January 29, 1998

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

HIGH CURRENT, HIGH DENSITY, FAST RECOVERY DOUBLER AND CENTER TAPS

- Very low reverse recovery time
- Low thermal impedance
- Low forward voltage drop
- High forward current applications
- High forward surge ratings

QUICK REFERENCE DATA

- V_R = 1000V
- I_F = 150A
- t_{rr} = 30nS
- I_{FSM} = 875A

ABSOLUTE MAXIMUM RATINGS

Device Type	Working Reverse Voltage V_{RWM}	Average Rectified Current (x0.5 for doubler output)			1 Cycle Surge Current t_p = 8.3mS	
		@ 25°C	@ 55°C	@ 100°C	@ 25°C	@ 100°C
	Volts	Amps	Amps	Amps	Amps	Amps
SCS*FF05L SCS*FF10L SCS*FF15L	50 100 150	150	130	- 85	875	700

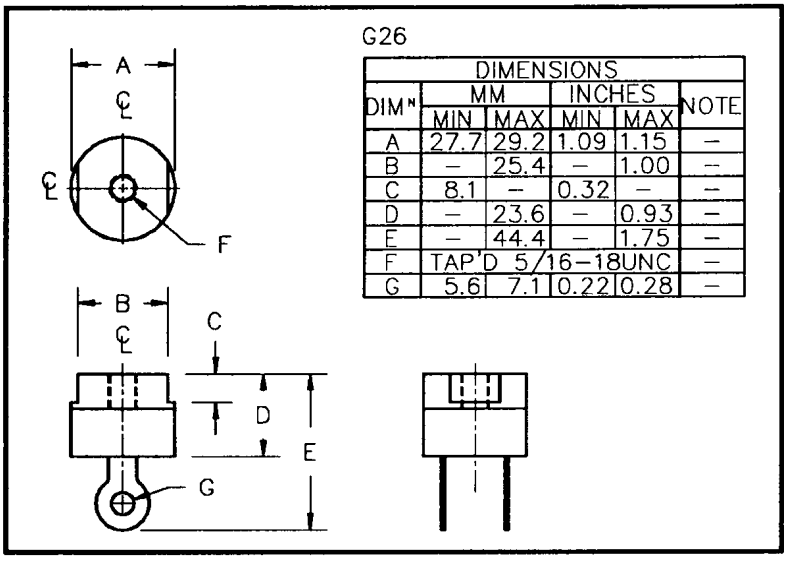
CHARACTERISTICS

Reverse Current @ V_{RWM}		Maximum Forward Voltages V_F @ 30A @ 25°C	Maximum Reverse Recovery Time t_{rr} @ 25°C
@ 25 °C	@ 100 °C		
µA	mA	Volts	nS
60	3.0	0.97	30

Add suffix for desired circuit arrangement
D = Doubler
N = Negative center tap
P = Positive center tap

Operating and Storage temperature range T_{OP} & T_{STG}	Maximum junction - case thermal impedance $R_{\theta JC}$
Volts	°C/W
-55 to +150	< 0.5

MECHANICAL



G26

DIM	DIMENSIONS MM MIN	MM MAX	INCHES MIN	INCHES MAX	NOTE
A	27.7	29.2	1.09	1.15	–
B	–	25.4	–	1.00	–
C	8.1	–	0.32	–	–
D	–	23.6	–	0.93	–
E	–	44.4	–	1.75	–
F	TAP'D 5/16–18UNC				–
G	5.6	7.1	0.22	0.28	–

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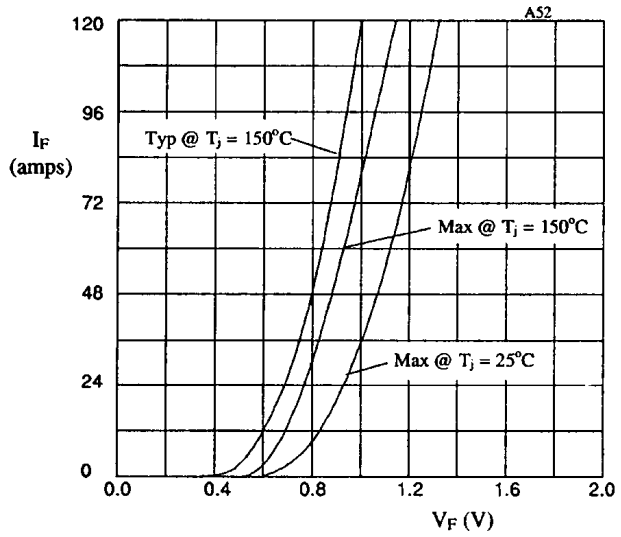

Fig 1. Maximum and typical forward voltage drop per leg as a function of forward current (T_j = 25°C & 150°C).

