January 7, 1998

AXIAL LEADED HERMETICALLY SEALED FAST RECOVERY RECTIFIER DIODE

- Low reverse recovery time
- Hermetically sealed in Metoxilite fused metal oxide
- Low switching losses
- Low reverse current
- Soft, non-snap off, recovery characteristics

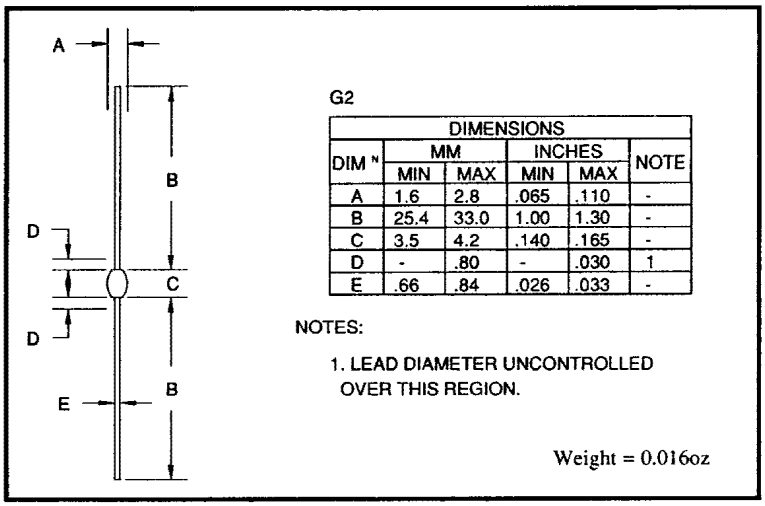
QUICK REFERENCE DATA

- V_R = 1000V
- I_F = 1.6A
- t_{rr} = 150nS
- I_R = 1µA

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

	Symbol	SFR0	Unit
Working reverse voltage	V_{RWM}	1000	V
Repetitive reverse voltage	V_{RRM}	1000	V
Average forward current (@ 55°C, lead length 0.375")	$I_{F(AV)}$	1.6	A
Repetitive surge current (@ 55°C in free air, lead length 0.375")	I_{FRM}	6.0	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



G2

DIMENSIONS					
DIM	MM		INCHES		NOTE
	MIN	MAX	MIN	MAX	
A	1.6	2.8	.065	.110	-
B	25.4	33.0	1.00	1.30	-
C	3.5	4.2	.140	.165	-
D	-	.80	-	.030	1
E	.66	.84	.026	.033	-

NOTES:

1. LEAD DIAMETER UNCONTROLLED OVER THIS REGION.

Weight = 0.016oz

January 7, 1998

ELECTRICAL CHARACTERISTICS (@ 25°C unless otherwise specified)

	Symbol	SFR0	Unit
Average forward current max. (pcb mounted; T_A = 55°C)			
for sine wave	$I_{F(AV)}$	0.75	A
for square wave (d = 0.5)	$I_{F(AV)}$	0.80	A
Average forward current max. (L = 3/8"; T_L = 55°C)			
for sine wave	$I_{F(AV)}$	1.4	A
for square wave	$I_{F(AV)}$	1.6	A
I^2t for fusing (t = 8.3mS) max.	I^2t	2.5	A^2S
Forward voltage drop max. @ I_F = 1.0A, T_j = 25°C	V_F	1.50	V
Reverse current max.			
@ V_{RWM}, T_j = 25°C	I_R	1.0	µA
@ V_{RWM}, T_j = 100°C	I_R	25	µA
Reverse recovery time max. 0.5A I_F to 1.0A I_R. Recovers to 0.25A I_{RR}.	t_{rr}	150	nS
Junction capacitance typ. @ V_R = 5V , f = 1MHz	C_j	20	pF

THERMAL CHARACTERISTICS

	Label	SFR0	Unit
Thermal resistance - junction to lead			
Lead length = 0"	$R_{\theta JL}$	14.0	°C/W
Lead length = 0.375"	$R_{\theta JL}$	38.0	°C/W
Thermal resistance - junction to amb. on 0.06" thick pcb. 1 oz. copper.	$R_{\theta JA}$	95.0	°C/W

