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

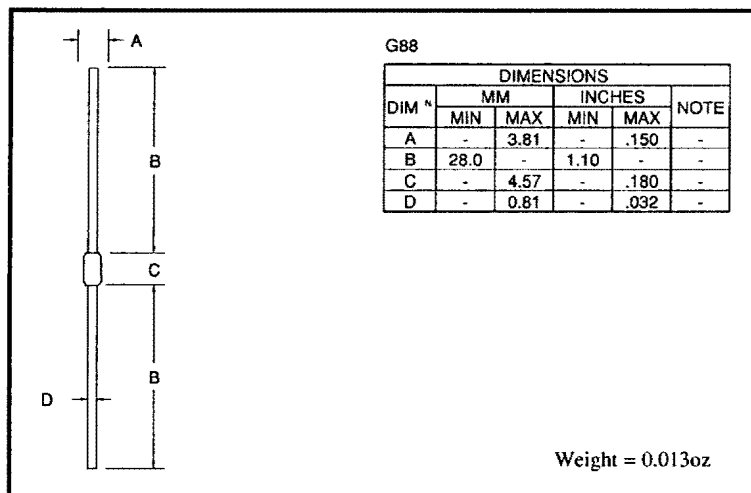## AXIAL LEADED HERMETICALLY SEALED FAST RECTIFIER DIODE

- Low reverse recovery time
- Glass passivated for hermetic sealing
- Low switching losses
- Soft, non-snap off, recovery characteristics
- Avalanche capability

QUICK REFERENCE DATA

- V_R = 800 & 1000V
- I_F = 1.8A
- t_{rr} = 300nS
- I_R = 1μA

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

	Symbol	PF8	PF0	Unit
Working reverse voltage	V_{RWM}	800	1000	V
Repetitive reverse voltage	V_{RRM}	800	1000	V
Surge reverse voltage	V_{RSM}	900	1100	V
Average forward current (@ 55°C, lead length 0.375")	$I_{F(AV)}$	← 1.8 →		A
Repetitive surge current (@ 55°C in free air, lead length 0.375")	I_{FRM}	← 10 →		A
Non-repetitive surge current (t_p = 8.3mS, @ V_R & T_{jmax})	I_{FSM}	← 38 →		A
Storage temperature range	T_{STG}	-65 to +175		°C
Operating temperature range	T_{OP}	-65 to +175		°C

MECHANICAL

G88

DIM N	MM MIN	MM MAX	INCHES MIN	INCHES MAX	NOTE
A	-	3.81	-	.150	-
B	28.0	-	1.10	-	-
C	-	4.57	-	.180	-
D	-	0.81	-	.032	-

Weight = 0.013oz

These products are available in Europe to DEF STAN 59-61 (PART 80)/043 to F and FX levels.

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ELECTRICAL CHARACTERISTICS (@ 25°C unless otherwise specified)

	Symbol	PF8 PF0	Unit
Average forward current max. (pcb mounted; $T_A = 55^oC$) for sine wave	$I_{F(AV)}$	← 0.95 →	A
for square wave (d = 0.5)	$I_{F(AV)}$	← 1.00 →	A
Average forward current max. ($T_L = 55^oC$; L = 3/8") for sine wave	$I_{F(AV)}$	← 1.70 →	A
for square wave	$I_{F(AV)}$	← 1.80 →	A
I^2t for fusing (t = 8.3mS) max.	I^2t	← 6.0 →	A^2S
Forward voltage drop max. @ $I_F = 1.5A$, $T_j = 25^oC$	V_F	← 1.35 →	V
Reverse current max. @ V_{RWM}, $T_j = 25^oC$	I_R	← 1.0 →	μA
@ V_{RWM}, $T_j = 100^oC$	I_R	← 10 →	μA
Reverse recovery time max. 0.5A I_F to 1.0A I_R. Recovers to 0.25A I_{RR}.	t_{rr}	← 300 →	nS
Junction capacitance typ. @ $V_R = 5V$, f = 1MHz	C_j	← 18 →	ρF

