

January 8, 1998

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

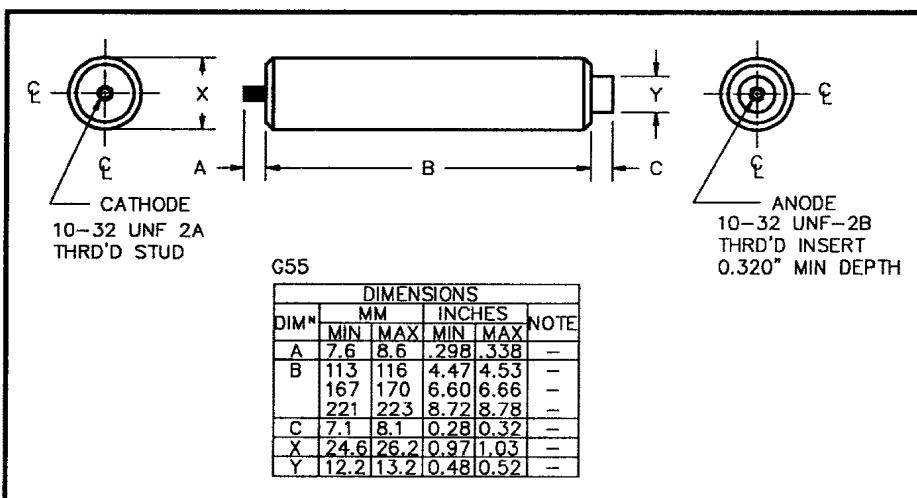
- High reverse voltages
- Low reverse leakage current
- Low distributed and ground capacitance
- Corona free design
- Air or oil environments

**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	$I_{F(AV)}$	300	300	300	mA
in oil @ 55°C		1200	1200	1200	mA
in forced air 600 CFM		600	600	600	mA
Non-repetitive surge current $t_p = 8.3\text{mS}$ , @ 25°C	$I_{FSM}$	14.0	14.0	14.0	A
Storage temperature range	$T_{STG}$	-55 to +150	-55 to +150	-55 to +150	°C
Operating temperature range	$T_{OP}$	-55 to +150	-55 to +150	-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			$\mu A$
@ $V_{RWM}$ , $T_j = 100^\circ C$	$I_R$	20			$\mu A$
Max. reverse recovery time 0.5A $I_F$ to 1.0A $I_{RR}$ Recover to 0.25A $I_{RR}$	$t_{rr}$	2.5			$\mu S$
Max. fusing current $t_p = 8.3ms$	$I^2t$	0.8			$A^2S$

1. Measured on discrete devices prior to assembly

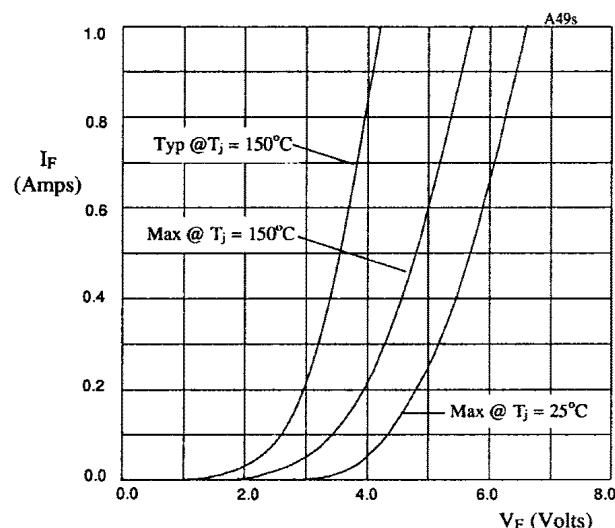


Fig 1. Forward voltage drop as a function of forward current for use with multiplication table.

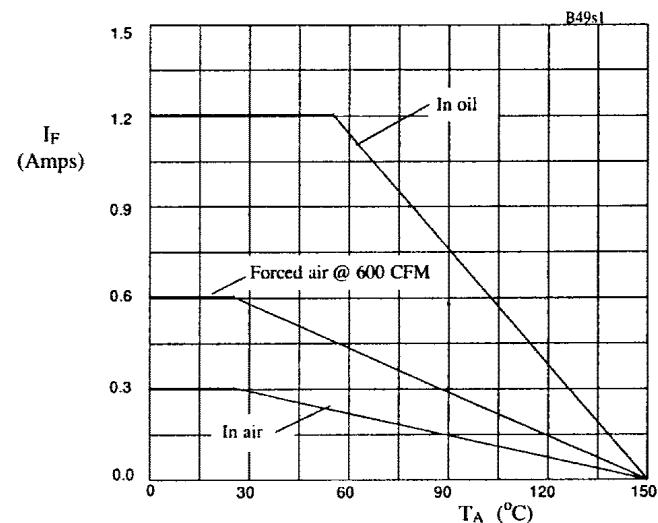


Fig 2. Maximum average forward current against ambient temperature.

Multiplication tables for fig 1.

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

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