

January 8, 1998

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### HIGH DENSITY, HIGH VOLTAGE, FAST RECOVERY SILICON RECTIFIER ASSEMBLY

### QUICK REFERENCE DATA

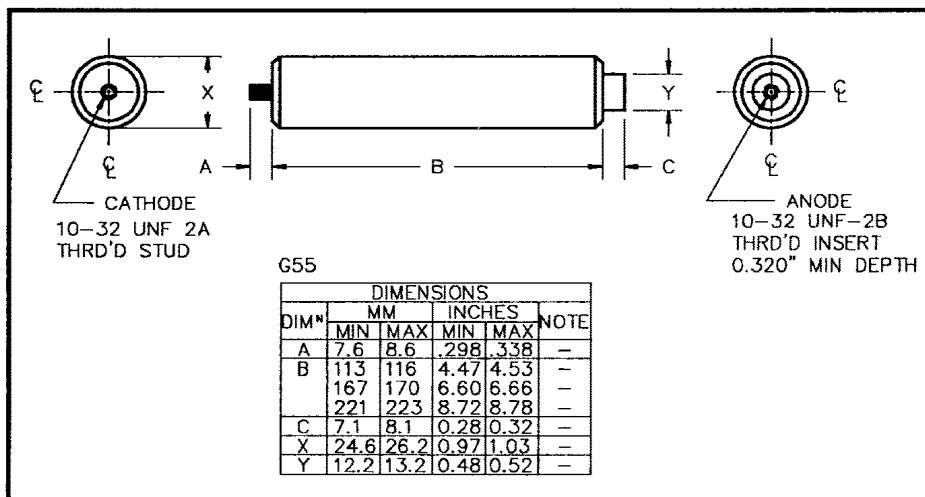
- Low reverse recovery time
- Low reverse leakage currents
- Low distributed and ground capacitance
- Corona free design
- Air or oil environments

- $V_R = 30\text{kV} - 60\text{kV}$
- $I_F = 200\text{mA}$
- $t_{rr} = 300\text{nS}$
- $I_R = 1.0\mu\text{A}$

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

	Symbol	SCKV30K12F	SCKV45K12F	SCKV60K12F	Unit
Working reverse voltage	$V_{RWM}$	30	45	60	kV
Average forward current in air @ 25°C in oil @ 55°C in forced air 600CFM	$I_{F(AV)}$	← 200 →	← 800 →	← 400 →	mA mA mA
Non-repetitive surge current $t_p = 8.3\text{mS}$ , @ 25°C	$I_{FSM}$	← 10 →			A
Storage temperature range	$T_{STG}$	← -55 to +150 →			°C
Operating temperature range	$T_{OP}$	← -55 to +150 →			°C
Body length ±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 @ $V_{RWM}$ , $T_j = 25^\circ\text{C}$ @ $V_{RWM}$ , $T_j = 100^\circ\text{C}$	$I_R$	← 1.0 →			$\mu\text{A}$
	$I_R$	← 25 →			$\mu\text{A}$
Max. reverse recovery time <sup>1</sup> 0.5A $I_F$ to 1.0A $I_R$ . Recovers to 0.25A $I_{RR}$ .	$t_{rr}$	← 300 →			nS
Max. fusing current $t_p = 8.3\text{mS}$	$I^2t$	← 0.4 →			$\text{A}^2\text{S}$

<sup>1</sup> Measured on discrete devices prior to assembly

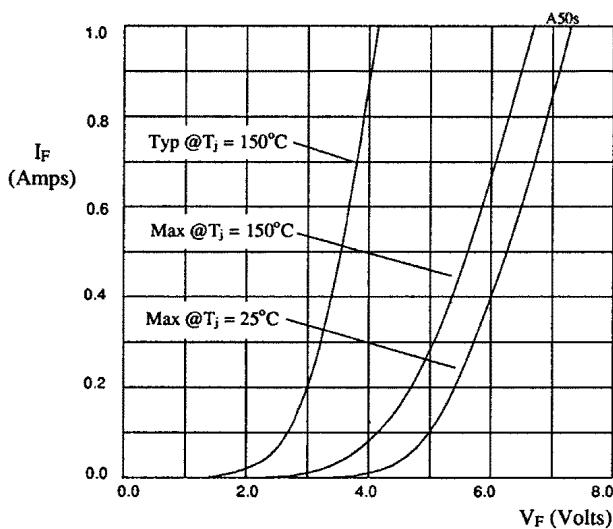


Fig 1. Forward voltage drops as a function of forward current.

Multiplication tables for fig 1.

DEVICE	X-axis
SCKV30K12F	x12
SCKV40K12F	x19
SCKV60K12F	x25

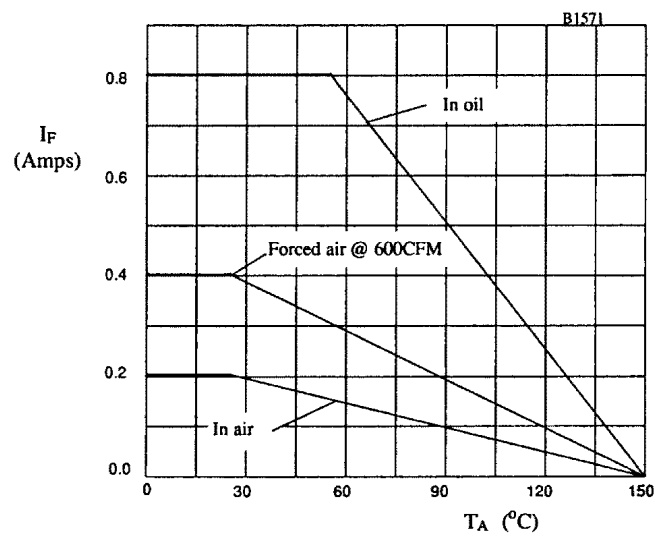


Fig 2. Maximum average forward current against ambient temperature.