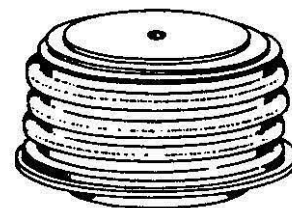


The A696 soft recovery diode is designed for high frequency applications to 3000 Hz and is proven as a bypass diode in PWM inverter circuits. It is recommended as a companion diode for the C712 thyristor.

Features:

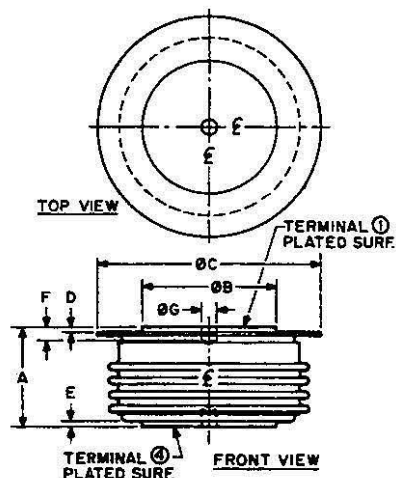
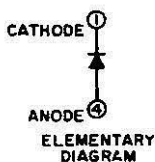
- Reverse blocking to 2500 volts
- Prespak design for double-sided cooling
- Full energy characteristics for forward conduction and reverse recovery



MAXIMUM ALLOWABLE RATINGS

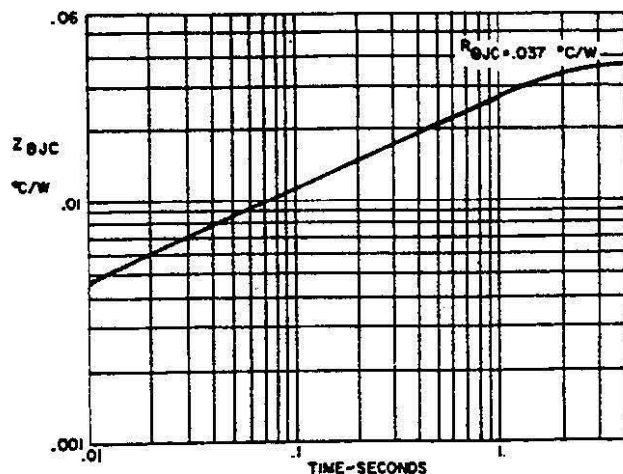
TYPE	REPETITIVE V_{RRM} $T_J = -40^{\circ}\text{C to } +150^{\circ}\text{C}$	REPETITIVE V_{RRM} $T_J = 0^{\circ}\text{C to } +150^{\circ}\text{C}$
A696LD	2400 volts	2500 volts
A696LC	2300	2400
A696LB	2200	2300
A696LA	2100	2200
A696L	2000	2100

Average Forward Current	1000 Amperes, 1 Φ Average
Peak One-Cycle Surge Current	14,000 Amperes
Maximum On-State Voltage Drop (at 1000 Amps, 25 $^{\circ}$ C)	1.9 Volt
Peak Reverse Leakage Current ($T_J = 150^{\circ}\text{C}$, $V = \text{Rated } V_{RRM}$)	.100 mA
Maximum Thermal Resistance, $R_{\theta JC}$, Double-Side Cooling (DC)	.037 $^{\circ}\text{C/Watt}$
Storage Temperature, T_{stg}	-40 $^{\circ}\text{C to } +150^{\circ}\text{C}$
Operating Junction Temperature, T_J	-40 $^{\circ}\text{C to } +150^{\circ}\text{C}$
Mounting Force Required	3500 – 4200 Lbs. 15.6 – 18.7 Kn

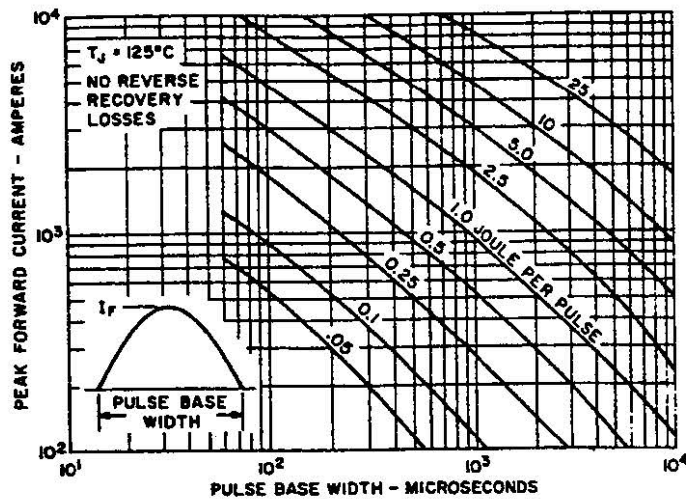


SYM.	INCHES		MILLIMETERS	
	MIN.	MAX.	MIN.	MAX.
A	0.990	1.040	25.15	26.42
oB	1.330	1.350	33.78	34.29
oC	—	2.300	—	58.92
D	0.040	0.090	1.02	2.29
E	0.005	0.090	0.13	2.29
F	0.070	0.100	1.78	2.54
oG	0.136	0.146	3.45	3.71