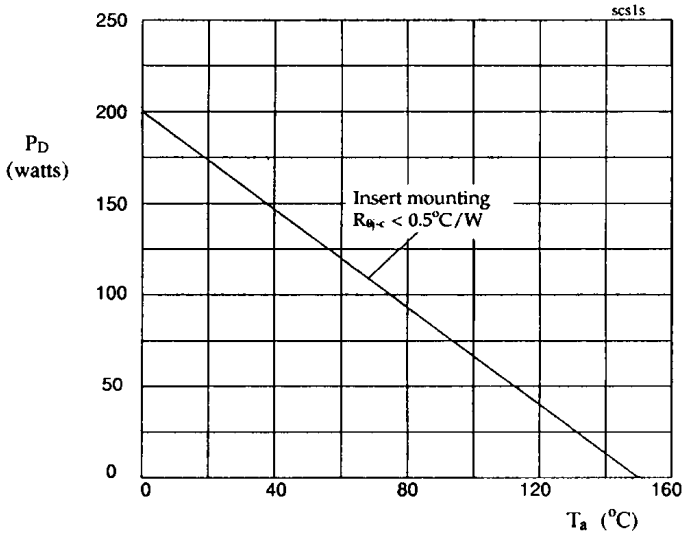

Fig 2. Power dissipation as a function of ambient temperature for different mountings.

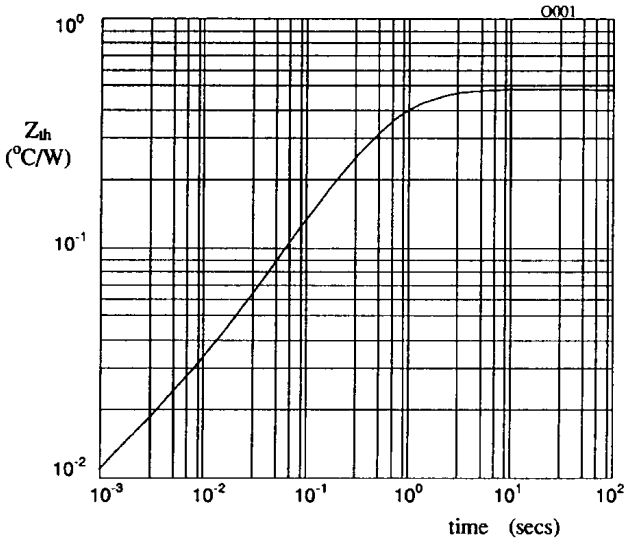

Figure 3. Transient thermal impedance characteristic when insert mounted.

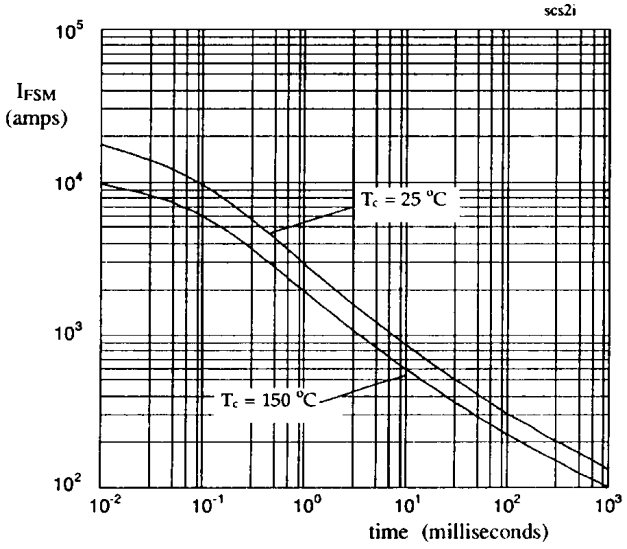

Figure 4. Maximum non-repetitive surge current against pulse width for 25°C and 150°C.