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# SEMTECH

## SUPERFAST RECOVERY 1 PHASE FULL WAVE BRIDGE RECTIFIERS

SCBK05FF  
SCBK10FF  
SCBK15FF

January 16, 1998

TEL:805-498-2111 FAX:805-498-3804 WEB:http://www.semtech.com

### SUPERFAST RECOVERY, HIGH CURRENT 1-PHASE FULL WAVE BRIDGE RECTIFIER ASSEMBLIES

### QUICK REFERENCE DATA

- Low forward voltage drop
- Low reverse leakage current
- Low thermal impedance
- Very fast reverse recovery time
- High surge ratings

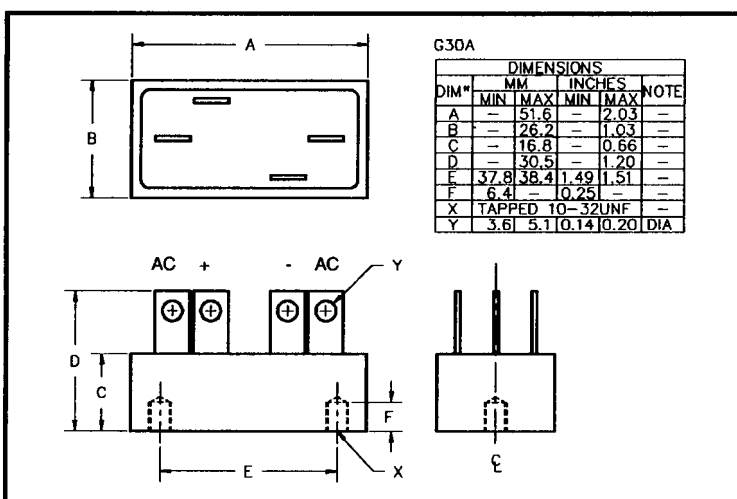
- $V_R = 50V - 150V$
- $I_F = 38A$
- $V_F = 0.97V$
- $t_{rr} = 30nS$

### ABSOLUTE MAXIMUM RATINGS

Device Type	Working Reverse Voltage $V_{RWM}$	Average Rectified Current $I_{F(AV)}$						1 Cycle Surge Current $I_{FSM} t_p = 8.3mS$		Repetitive Surge Current $I_{FRM}$
		(@ case temperature)			(@ ambient temperature)			@ 25°C	@ 100°C	
		@ 55°C	@ 100°C	@ 125°C	@ 25°C	@ 55°C	@ 100°C			
Volts	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	
SCBK05FF	50									
SCBK10FF	100	38	28	20	13	9.2	5.5	600	500	80
SCBK15FF	150									

$R_{\theta JC} = 1.2^{\circ}C/W$

### MECHANICAL



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**ELECTRICAL CHARACTERISTICS**

Device Type	Maximum Reverse Leakage Current $I_R$ @ $V_{RWM}$		Maximum Forward Voltage $V_F$ @ 20A/leg	Reverse Recovery Time <sup>1</sup> $t_{rr}$ @ 25°C	Maximum operating & storage temp. range. $T_{OP}$ $T_{STG}$
	@ 25°C	@ 100°C			
	µA	mA	Volts	nS	°C
SCBK05FF SCBK10FF SCBK15FF	80	4.0	0.97	30	-55 to +150

<sup>1</sup> Measured on discrete devices prior to assembly

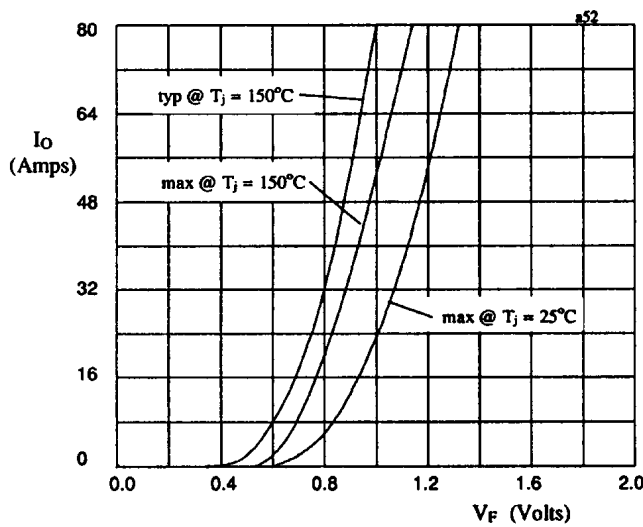


Fig 1. Forward voltage drop against output current per leg.

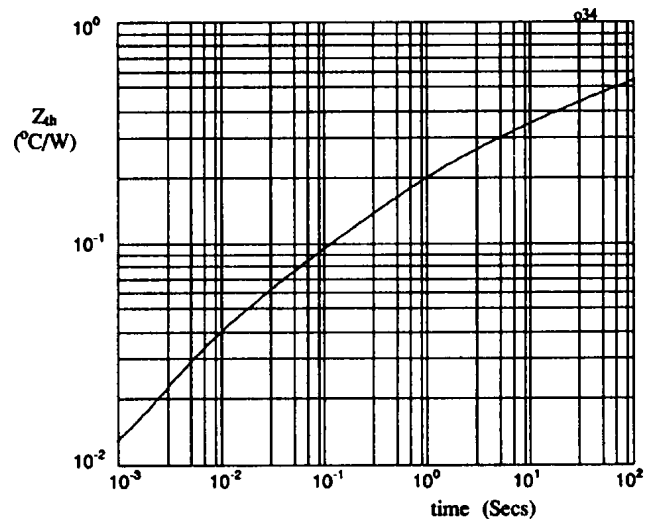


Fig 2. Transient thermal impedance characteristic per leg