6. Forward power dissipation and maximum allowable mounting base temperature as a function of output current for sinusoidal operation, for SET061203 and SET061212.

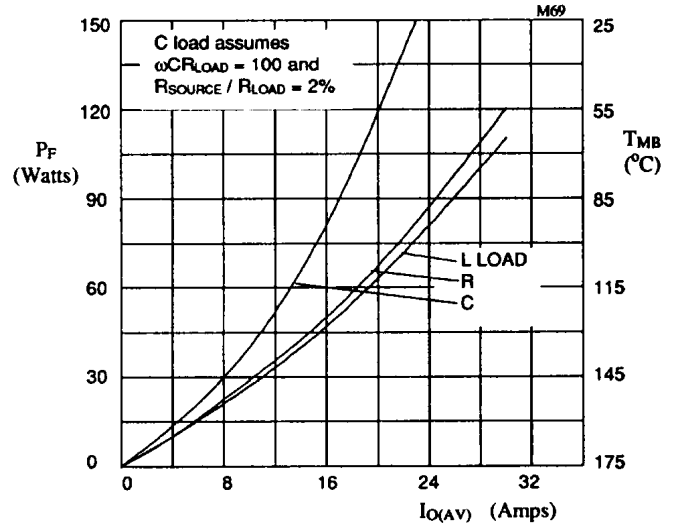


Figure 7. Forward power dissipation and maximum allowable mounting base temperature as a function of output current for sinusoidal operation, for SET061204.

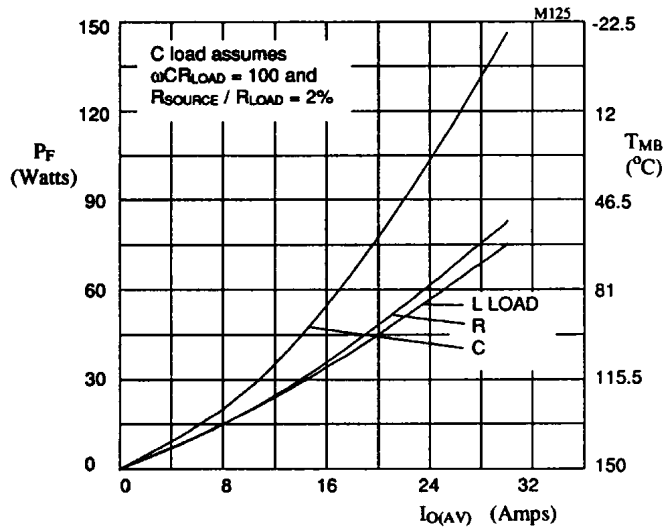


Figure 8. Forward power dissipation and maximum allowable mounting base temperature as a function of output current for sinusoidal operation, for SET061211.