

January 8, 1998

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HIGH DENSITY, HIGH VOLTAGE, STANDARD RECOVERY RECTIFIER ASSEMBLY

- High reverse voltages
- Low reverse leakage current
- Low distributed and ground capacitance
- Corona free design
- Air or oil environments

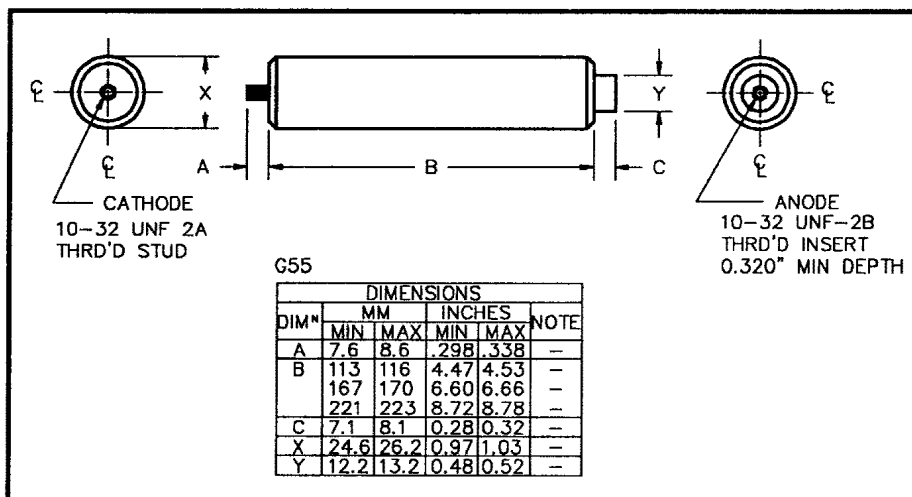
QUICK REFERENCE DATA

- $V_R = 33\text{kV} - 66\text{kV}$
- $I_F = 300\text{mA}$
- $t_{rr} = 2.5\mu\text{s}$
- $I_R = 1.0\mu\text{A}$

ABSOLUTE MAXIMUM RATINGS

	Symbol	SCKV33K12	SCKV45K12	SCKV66K12	Unit
Working reverse voltage	V_{RWM}	33	45	66	kV
Surge reverse voltage	V_{RSM}	36.3	49.5	72.6	kV
Average forward current in air @ 25°C in oil @ 55°C in forced air 600 CFM	$I_{F(AV)}$	← 300 →	← 1200 →	← 600 →	mA mA mA
Non-repetitive surge current $t_p = 8.3\text{ms}$, @ 25°C	I_{FSM}	← 14.0 →			A
Storage temperature range	T_{STG}	← -55 to +150 →			°C
Operating temperature range	T_{OP}	← -55 to +150 →			°C
Body length Max.	dim B	4.53	6.66	8.78	inches

MECHANICAL



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ELECTRICAL CHARACTERISTICS

	Symbol	SCKV33K12	SCKV45K12	SCKV66K12	Unit
Max. forward voltage drop @ $I_F = 1.0A$, $T_j = 25^\circ C$	V_F	60.0	95.0	125.5	V
Max. reverse leakage current @ V_{RWM} , $T_j = 25^\circ C$	I_R	←—————	1.0	—————→	μA
@ V_{RWM} , $T_j = 100^\circ C$	I_R	←—————	20	—————→	μA
Max. reverse recovery time 0.5A I_F to 1.0A I_R . Recovers to 0.25A I_{RR} .	t_{rr}	←—————	2.5	—————→	μS
Max. fusing current $t_p = 8.3ms$	I^2t	←—————	0.8	—————→	A^2S

1. Measured on discrete devices prior to assembly

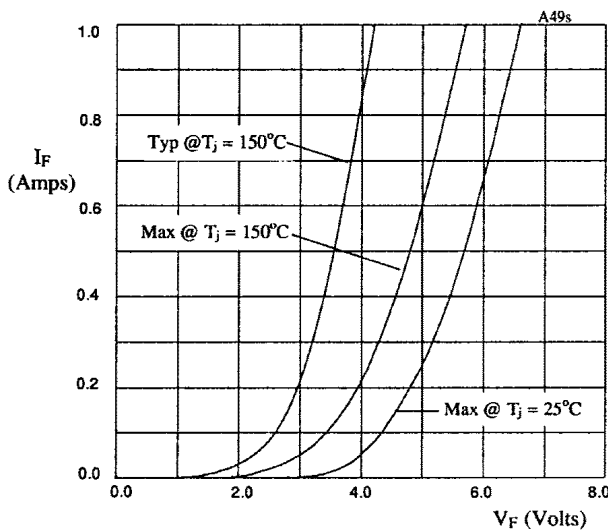


Fig 1. Forward voltage drop as a function of forward current for use with multiplication table.

Multiplication tables for fig 1.

SCKV33K12	X-axis x12
SCKV45K12	X-axis x19
SCKV66K12	X-axis x25

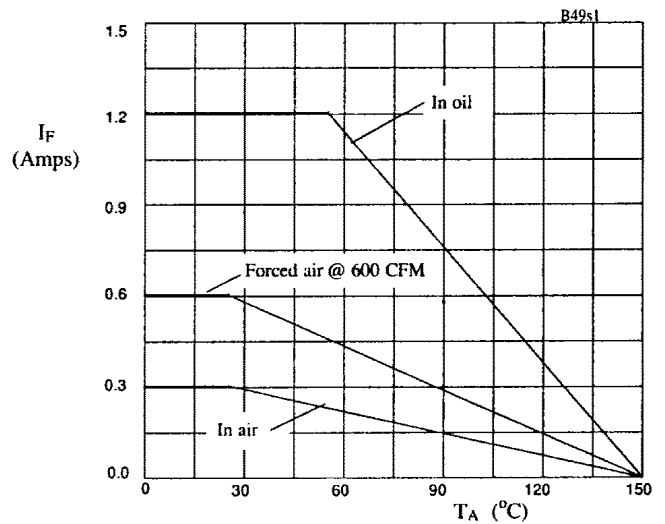


Fig 2. Maximum average forward current against ambient temperature.