January 7, 1998

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QUICK REFERENCE DATA

- V_R = 4kV - 10kV
- I_F = 300mA
- t_{rr} = 2.5µS
- I_R = 1.0µA

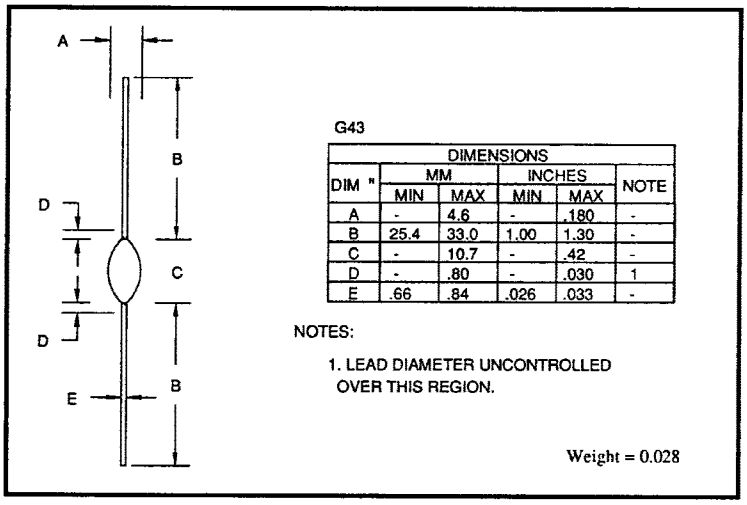
AXIAL LEADED HERMETICALLY SEALED HIGH VOLTAGE STANDARD RECOVERY RECTIFIER DIODE

- Low reverse currents
- Hermetically sealed with Metoxilite fused metal oxide
- Good thermal shock resistance
- Monolythic cavity free construction
- Subminiature size

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

	Symbol	SM40	SM50	SM75	SM100	Unit
Working reverse voltage	V_{RWM}	4000	5000	7500	10000	V
Repetitive reverse voltage	V_{RRM}	4000	5000	7500	10000	V
Average forward current (@ 55°C in oil)	$I_{F(AV)}$	← 300 →				mA
Repetitive surge current (@ 55°C in oil, lead length 0.375")	I_{FRM}	← 1.0 →				A
Non-repetitive surge current (t_p = 8.3mS, @ V_R & T_{jmax})	I_{FSM}	← 25 →				A
Storage temperature range	T_{STG}	← -65 to +175 →				°C
Operating temperature range	T_{OP}	← -65 to +175 →				°C

MECHANICAL



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DIM "	DIMENSIONS MM MIN	MM MAX	INCHES MIN	INCHES MAX	NOTE
A	-	4.6	-	.180	-
B	25.4	33.0	1.00	1.30	-
C	-	10.7	-	.42	-
D	-	.80	-	.030	1
E	.66	.84	.026	.033	-

NOTES:

1. LEAD DIAMETER UNCONTROLLED OVER THIS REGION.

Weight = 0.028

January 7, 1998

CHARACTERISTICS (@ 25°C unless otherwise specified)

	Symbol	SM40 SM50 SM75 SM100	Unit
Average forward current (sine wave) - max. pcb mounted; T_A = 55°C - max. in unstirred oil	 $I_{F(AV)}$ $I_{F(AV)}$	 130 300	 mA mA
I^2t for fusing (t = 8.3mS) max.	I^2t	2.6	A^2S
Forward voltage drop max. @ I_F = 100mA, T_j = 25°C	V_F	10.0	V
Reverse current max. @ V_{RWM}, T_j = 25°C @ V_{RWM}, T_j = 100°C	 I_R I_R	 1.0 20	 µA µA
Reverse recovery time max. 50mA I_F to 100mA I_R. Recover to 25mA I_{RR}.	t_{rr}	2.5	µS
Junction capacitance typ. @ V_R = 5V , f = 1MHz	C_j	3.2	pF
Thermal resistance - junction to oil Unstirred @ 55°C Stirred @ 55°C	 $R_{\theta JO}$ $R_{\theta JO}$	 28 20	 °C/W °C/W
Thermal resistance - junction to amb. on 0.06" thick pcb. 1oz copper.	$R_{\theta JA}$	91	°C/W

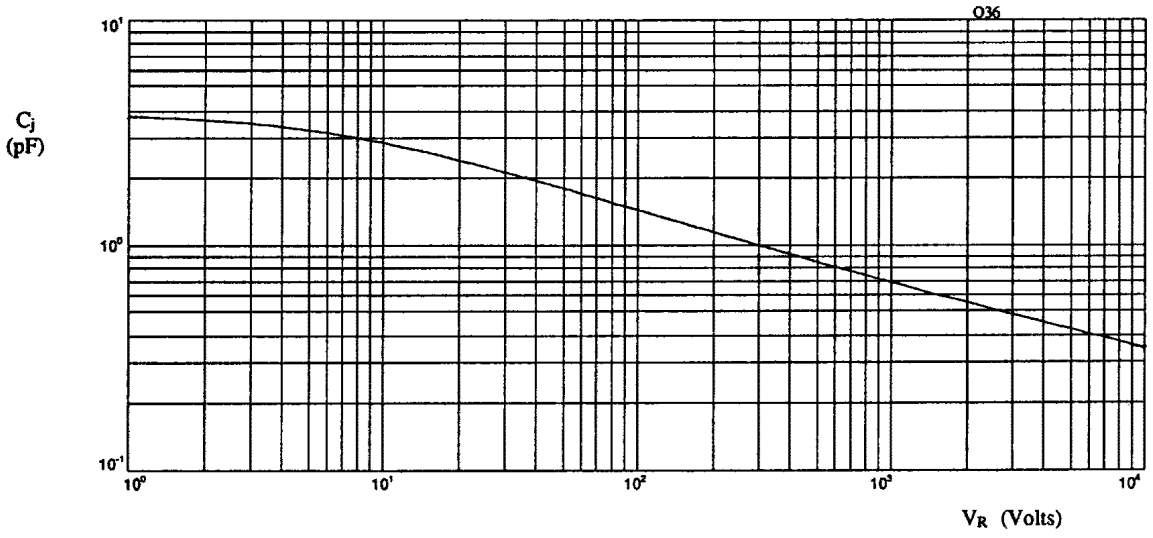

Fig 1. Typical junction capacitance as a function of reverse voltage.

