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SEMTECH

**HIGH CURRENT, 3-PHASE
FULL WAVE BRIDGE ASSEMBLY**

**SET111403
SET111419
SET111412
SET111404
SET111411**

January 16, 1998

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

**HIGH CURRENT, HIGH DENSITY, THREE 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

- $V_R = 150V - 1000V$
- $I_O = 45A$
- $t_{rr} = 30nS - 2\mu S$
- $I_{FSM} \geq 150A$

ABSOLUTE MAXIMUM RATINGS

Device Type	Working Reverse Voltage (V_{RWM}) Volts	Average Rectified Current ($I_{F(AV)}$) @ T_{mb}			1 Cycle Surge I_{FSM} $t_p = 8.3mS$		Repetitive Surge (I_{FRM})	Operating & Storage Temperature Range
		@ 55°C	100°C	125°C	@ 25 °C	@ 100°C	@ 25 °C	(T_{OP}) (T_{STG})
		Amps	Amps	Amps	Amps	Amps	Amps	°C
SET111403	1000	45	33	24	150	100	25	-55 to +175
SET111419	1000	30	24	18	150	80	15	-55 to +175
SET111412	600	45	33	24	150	100	25	-55 to +175
SET111404	400	45	33	24	150	80	25	-55 to +175
SET111411	150	45	30	21	175	175	24	-55 to +150

$R_{\theta jc} = 0.5^{\circ}C/W$

MECHANICAL

G56

DIM #	MM		INCHES		NOTE
	MIN	MAX	MIN	MAX	
A	15.2	16.0	.60	.63	-
B	10.0	10.4	.39	.41	-
C	3.68	3.94	.145	.155	-
D	3.0	3.3	.12	.13	-
E	3.3	3.8	.13	.15	-
F	5.3	6.1	.21	.24	-
G	26.9	27.2	1.06	1.07	-
H	1.8	2.3	.07	.09	-
J	3.3	4.1	.13	.16	-
K	8.1	9.7	.32	.38	-
X	1.5	2.0	.06	.08	DIA
Y	3.60	3.71	.142	.146	DIA

NOTES:
 1. POSITIVE TERMINAL - RED DOT
 2. NEGATIVE TERMINAL - BLACK DOT

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ELECTRICAL CHARACTERISTICS

Device Type	Maximum Leakage Current I_R @ V_{RWM}		Maximum Forward Voltage V_F @ 9A @ 25°C	Maximum Reverse Recovery Time. ¹ t_{rr}
	$T_j = 25^\circ\text{C}$	$T_j = 100^\circ\text{C}$		
	μA	μA	Volts	nS
SET111403	3.0	60	1.2	2000
SET111419	3.0	75	2.2	150
SET111412	3.0	60	1.2	2000
SET111404	3.0	60	1.5	150
SET111411	30.0	1.5mA	1.1	30

¹ Measured on discrete devices prior to assembly

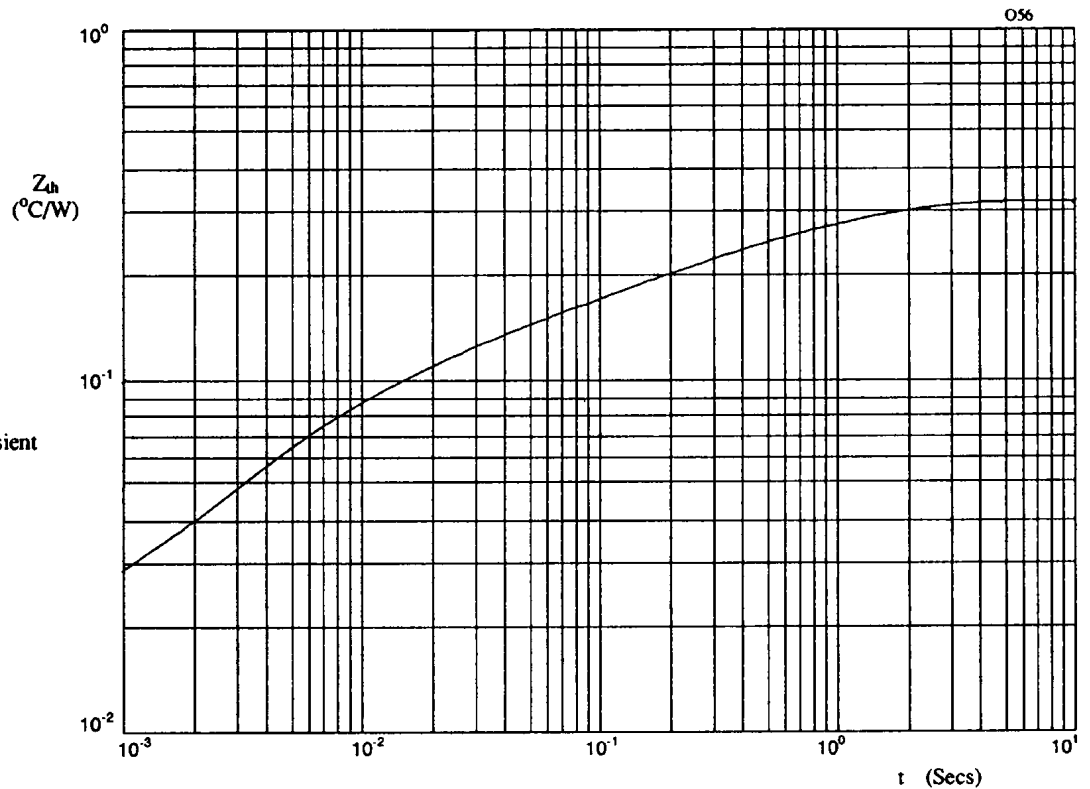


Figure 1. Typical transient thermal impedance characteristic.

