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

AXIAL LEADED HERMETICALLY SEALED STANDARD RECOVERY RECTIFIER DIODE

- Low reverse current
- Glass passivated for hermetic sealing
- Low forward voltage drop
- Avalanche capability
- Good thermal shock resistance

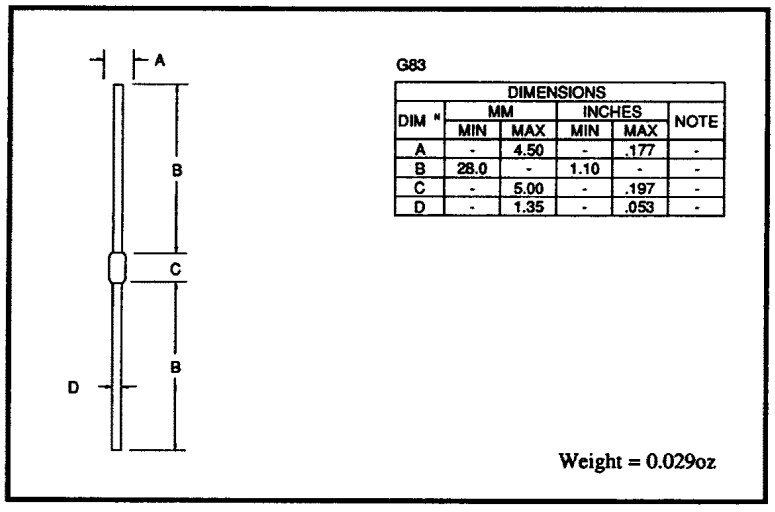
QUICK REFERENCE DATA

- V_R = 200 - 1000V
- I_F = 3.5A
- t_{rr} = 2.5µS
- I_R = 1µA

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

	Symbol	3PM2	3PM4	3PM6	3PM8	3PM0	Unit
Working reverse voltage	V_{RWM}	200	400	600	800	1000	V
Repetitive reverse voltage	V_{RRM}	200	400	600	800	1000	V
Surge reverse voltage	V_{RSM}	225	450	650	900	1100	V
Average forward current (@ 55°C lead length 0.375")	$I_{F(AV)}$	← 3.50 →					A
Repetitive surge current (@ 55°C in free air, lead length 0.375")	I_{FRM}	← 20 →					A
Non-repetitive surge current (t_p = 8.3mS, @ V_R & T_{jmax})	I_{FSM}	← 80 →					A
Storage temperature range	T_{STG}	← -65 to +175 →					°C
Operating temperature range	T_{OP}	← -65 to +175 →					°C

MECHANICAL



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CHARACTERISTICS (@ 25°C unless otherwise specified)

	Symbol	3PM2	3PM4	3PM6	3PM8	3PM0	Unit
Average forward current (sine wave)							
- max. pcb mounted; T_A = 55°C	$I_{F(AV)}$	←		1.5		→	A
- max. L = 3/8"; T_L = 55°C	$I_{F(AV)}$	←		3.5		→	A
I^2t for fusing (t = 8.3mS) max.	I^2t	←		31		→	A^2S
Forward voltage drop max. @ I_F = 3.0A, T_j = 25°C	V_F	←		1.15		→	V
Reverse current max.							
@ V_{RWM}, T_j = 25°C	I_R	←		1.0		→	µA
@ V_{RWM}, T_j = 100°C	I_R	←		10		→	µA
Reverse recovery time typ. 0.5A I_F to 1.0A I_R. Recovers to 0.25A I_{RR}.	t_{rr}	←		2.5		→	µS
Junction capacitance typ. @ V_R = 5V , f = 1MHz	C_j	←		33		→	pF
Thermal resistance - junction to lead							
Lead length = 0.375"	$R_{\theta JL}$	←		26		→	°C/W
Lead length = 0"	$R_{\theta JL}$	←		12		→	°C/W
Thermal resistance - junction to amb. on 0.06" thick pcb. 1oz copper.	$R_{\theta JA}$	←		75		→	°C/W

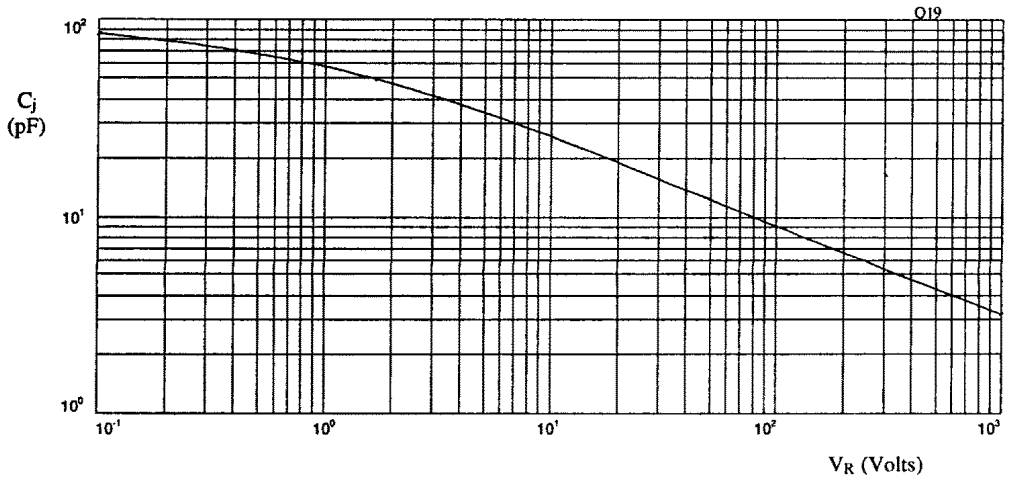

Fig 1. Typical junction capacitance as a function of reverse voltage at f = 1MHz.

