

SEMTECH**RECTIFIER, up to 1kV, 3.5A, 2.5 μ s****3PM2****3PM4****3PM6****3PM8****3PM0**

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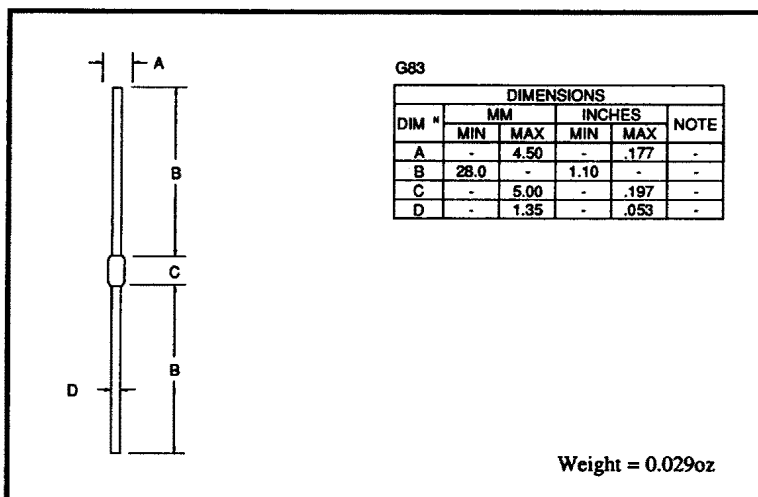
TEL:805-498-2111 FAX:805-498-3804 WEB:<http://www.semtech.com>**AXIAL LEADED HERMETICALLY SEALED
STANDARD RECOVERY RECTIFIER DIODE****QUICK REFERENCE
DATA**

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

- $V_R = 200 - 1000V$
- $I_F = 3.5A$
- $t_{rr} = 2.5\mu s$
- $I_R = 1\mu A$

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

January 7, 1998

CHARACTERISTICS (@ 25°C unless otherwise specified)

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

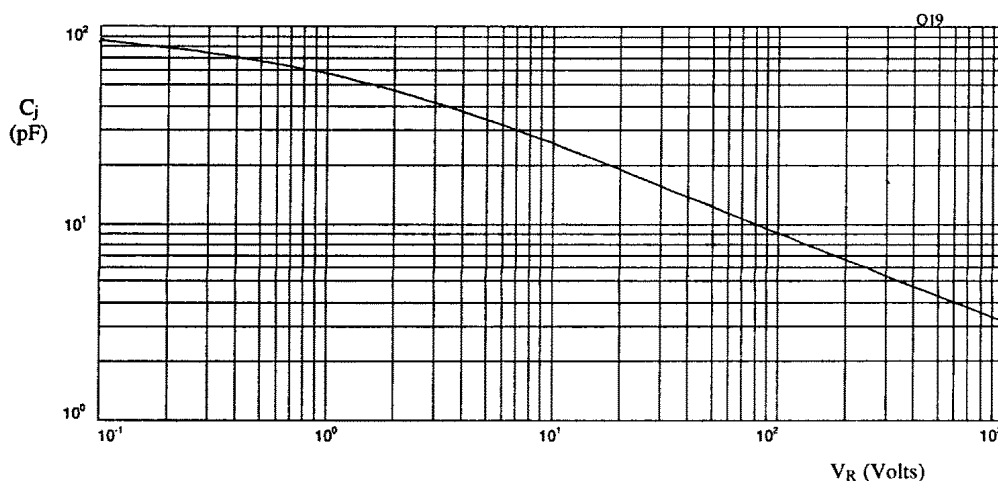


Fig 1. Typical junction capacitance as a function of reverse voltage at $f = 1\text{MHz}$.

January 7, 1998

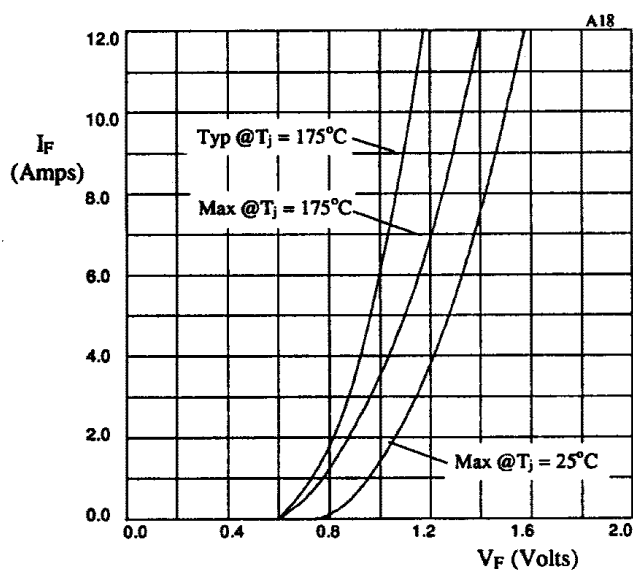


Fig 2. Forward voltage drop as a function of forward current.