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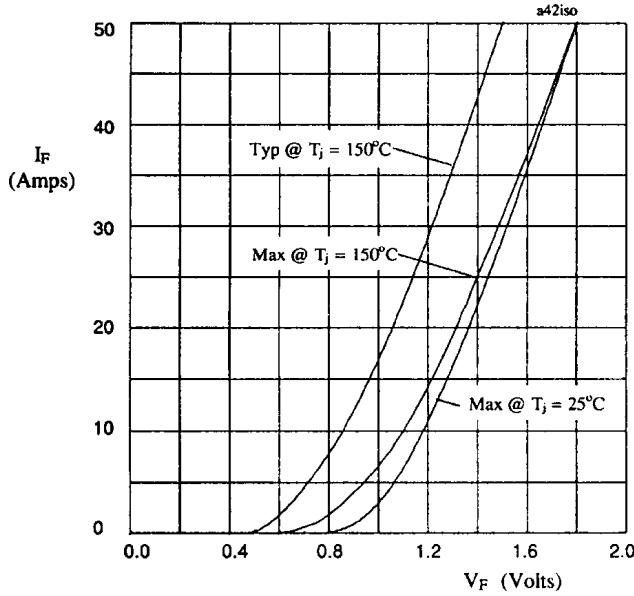


Figure 2. Forward voltage drop per leg as a function of forward current for SET111403 & SET111412.

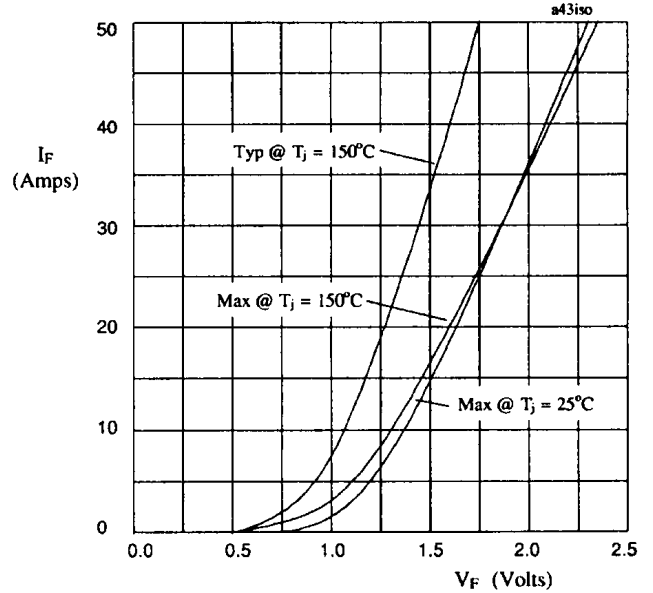


Figure 3. Forward voltage drop per leg as a function of forward current for SET111404.

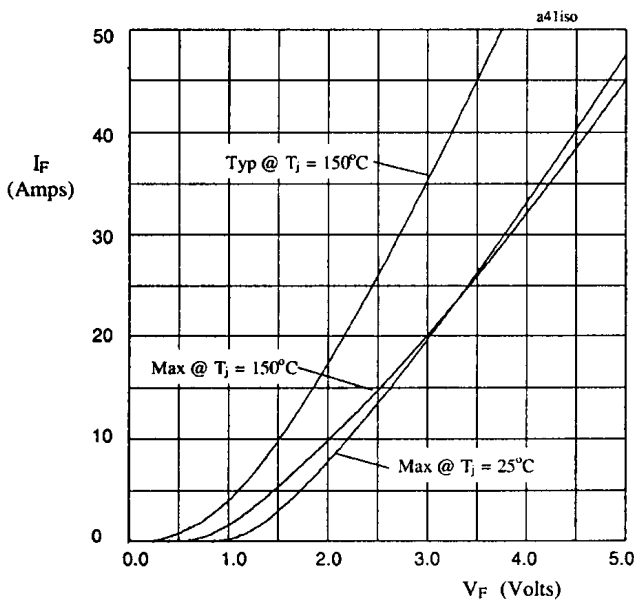


Figure 4. Forward voltage drop per leg as a function of forward current for SET111419.