January 7, 1998

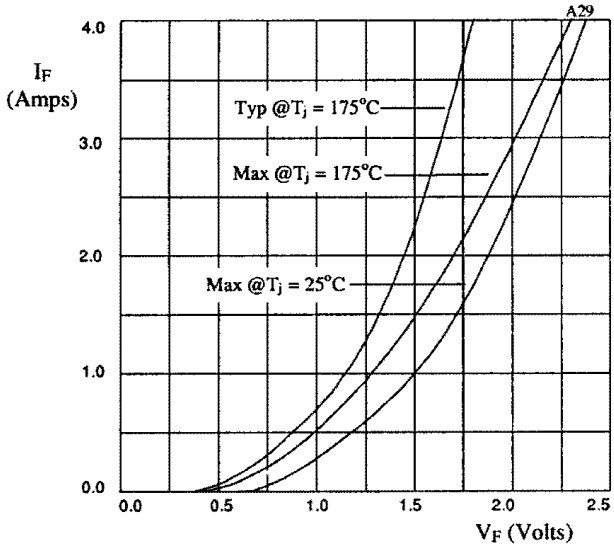


Fig 1. Forward voltage drop as a function of forward current.

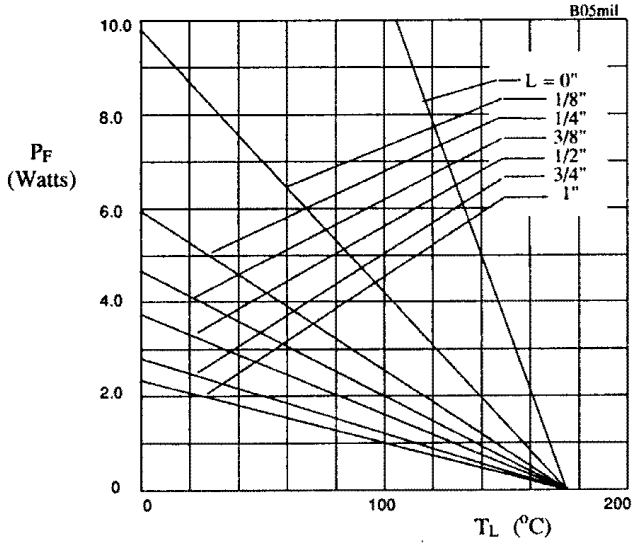


Fig 2. Maximum power versus lead temperature.

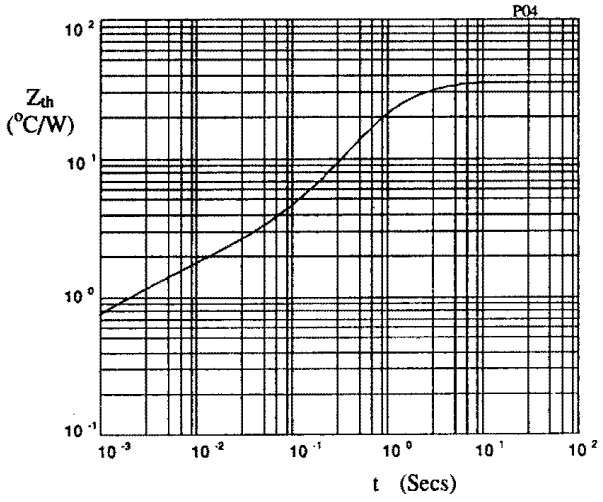


Fig 3. Transient thermal impedance characteristic.

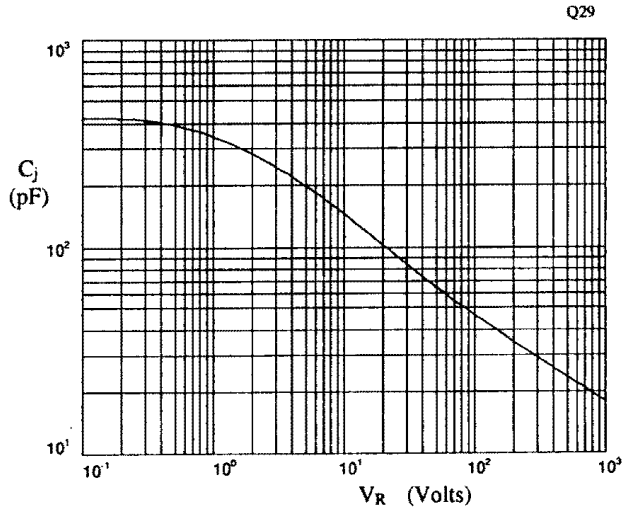


Fig 4. Typical junction capacitance as a function of reverse voltage.

