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

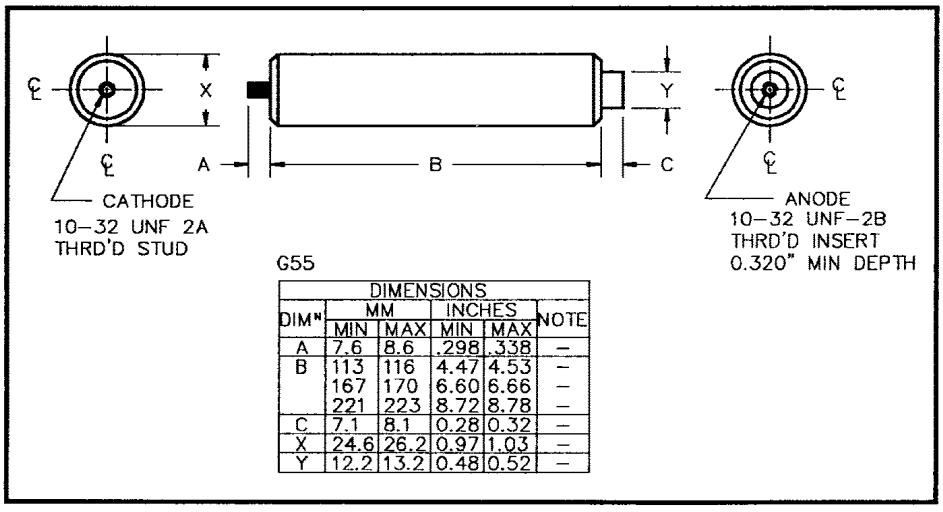
QUICK REFERENCE DATA

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

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	$I_{F(AV)}$				
in air @ 25°C		←	200	→	mA
in oil @ 55°C		←	800	→	mA
in forced air 600CFM		←	400	→	mA
Non-repetitive surge current t_p = 8.3mS, @ 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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DIM"	DIMENSIONS MM MIN	MM MAX	INCHES MIN	INCHES MAX	NOTE
A	7.6	8.6	.298	.338	–
B	113	116	4.47	4.53	–
	167	170	6.60	6.66	–
	221	223	8.72	8.78	–
C	7.1	8.1	0.28	0.32	–
X	24.6	26.2	0.97	1.03	–
Y	12.2	13.2	0.48	0.52	–

ELECTRICAL CHARACTERISTICS (@ 25°C unless otherwise specified)

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

[1] Measured on discrete devices prior to assembly

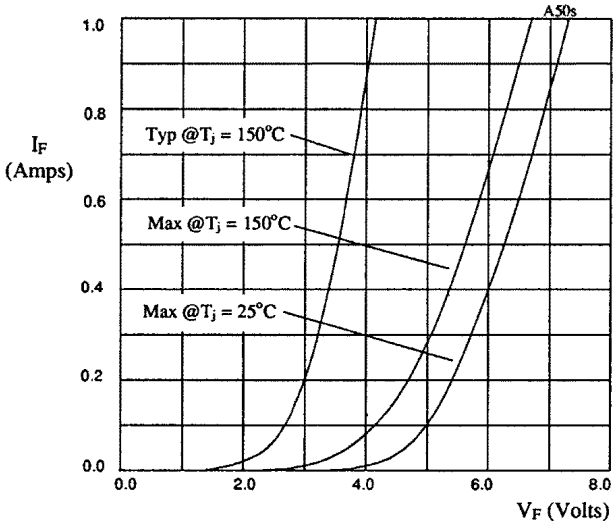

Fig 1. Forward voltage drops as a function of forward current.

Multiplication tables for fig 1.

DEVICE	X-axis
SCKV30K12F	x12
SCKV40K12F	x19
SCKV60K12F	x25

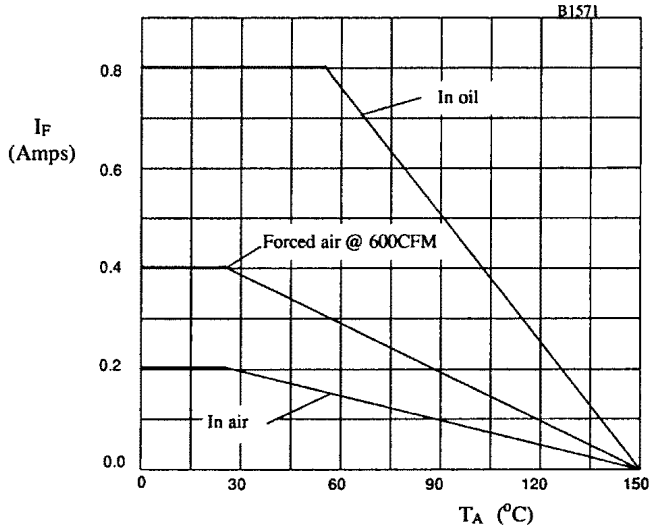

Fig 2. Maximum average forward current against ambient temperature.