

January 7, 1998

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AXIAL LEADED HERMETICALLY SEALED HIGH VOLTAGE SUPERFAST RECTIFIER DIODE

QUICK REFERENCE DATA

- Very low reverse recovery time
- High thermal shock resistance
- Hermetically sealed with Metoxilite metal oxide
- Low switching losses
- Soft, non-snap off, recovery characteristics

- $V_R = 3000V$
- $I_F = 0.36A$
- $t_{rr} = 50ns$
- $I_R = 1\mu A$

ABSOLUTE MAXIMUM RATINGS (@ 25°C unless otherwise specified)

	Symbol	SFF30	Unit
Working reverse voltage	V_{RWM}	3000	V
Repetitive reverse voltage	V_{RRM}	3000	V
Average forward current (@ 55°C, in oil)	$I_{F(AV)}$	0.36	A
Repetitive surge current (@ 55°C in oil)	I_{FRM}	1.0	A
Non-repetitive surge current ($t_p = 8.3ms$, @ V_R & T_{jmax})	I_{FSM}	10.0	A
Storage temperature range	T_{STG}	-65 to +175	°C
Operating temperature range	T_{OP}	-65 to +175	°C

MECHANICAL

G12

DIM #	DIMENSIONS				NOTE
	MM		INCHES		
A	1.6	2.8	.065	.110	-
B	25.4	33.0	1.00	1.30	-
C	4.8	5.5	.190	.215	-
D	-	.80	-	.030	1
E	.66	.84	.026	.033	-

NOTES:
1. LEAD DIAMETER UNCONTROLLED OVER THIS REGION.

Weight = 0.04oz

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ELECTRICAL CHARACTERISTICS (@ 25°C unless otherwise specified)

	Symbol	SFF30	Unit
Average forward current max. (pcb mounted; T _A = 55°C) for sine wave	I _{F(AV)}	0.16	A
	I _{F(AV)}	0.17	A
Average forward current max. (oil at 55°C) for sine wave	I _{F(AV)}	0.33	A
	I _{F(AV)}	0.36	A
I ² t for fusing (t = 8.3mS) max.	I ² t	0.42	A ² S
Forward voltage drop max. @ I _F = 0.175A, T _j = 25°C	V _F	7.00	V
Reverse current max. @ V _{RWM} , T _j = 25°C	I _R	1.0	μA
	I _R	25	μA
Reverse recovery time max. 50mA I _F , 100mA I _R ., 25mA I _{RR} .	t _{rr}	50	nS
Junction capacitance typ. @ V _R = 5V, f = 1MHz	C _j	6.5	pF

THERMAL CHARACTERISTICS

	Symbol	SFF30	Unit
Thermal resistance - junction to oil Stirred oil	R _{θJO}	18	°C/W
Unstirred oil	R _{θJO}	30	°C/W
Thermal resistance - junction to amb. on 0.06" thick pcb. 1 oz. copper.	R _{θJA}	90	°C/W

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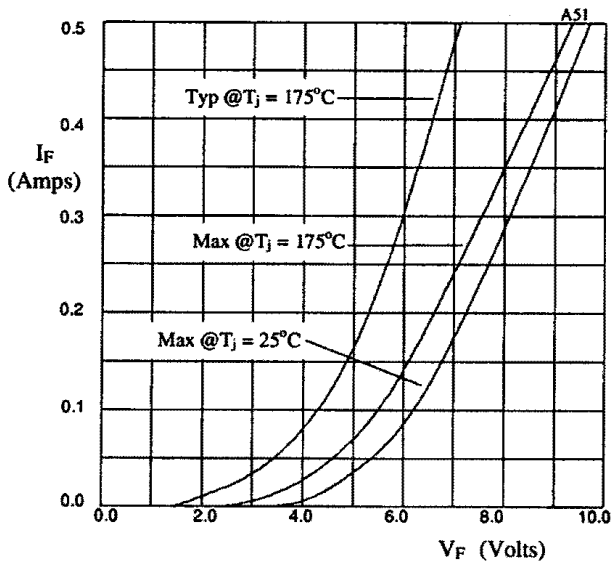


Fig 1. Forward voltage drop as a function of forward current.