January 7, 1998

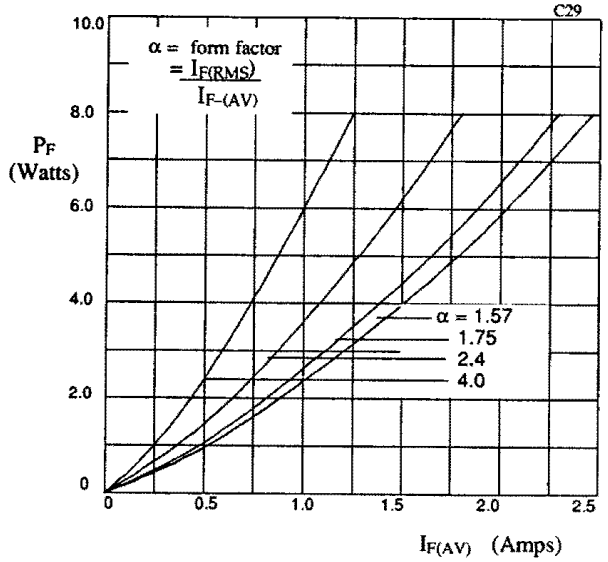


Fig 5. Forward power dissipation as a function of forward current, for sinusoidal operation.

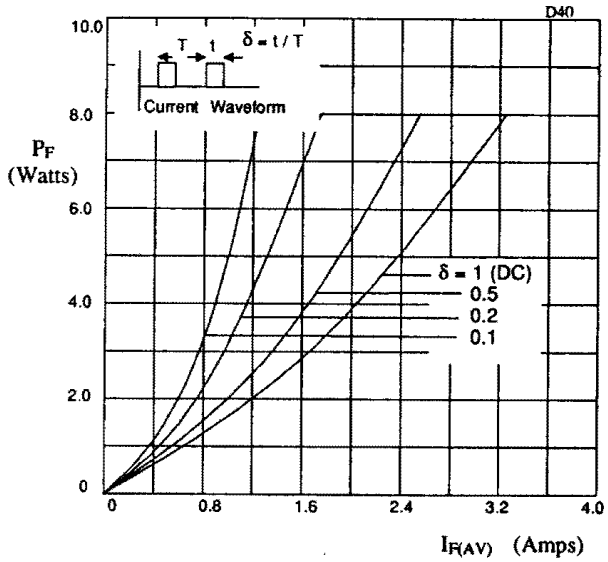


Fig 6. Forward power dissipation as a function of forward current, for square wave operation.

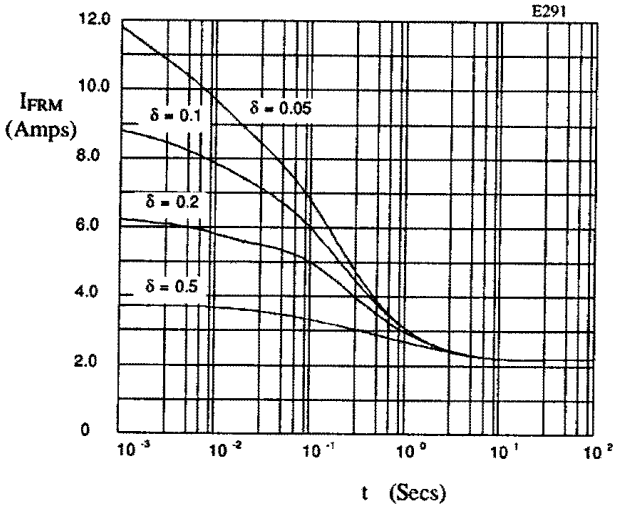


Fig 7. Typical repetitive forward current as a function of pulse width at 55°C; $R_{\theta JL}$ = 35 °C/W; V_{RWM} during 1 - δ.

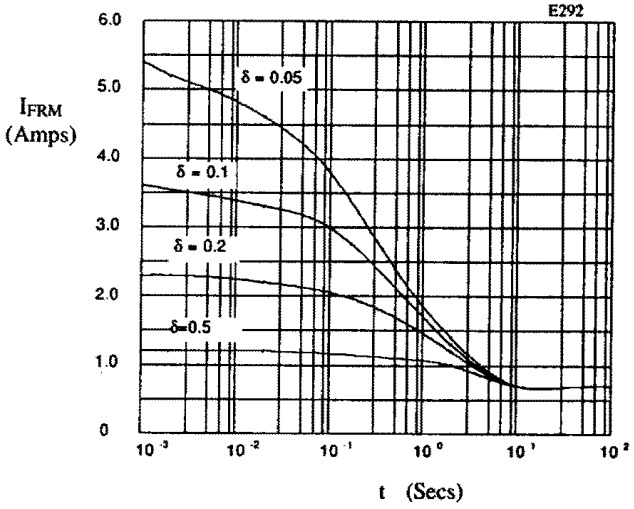


Fig 8. Typical repetitive forward current as a function of pulse width at 100°C; $R_{\theta JL}$ = 95 °C/W; V_{RWM} during 1 - δ.