THERMAL CHARACTERISTICS

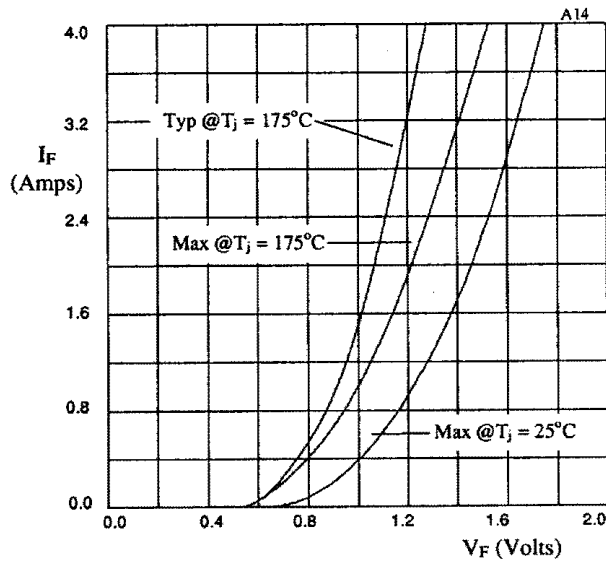|	Symbol	PF8 PF0	Unit
Thermal resistance - junction to lead Lead length = 0"	$R_{\theta JL}$	← 19 →	$^oC/W$
Lead length = 0.375"	$R_{\theta JL}$	← 47 →	$^oC/W$
Thermal resistance - junction to amb. on 0.06" thick pcb. 1 oz. copper.	$R_{\theta JA}$	← 100 →	$^oC/W$

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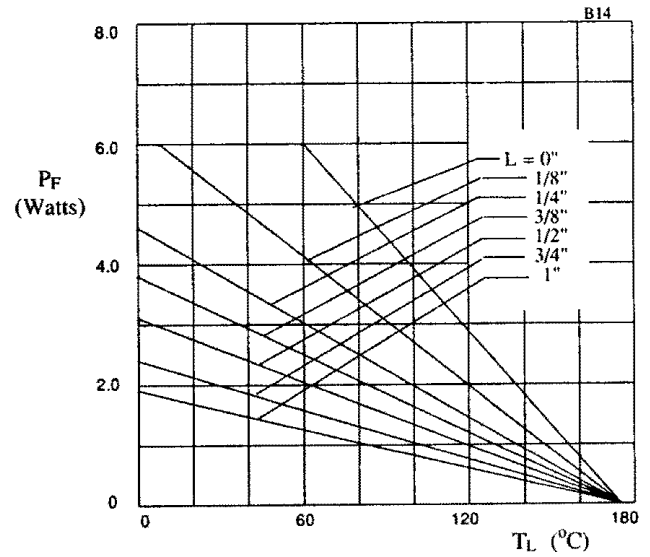Fig 1. Forward voltage drop as a function
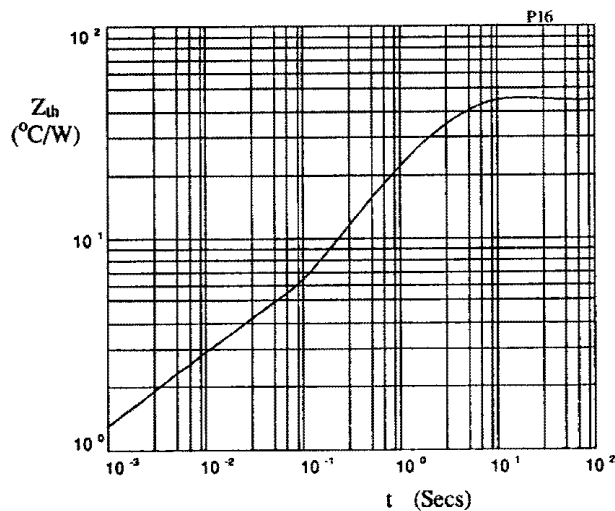of forward current.

Fig 2. Maximum power versus lead temperature.
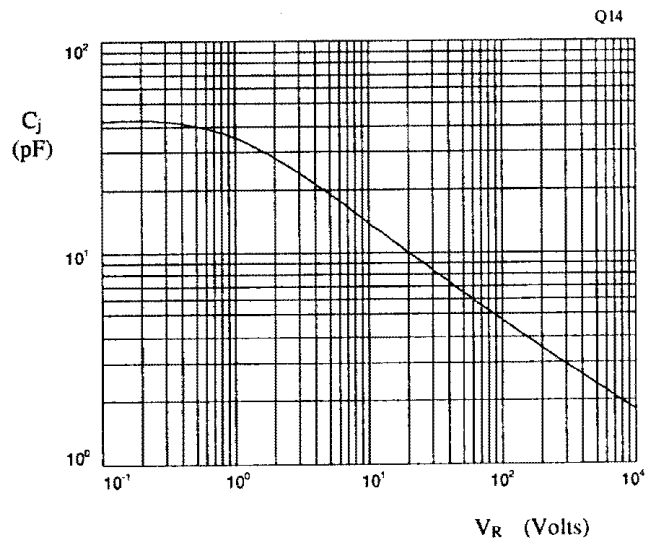

Fig 3. Transient thermal impedance characteristic.

Fig 4. Typical junction capacitance as a function of
reverse voltage.