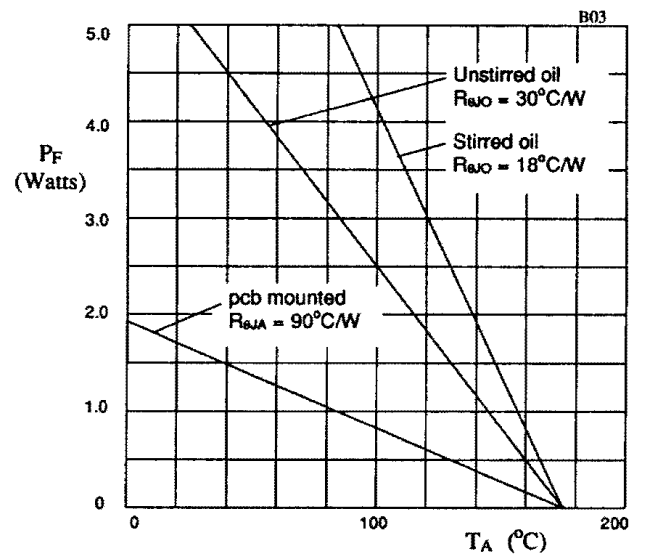


Fig 2. Power derating in air and oil.

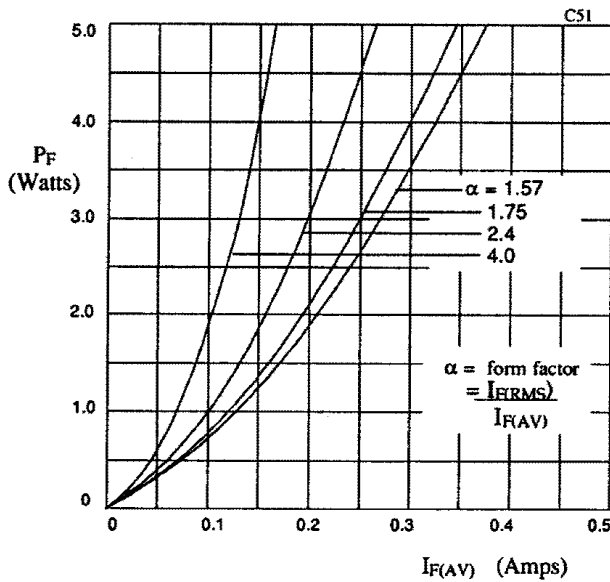


Fig 3. Forward power dissipation as a function of forward current, for sinusoidal operation.

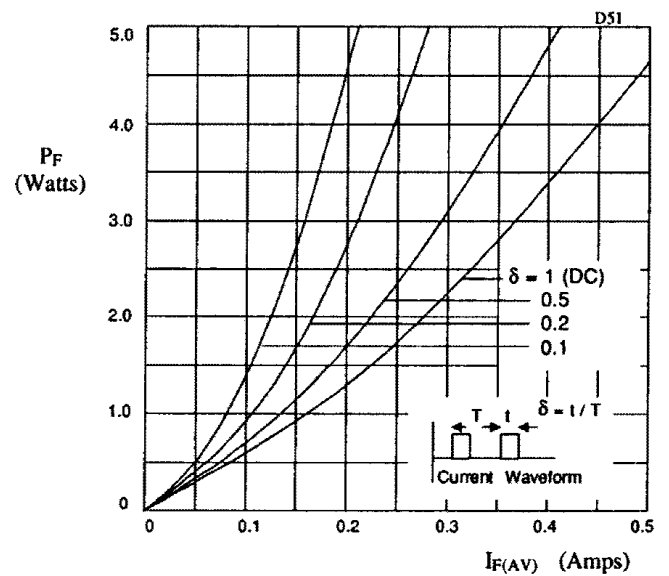


Fig 4. Forward power dissipation as a function of forward current, for square wave operation.

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