January 7, 1998 TEL:805-498-2111 FAX:805-498-3804 WEB:http://www.semtech.com

QUICK REFERENCE DATA

- V_R= 6000V
- I_F= 500mA
- t_{rr}= 350nS
- V_F= 11.2V

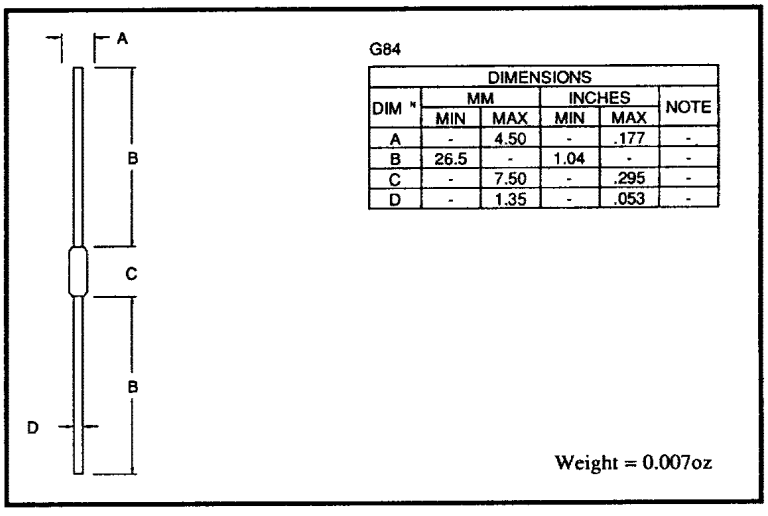
AXIAL LEADED HERMETICALLY SEALED HIGH VOLTAGE FAST RECTIFIER DIODE

- Low reverse recovery time
- High thermal shock resistance
- Glass passivated for hermetic sealing
- Low switching losses
- Soft, non-snap off, recovery characteristics

ABSOLUTE MAXIMUM RATINGS (@ 25°C unless otherwise specified)

	Symbol	PF75	Unit
Working reverse voltage	V_{RWM}	6000	V
Repetitive reverse voltage	V_{RRM}	7500	V
Surge reverse voltage	V_{RSM}	8000	V
Average forward current (@ 55°C in oil)	$I_{F(AV)}$	500	mA
Repetitive surge current (@ 55°C in oil, lead length 0.375")	I_{FRM}	5	A
Non-repetitive surge current (t_p = 8.3mS, @ V_R & T_{jmax})	I_{FSM}	22	A
Storage temperature range	T_{STG}	-65 to +165	°C
Operating temperature range	T_{OP}	-65 to +165	°C

MECHANICAL



January 7, 1998

CHARACTERISTICS (@ 25°C unless otherwise specified)

	Symbol	PF75	Unit
Average forward current max. (pcb mounted; T_A = 55°C)			
for sine wave	$I_{F(AV)}$	180	mA
for square wave (d = 0.5)	$I_{F(AV)}$	185	mA
Average forward current max. (unstirred oil at 55°C)			
for sine wave	$I_{F(AV)}$	490	mA
for square wave	$I_{F(AV)}$	500	mA
I^2t for fusing (t = 8.3mS) max.	I^2t	2.0	A^2S
Forward voltage drop max. @ I_F = 550mA, T_j = 25°C	V_F	11.2	V
Reverse current max.			
@ V_{RWM}, T_j = 25°C	I_R	5.0	µA
@ V_{RWM}, T_j = 100°C	I_R	50	µA
Reverse recovery time max. 50mA I_F to 100mA I_R. Recover to 25mA I_{RR}.	t_{rr}	350	nS
Junction capacitance typ. @ V_R = 5V , f = 1MHz	C_j	4.0	pF
Thermal resistance - junction to oil			
Stirred oil	$R_{\theta JO}$	18	°C/W
Unstirred oil	$R_{\theta JO}$	24	°C/W
Thermal resistance - junction to amb. on 0.06" thick pcb. 1oz copper.	$R_{\theta JA}$	80	°C/W

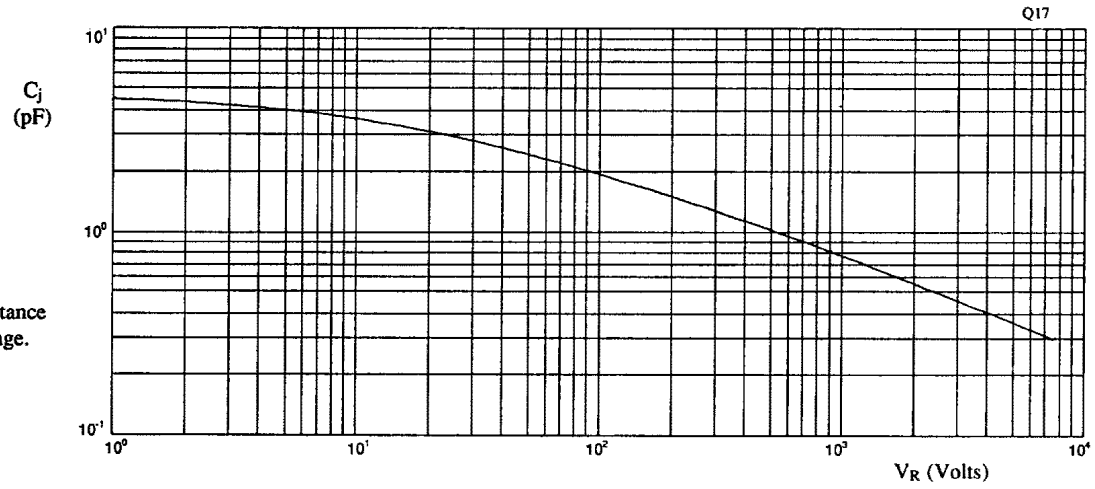


Fig 1. Junction capacitance against reverse voltage.