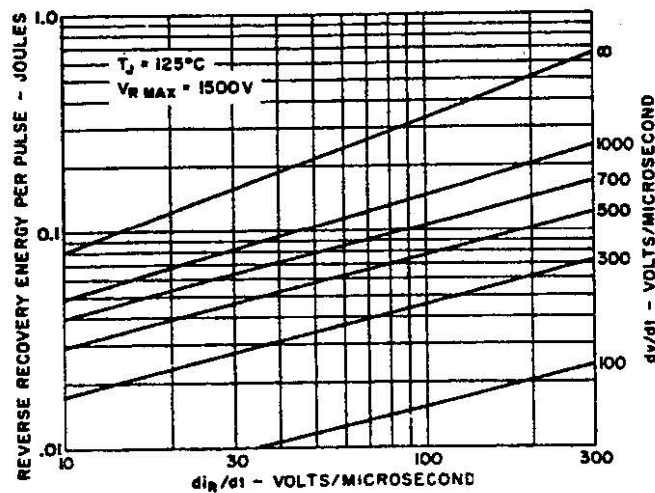
NOTE:
GLAZED CERAMIC INSULATOR
WITH 1 INCH (25.40 mm)
SURFACE CREEPAGE, MIN.



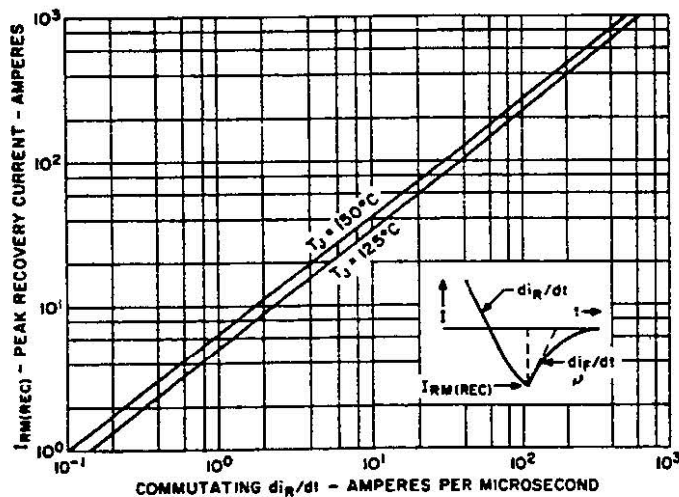
**TRANSIENT THERMAL IMPEDANCE —
JUNCTION-TO-CASE**



SINUSOIDAL SWITCHING LOSSES



REVERSE RECOVERY

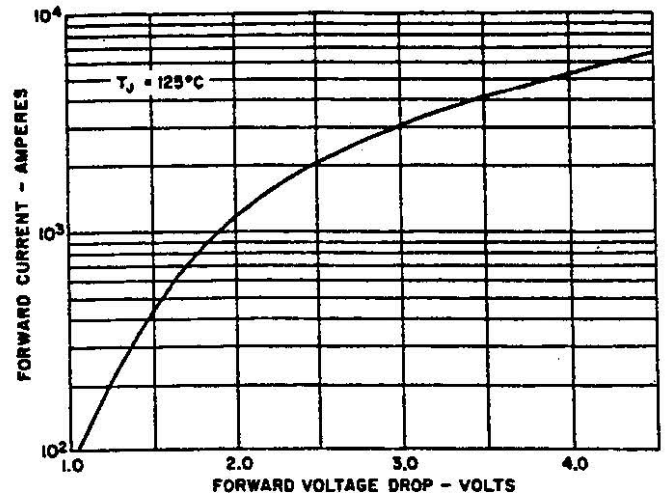


REVERSE RECOVERY CURRENT CHARACTERISTICS

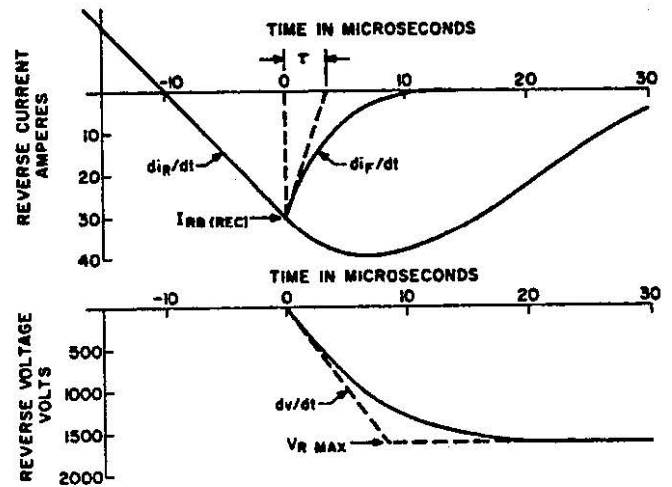
* Critical resistance decreases as applied voltage is increased. (approx -10% @ 1200V)

Technical references:

IEEE/IAS 1978 Annual Meeting pg. 1036



MAXIMUM FORWARD VOLTAGE DROP



Controlled commutation is assured for values of snubber resistance below a critical value as indicated in the families of curves. * The factory controlled test point signified by the mark (●).

This dictates a restraint which must be considered along with many other factors for snubber circuit design.

If the critical value is exceeded the diode may recover abruptly, developing a high reverse dv/dt .