January 7, 1998

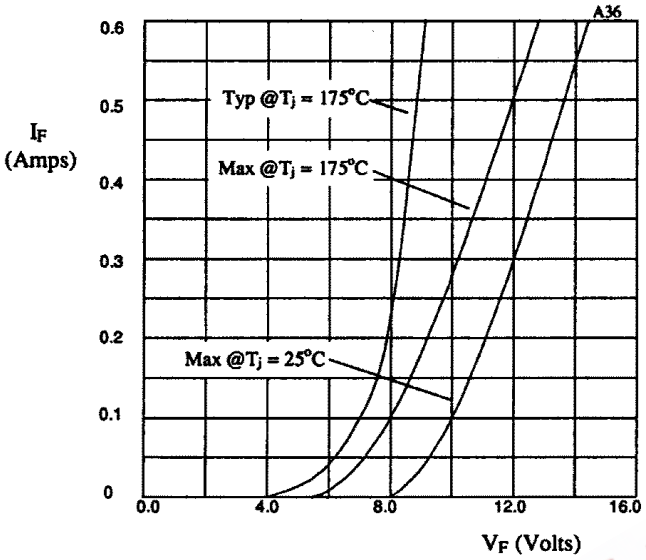

Fig 2. Forward voltage drop as a function of forward current.

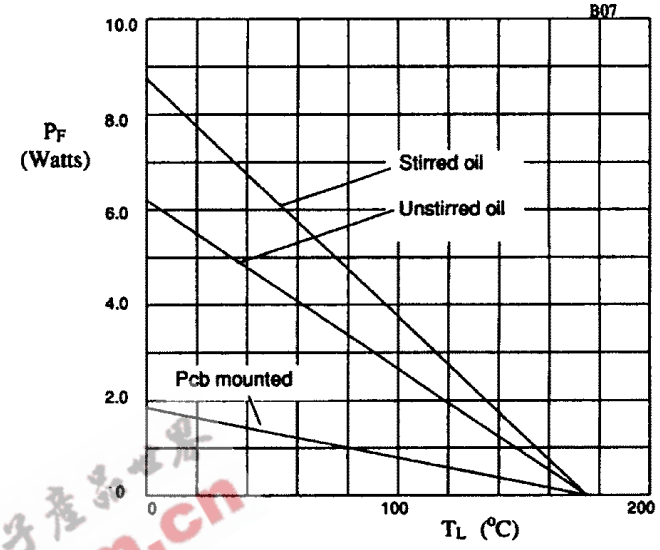

Fig 3. Power derating in air and oil.

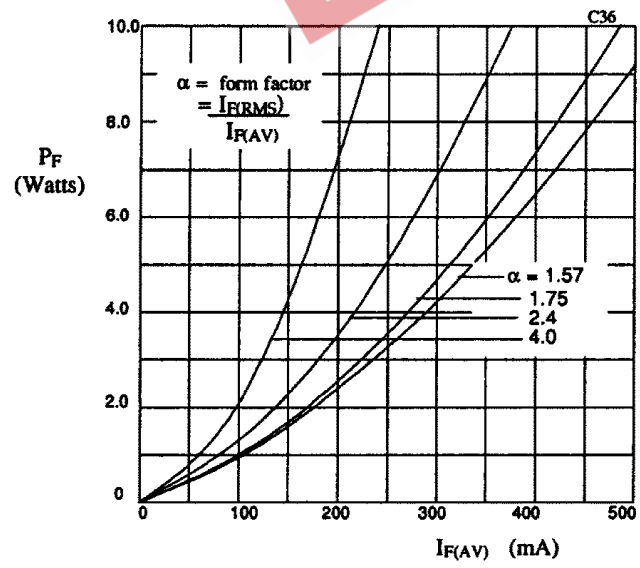

Fig 4. Forward power dissipation as a function of forward current, for sinusoidal operation.

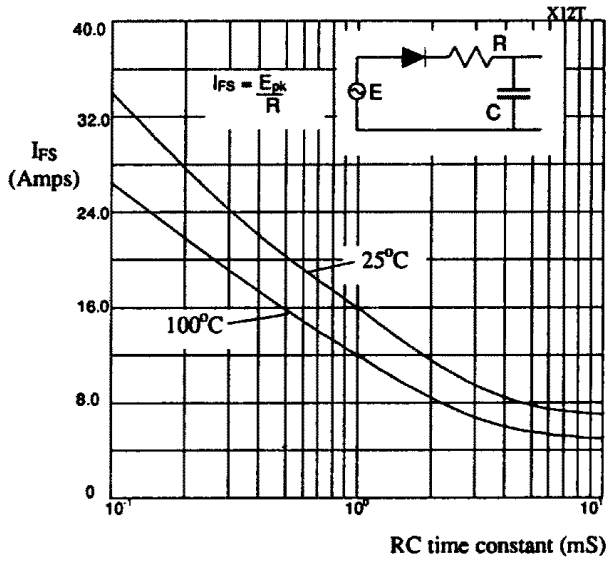

Fig 5. Maximum ratings for capacitive loads.