

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	50			—		
SCS*FF10L	100	150	130	85	875	700
SCS*FF15L	150					

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	Volts	nS
μA	mA		
60	3.0	0.97	30

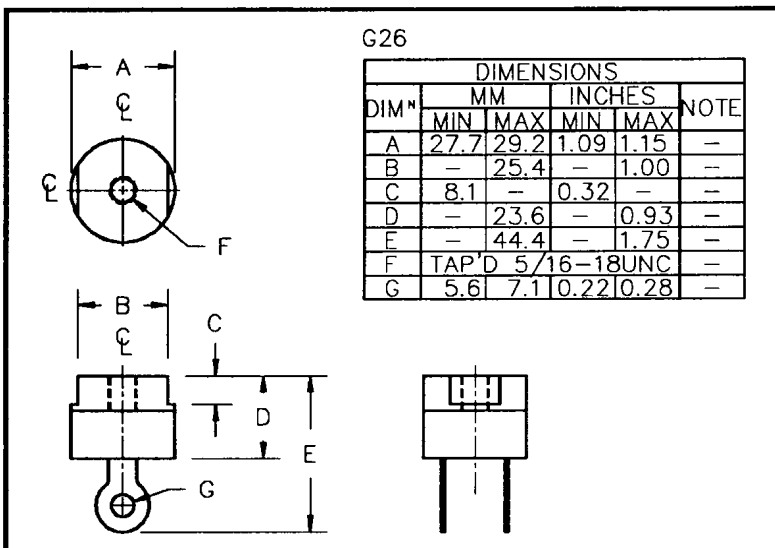
Add suffix for desired circuit arrangement

D = Doubler

N = Negative center tap

P = Positive center tap

MECHANICAL



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

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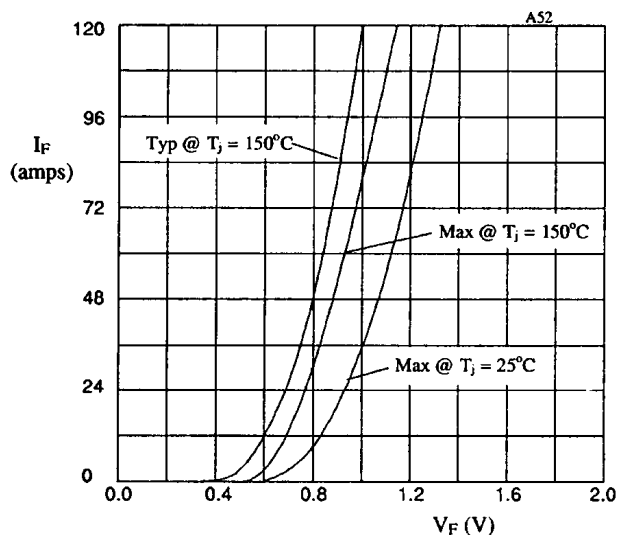


Fig 1. Maximum and typical forward voltage drop per leg as a function of forward current ($T_j = 25^\circ\text{C}$ & 150°C).

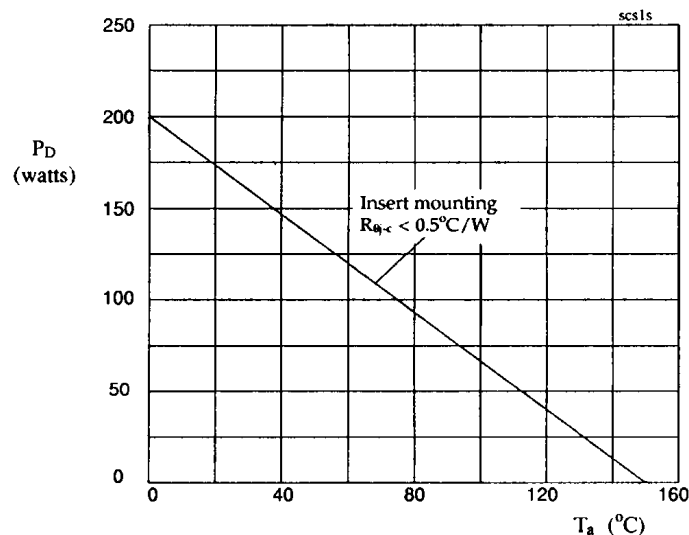


Fig 2. Power dissipation as a function of ambient temperature for different mountings.

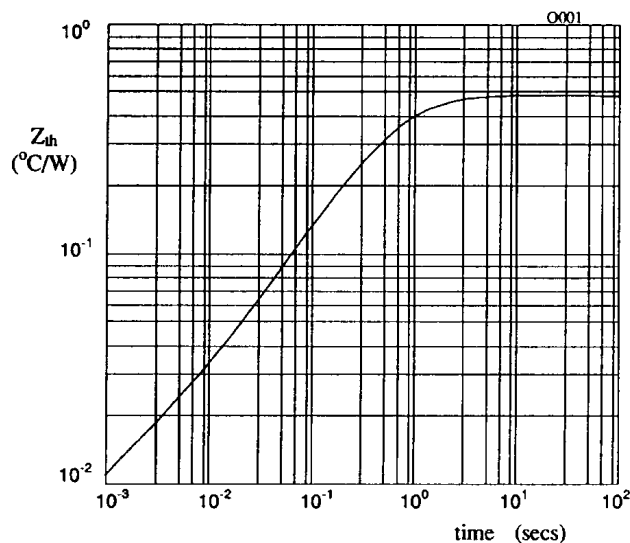


Figure 3. Transient thermal impedance characteristic when insert mounted.

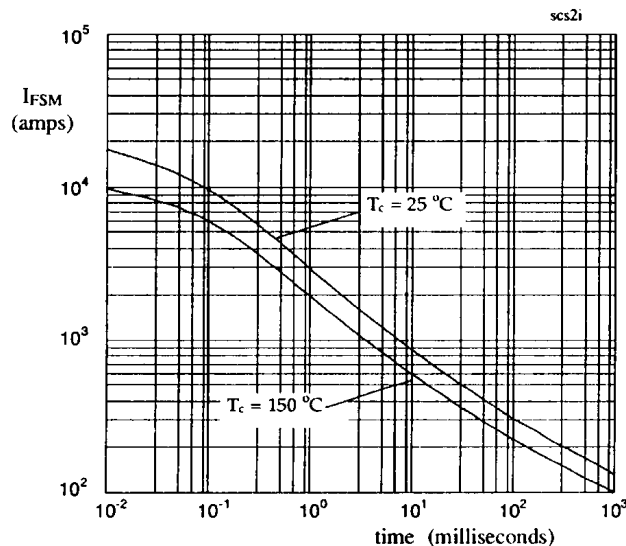


Figure 4. Maximum non-repetitive surge current against pulse width for 25°C and 150°C .