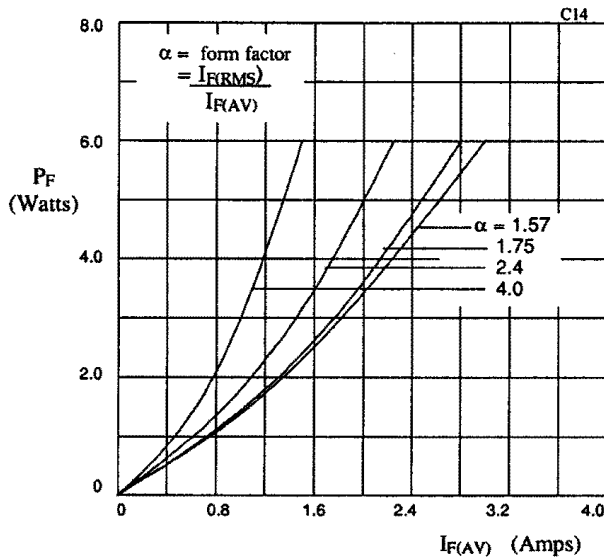652 MITCHELL ROAD NEWBURY PARK CA 91320

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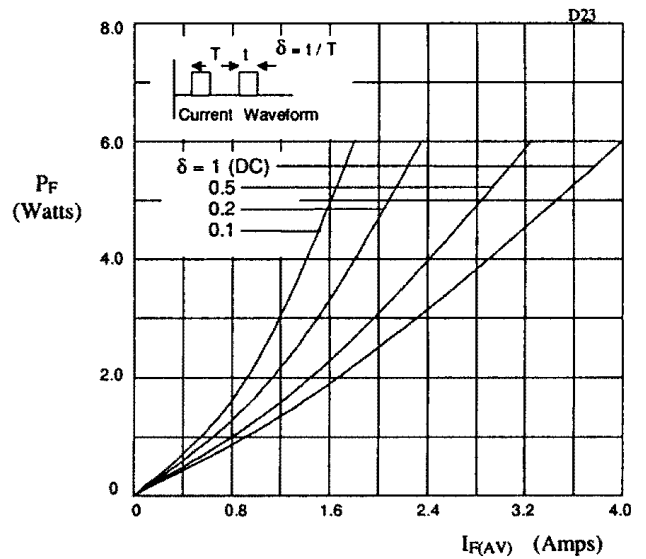

Fig 6. Forward power dissipation as a function of forward current, for square wave operation.
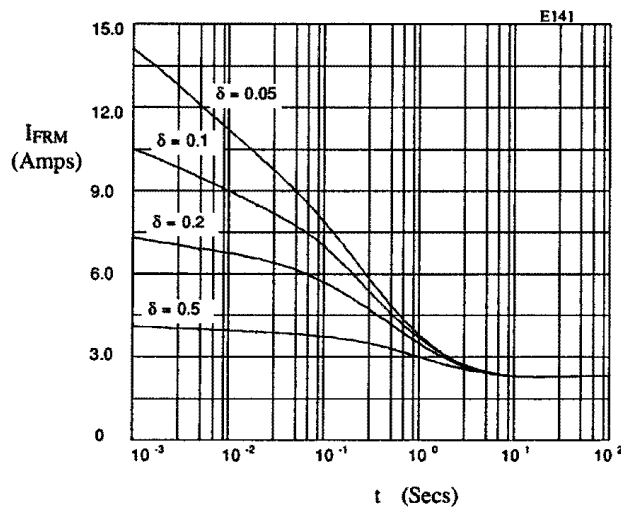

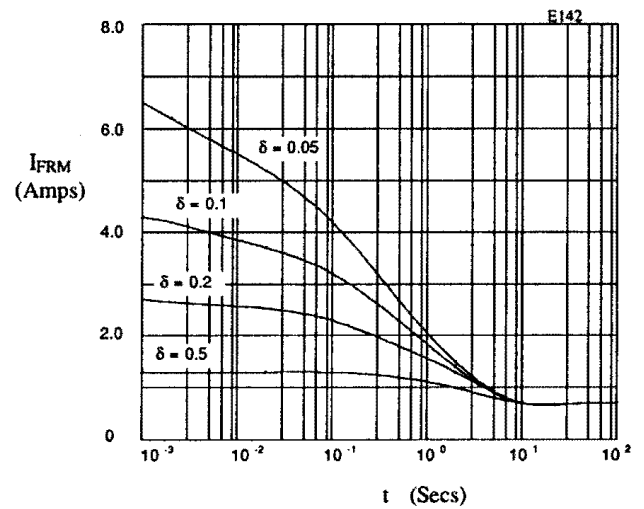Fig 7. Typical repetitive forward current as a function of pulse width at 55°C; $R_{\theta JL}$ = 45 °C/W; V_{RWM} during 1 - δ.

Fig 8. Typical repetitive forward current as a function of pulse width at 100°C; $R_{\theta JL}$ = 100 °C/W; V_{RWM} during 1 - δ.