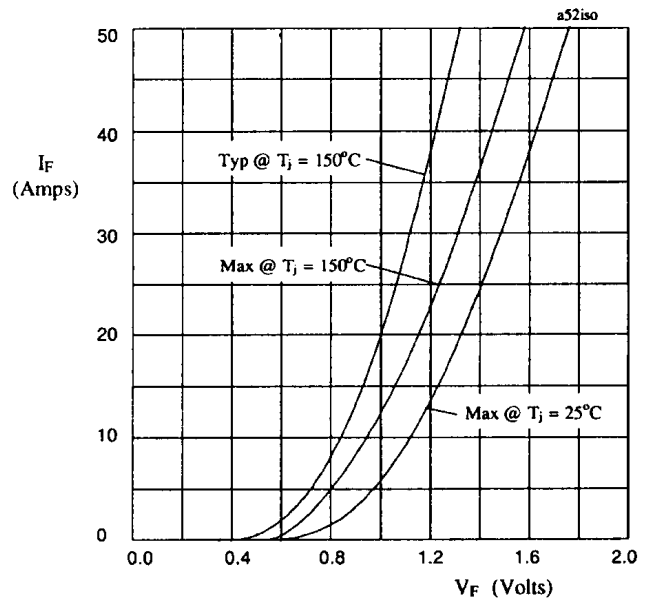


Figure 5. Forward voltage drop per leg as a function of forward current for SET111411.

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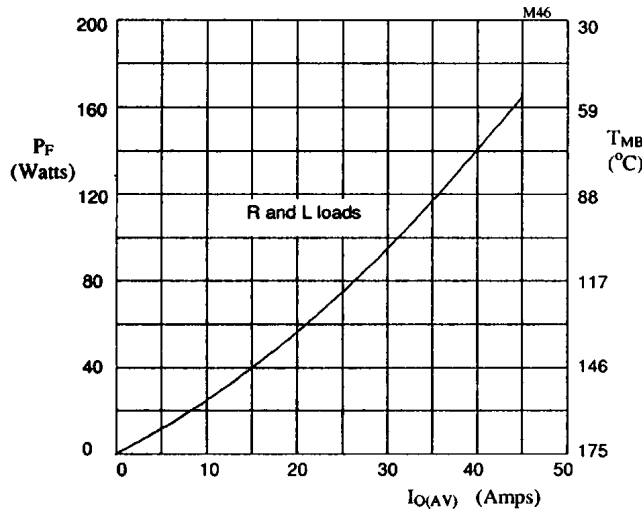


Figure 6. Forward power dissipation and maximum allowable mounting base temperature as a function of output current for sinusoidal operation, for SET111403 and SET111412.

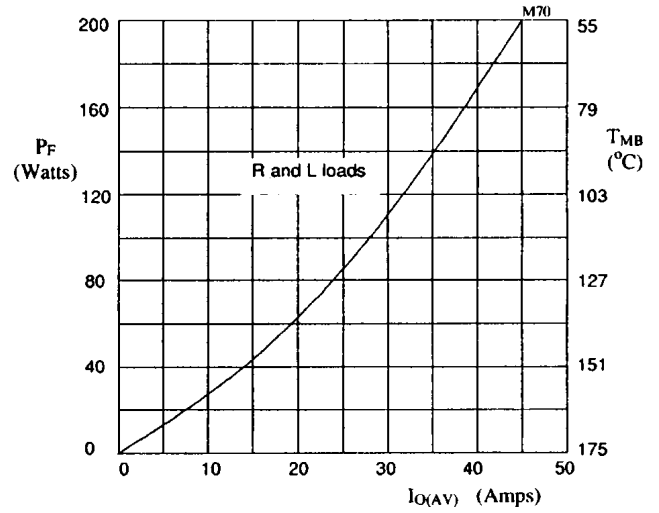


Figure 7. Forward power dissipation and maximum allowable mounting base temperature as a function of output current for sinusoidal operation, for SET111404.

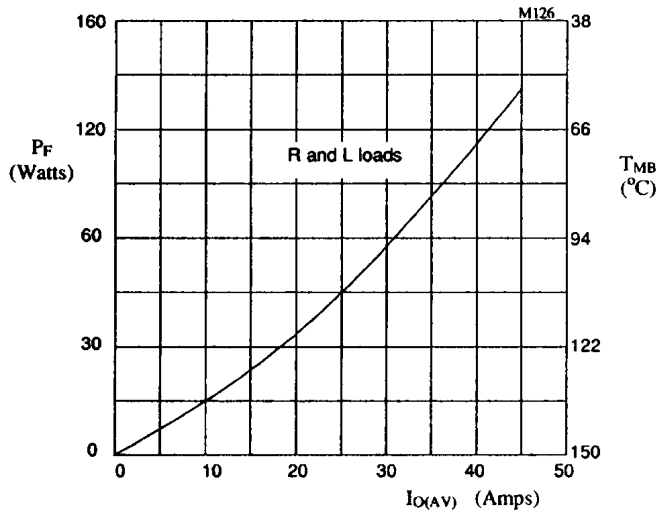


Figure 8. Forward power dissipation and maximum allowable mounting base temperature as a function of output current for sinusoidal operation, for SET111411.