January 7, 1998

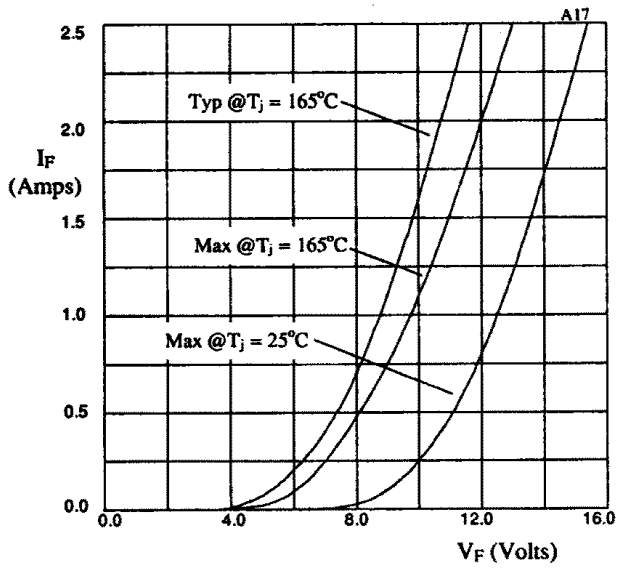


Fig 2. Forward voltage drop as a function of forward current.

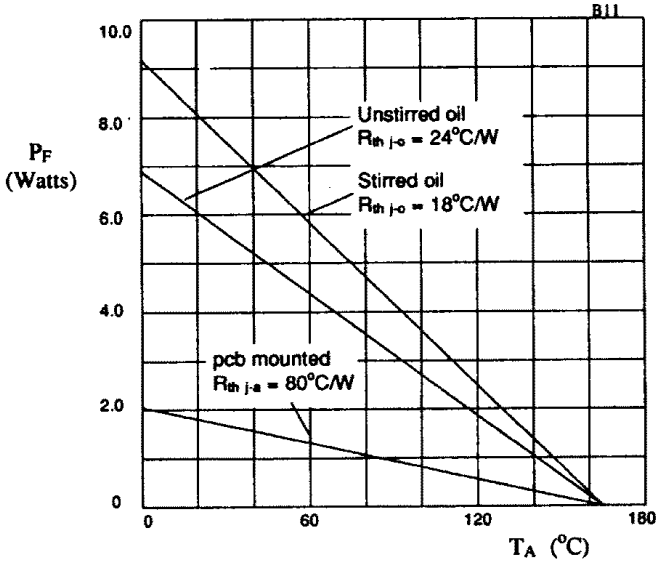


Fig 3. Power derating in air and oil.

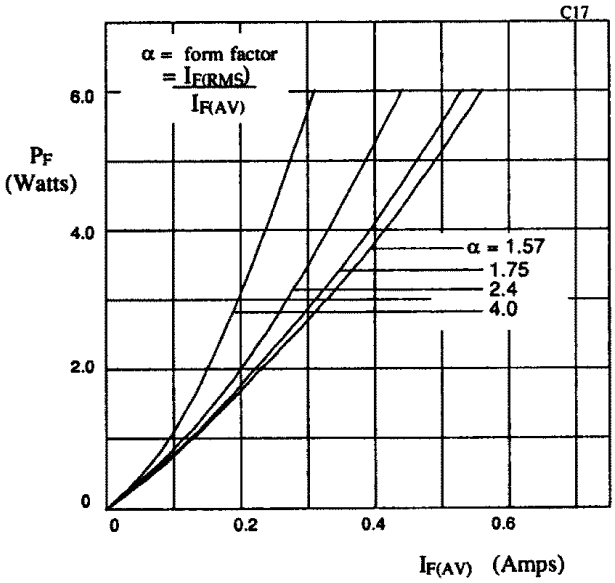


Fig 4. Forward power dissipation as a function of forward current, for sinusoidal operation.

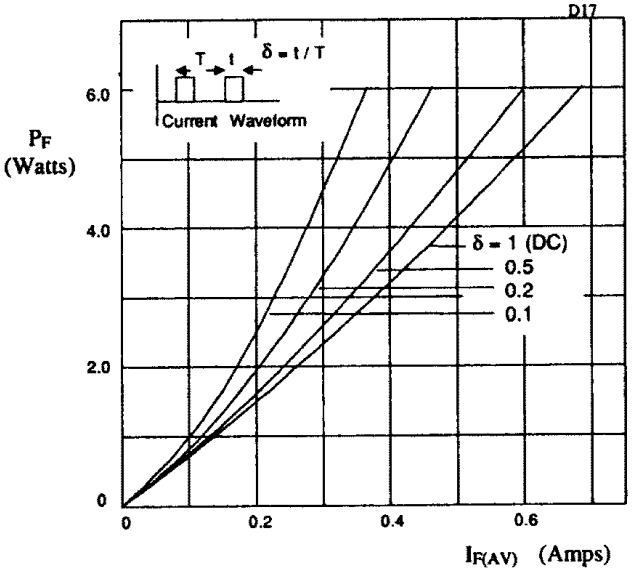


Fig 5. Forward power dissipation as a function of forward current, for square wave operation.