

January 8, 1998

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## HIGH DENSITY, HIGH VOLTAGE, STANDARD RECOVERY RECTIFIER ASSEMBLY

## QUICK REFERENCE DATA

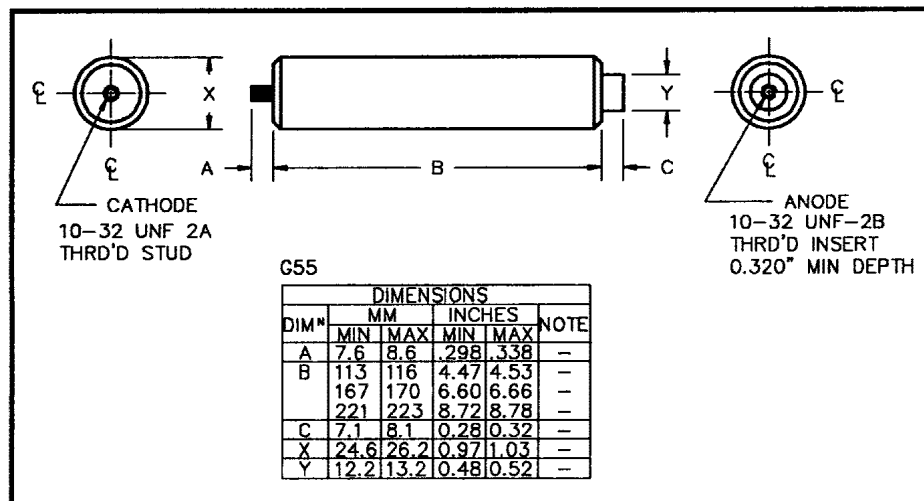
- High reverse voltages
- Low reverse leakage current
- Low distributed and ground capacitance
- Corona free design
- Air or oil environments

- $V_R = 12\text{kV} - 25\text{kV}$
- $I_F = 1.0\text{A}$
- $t_{rr} = 2.0\mu\text{S}$
- $I_R = 1.0\mu\text{A}$

## ABSOLUTE MAXIMUM RATINGS

	Symbol	SCKV12K30	SCKV18K30	SCKV25K30	Unit
Working reverse voltage	$V_{RWM}$	12	18	25	kV
Surge reverse voltage	$V_{RSM}$	13.2	19.8	27.5	kV
Average forward current in air @ 25°C in oil @ 55°C in forced air 600 CFM	$I_{F(AV)}$	<div style="display: flex; justify-content: space-between;"> <div style="width: 30%; text-align: center;">←</div> <div style="width: 30%; text-align: center;">1.00</div> <div style="width: 30%; text-align: center;">→</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%; text-align: center;">←</div> <div style="width: 30%; text-align: center;">2.00</div> <div style="width: 30%; text-align: center;">→</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%; text-align: center;">←</div> <div style="width: 30%; text-align: center;">1.50</div> <div style="width: 30%; text-align: center;">→</div> </div>			A
Non-repetitive surge current $t_p = 8.3\text{ms}$ , @ 25°C	$I_{FSM}$	<div style="display: flex; justify-content: space-between;"> <div style="width: 30%; text-align: center;">←</div> <div style="width: 30%; text-align: center;">50.0</div> <div style="width: 30%; text-align: center;">→</div> </div>			A
Storage temperature range	$T_{STG}$	<div style="display: flex; justify-content: space-between;"> <div style="width: 30%; text-align: center;">←</div> <div style="width: 30%; text-align: center;">-55 to +150</div> <div style="width: 30%; text-align: center;">→</div> </div>			°C
Operating temperature range	$T_{OP}$	<div style="display: flex; justify-content: space-between;"> <div style="width: 30%; text-align: center;">←</div> <div style="width: 30%; text-align: center;">-55 to +150</div> <div style="width: 30%; text-align: center;">→</div> </div>			°C
Body length Max.	dim B	4.53	6.66	8.78	inches

## MECHANICAL



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## ELECTRICAL CHARACTERISTICS

	Symbol	SCKV12K30	SCKV18K30	SCKV25K30	Unit
Max. forward voltage drop @ $I_F = 1.0A, T_j = 25^\circ C$	$V_F$	13.2	20.9	27.5	V
Max. reverse leakage current @ $V_{RWM}, T_j = 25^\circ C$	$I_R$	←———— 1.0 —————→			$\mu A$
@ $V_{RWM}, T_j = 100^\circ C$	$I_R$	←———— 25 —————→			$\mu A$
Max. reverse recovery time 0.5A $I_F$ to 1.0A $I_R$ . Recovers to 0.25A $I_{RR}$ .	$t_{rr}$	←———— 2.0 —————→			$\mu S$
Max. fusing current $t_p = 8.3ms$	$I^2t$	←———— 10.4 —————→			$A^2S$

1. Measured on discrete devices prior to assembly

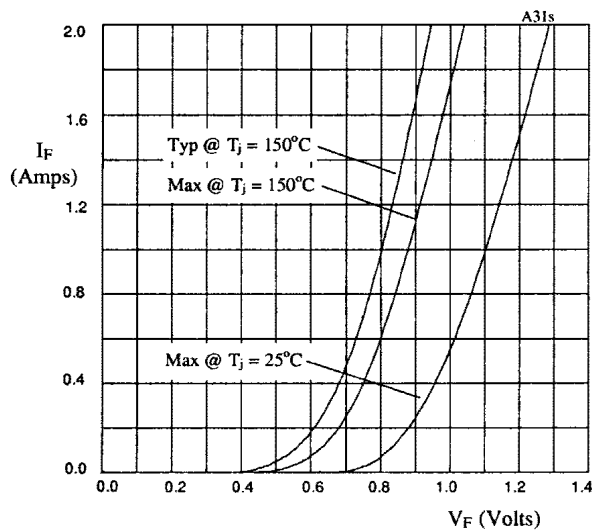


Fig 1. Forward voltage drop as a function of forward current for use with multiplication table.

Multiplication tables for fig 1.

SCKV12K30	X-axis x12
SCKV18K30	X-axis x19
SCKV25K30	X-axis x25

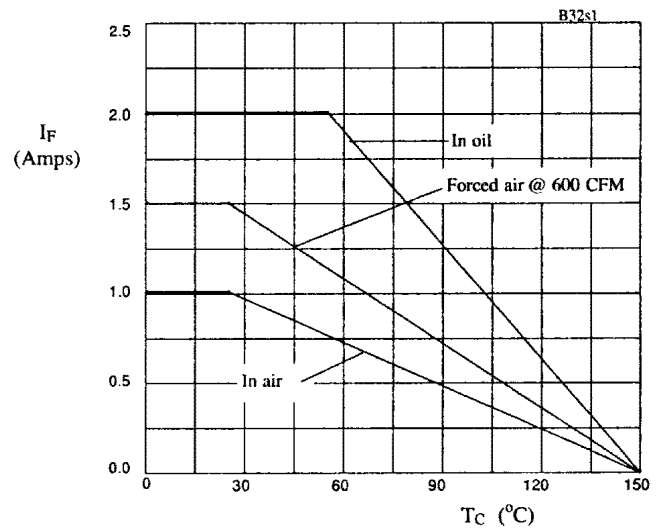


Fig 2. Maximum average forward current against ambient temperature.