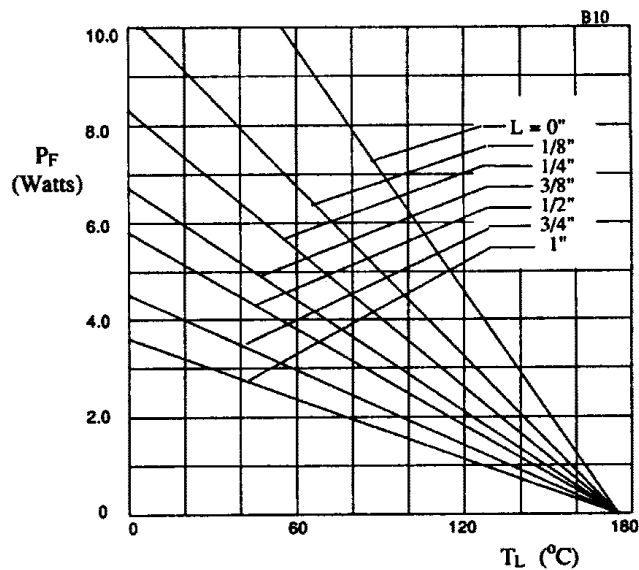


Fig 3. Maximum power versus lead temperature.

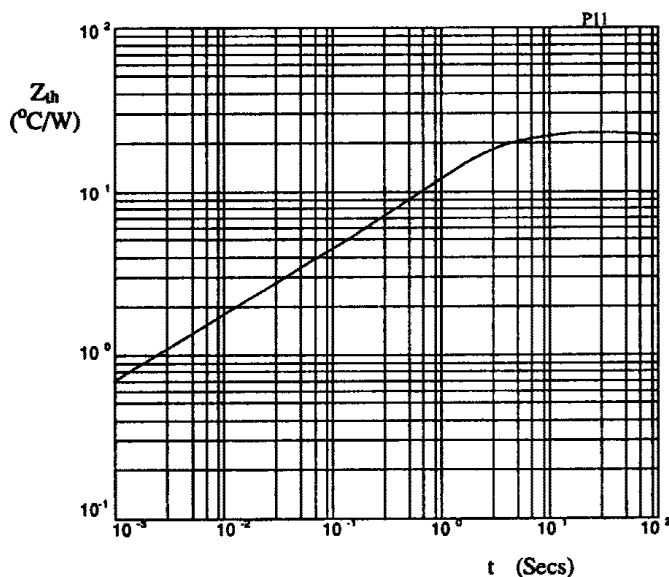


Fig 4. Transient thermal impedance characteristic.

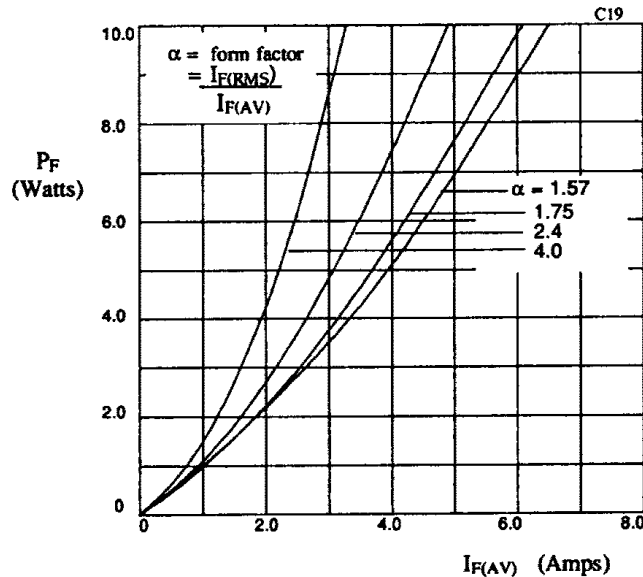


Fig 5. Forward power dissipation as a function of forward current, for sinusoidal operation.