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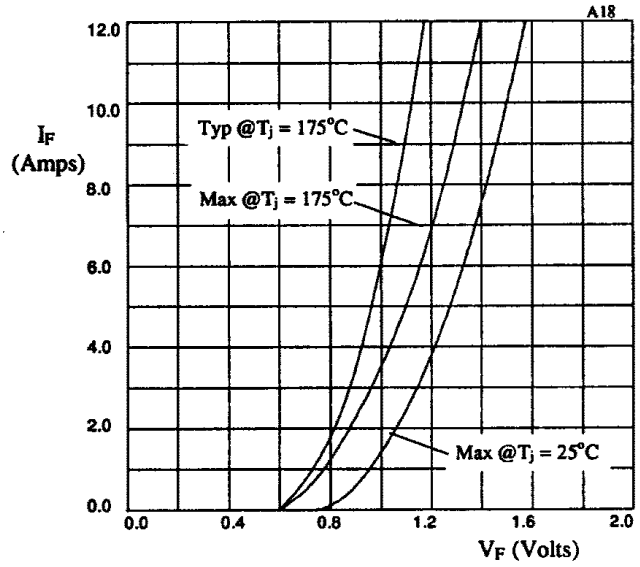

Fig 2. Forward voltage drop as a function of forward current.

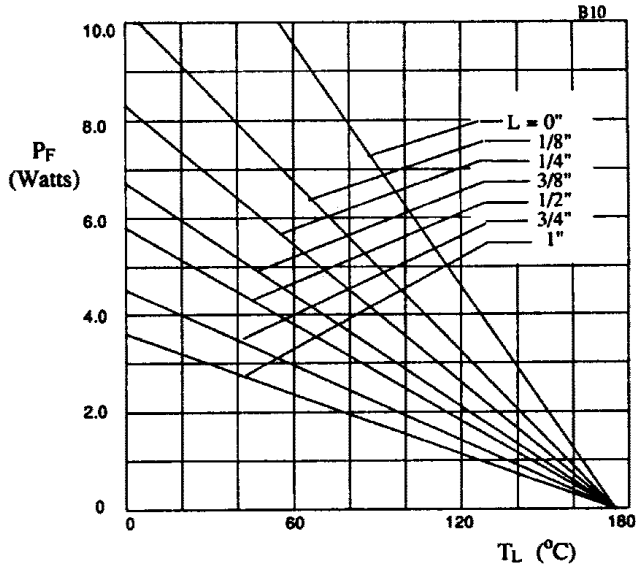

Fig 3. Maximum power versus lead temperature.

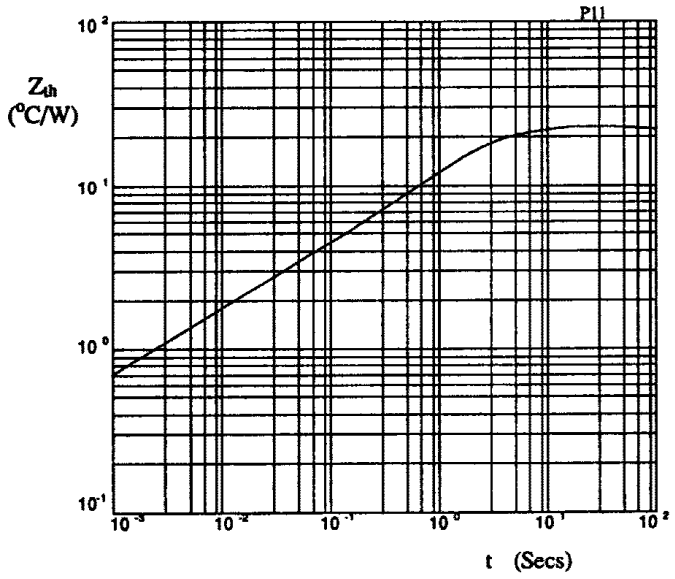

Fig 4. Transient thermal impedance characteristic.

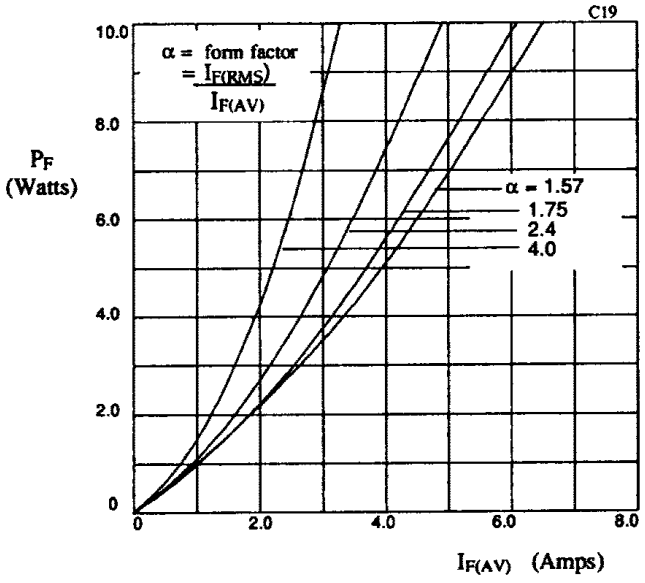

Fig 5. Forward power dissipation as a function of forward current, for sinusoidal operation.