

SEMTECH

**STANDARD RECOVERY
HIGH VOLTAGE
RECTIFIER ASSEMBLY**

**SCKV33K12
SCKV45K12
SCKV66K12**

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HIGH DENSITY, HIGH VOLTAGE, STANDARD RECOVERY RECTIFIER ASSEMBLY

QUICK REFERENCE DATA

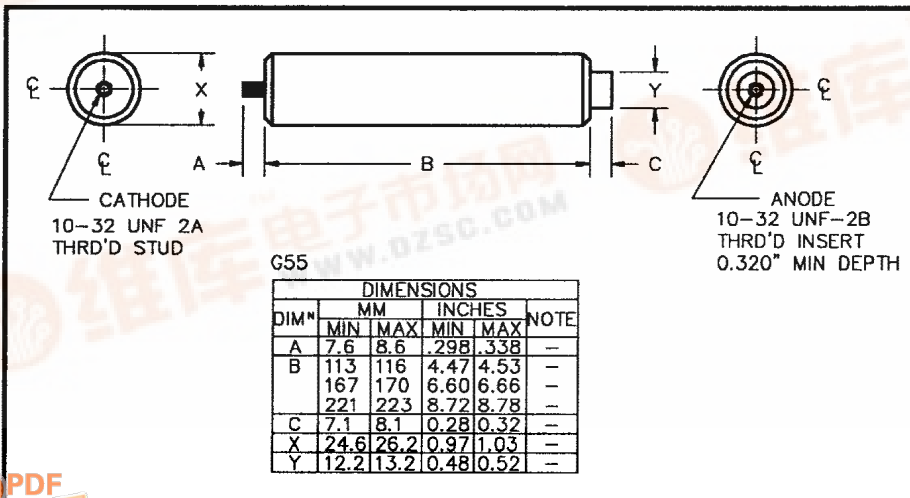
- High reverse voltages
- Low reverse leakage current
- Low distributed and ground capacitance
- Corona free design
- Air or oil environments

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

ABSOLUTE MAXIMUM RATINGS

	Symbol	SCKV33K12	SCKV45K12	SCKV66K12	Unit
Working reverse voltage	VRWM	33	45	66	kV
Surge reverse voltage	VRSM	36.3	49.5	72.6	kV
Average forward current in air @ 25°C in oil @ 55°C in forced air 600 CFM	IF(AV)	← 300 →	← 1200 →	← 600 →	mA mA mA
Non-repetitive surge current $t_p = 8.3\text{ms}, @ 25^\circ\text{C}$	IFSM	← 14.0 →			A
Storage temperature range	TSTG	← -55 to +150 →			°C
Operating temperature range	TOP	← -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

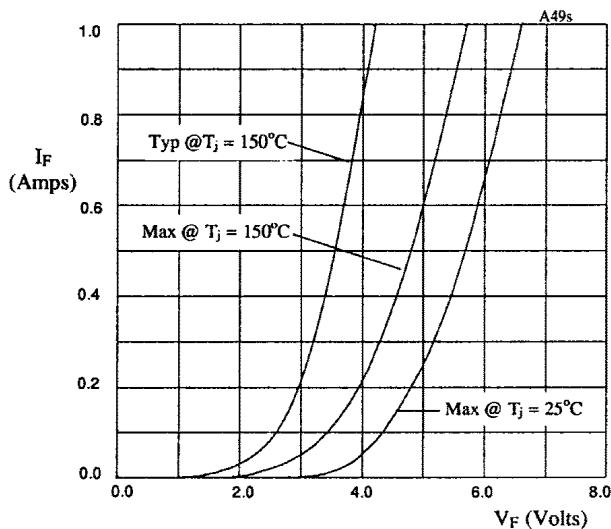


Fig 1. Forward voltage drop as a function of forward current for use with multiplication table.

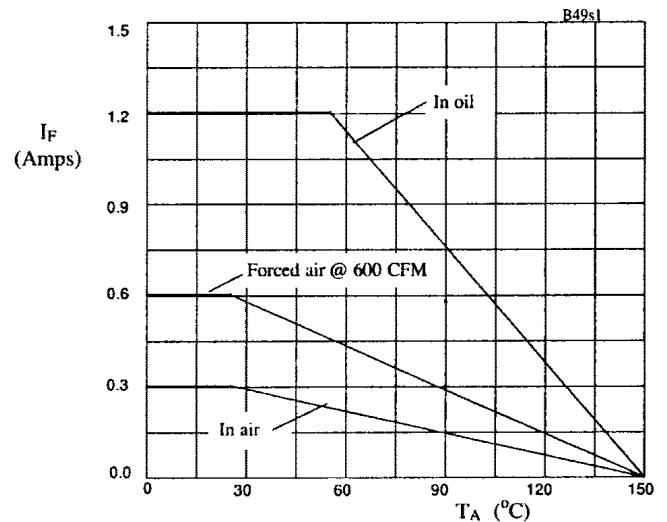


Fig 2. Maximum average forward current against ambient temperature.

Multiplication tables for fig 1.

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