

January 8, 1998

TEL:805-498-2111 FAX:805-498-3804 WEB:<http://www.semtech.com>HIGH DENSITY, HIGH VOLTAGE, FAST RECOVERY
SILICON RECTIFIER ASSEMBLY

- Low reverse recovery time
- Low reverse leakage currents
- Low distributed and ground capacitance
- Corona free design
- Air or oil environments

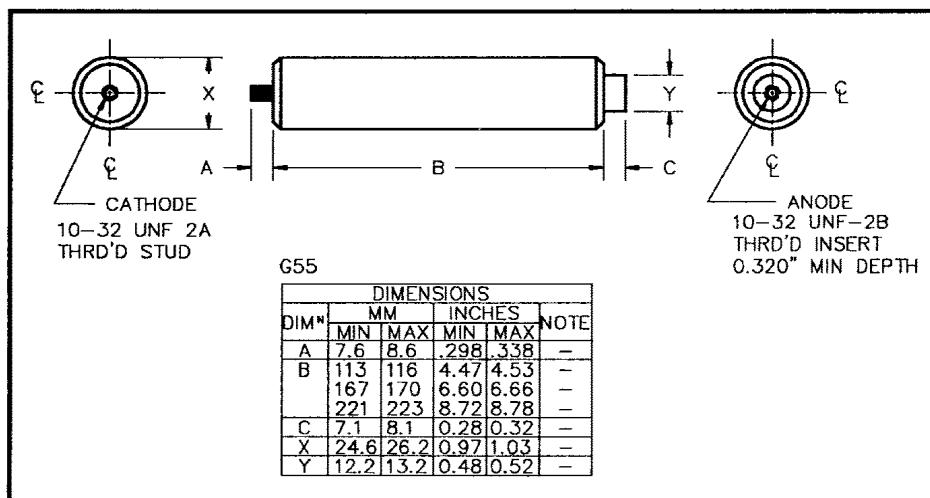
QUICK
REFERENCE DATA

- V_R = 30kV - 60kV
- I_F = 200mA
- t_{rr} = 300nS
- I_R = 1.0 μ A

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

	Symbol	SCKV30K12F	SCKV45K12F	SCKV60K12F	Unit
Working reverse voltage	VRWM	30	45	60	kV
Average forward current in air @ 25°C	IF(AV)	200	200	200	mA
in oil @ 55°C		800	800	800	mA
in forced air 600CFM		400	400	400	mA
Non-repetitive surge current $t_p = 8.3\text{mS}$, @ 25°C	IFSM	10	10	10	A
Storage temperature range	TSTG	-55 to +150	-55 to +150	-55 to +150	°C
Operating temperature range	TOP	-55 to +150	-55 to +150	-55 to +150	°C
Body length $\pm 0.030"$	dim B	4.53	6.66	8.78	inches

MECHANICAL



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ELECTRICAL CHARACTERISTICS (@ 25°C unless otherwise specified)

	Symbol	SCKV30K12F	SCKV45K12F	SCKV60K12F	Unit
Max. forward voltage drop @ $I_F = 100\text{mA}$, $T_j = 25^\circ\text{C}$	V_F	60	95	125	V
Max. reverse leakage current @ V_{RWM} , $T_j = 25^\circ\text{C}$	I_R	1.0			μA
@ V_{RWM} , $T_j = 100^\circ\text{C}$	I_R	25			μA
Max. reverse recovery time ¹ 0.5A I_F to 1.0A I_R . Recovery to 0.25A I_{RR} .	t_{rr}	300			nS
Max. fusing current $t_p = 8.3\text{mS}$	I^2t	0.4			A^2s

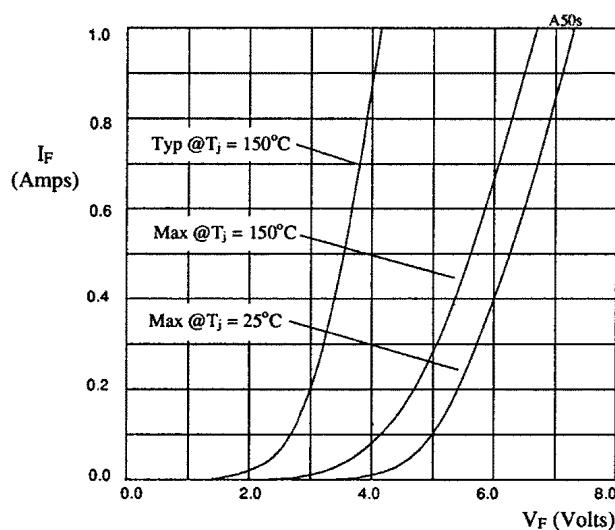
¹ Measured on discrete devices prior to assembly

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

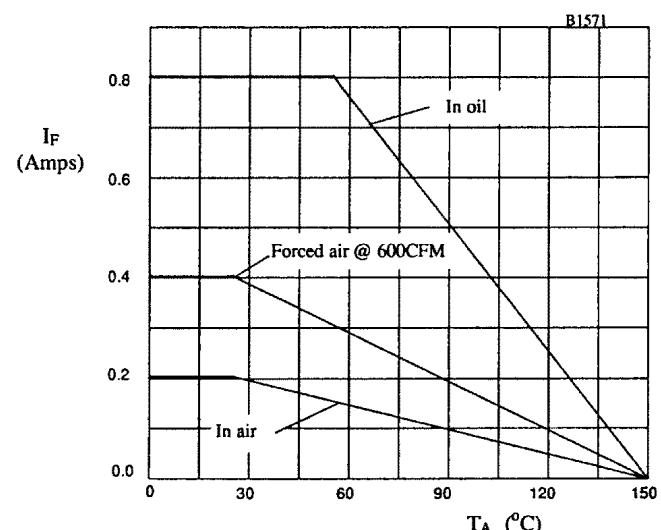


Fig 2. Maximum average forward current against ambient temperature.

Multiplication tables for fig 1.

DEVICE	X-axis
SCKV30K12F	x12
SCKV40K12F	x19
SCKV60K12F	x25