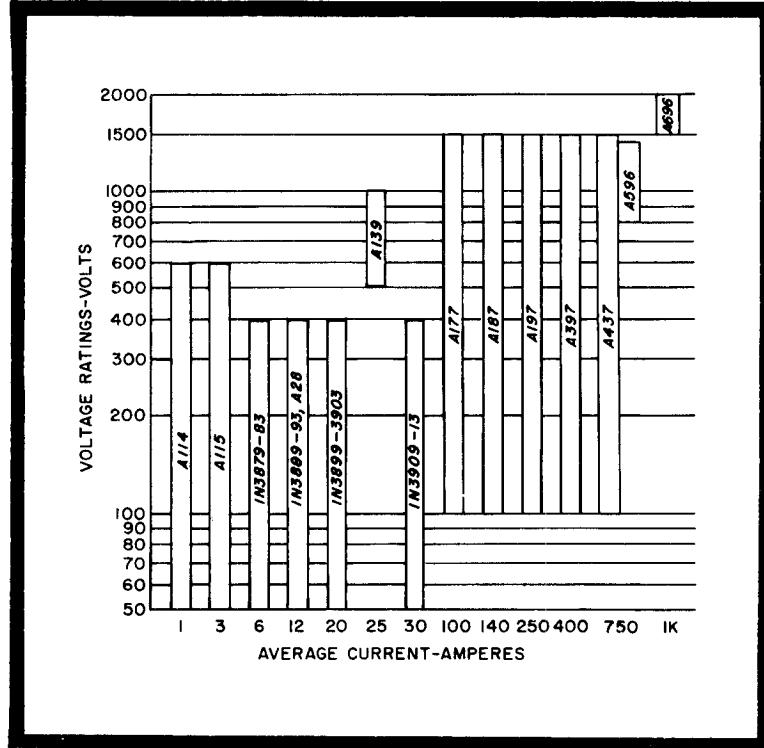
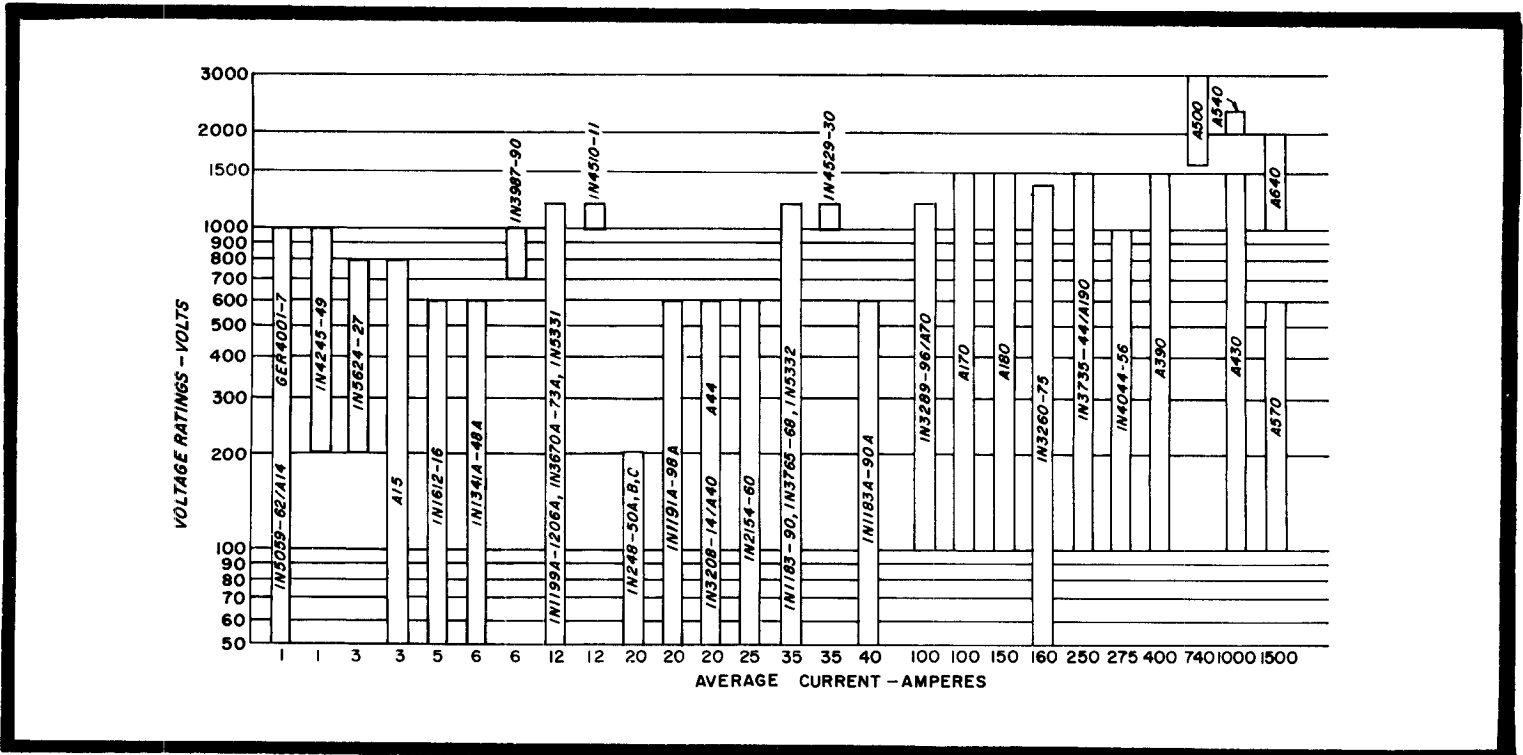


FAST RECOVERY RECTIFIERS SELECTOR GUIDE



STANDARD RECTIFIERS SELECTOR GUIDE





RECTIFIERS

750 TO 1500 AMPERES



GE TYPE	A437	A596	A430	A540	A696	A570	A640
JEDEC	-	-	-	-	-	-	-
SPECIFICATIONS							
$I_{FM(AV)}$ Max. average forward current (1 phase operation) (A) @ $T_C = (^\circ C)$	750 85	750 65	1000 125	1000 100	1000 -	1500 80	1500 90
$V_{FM(rep)}$ Max. repetitive peak reverse voltage (V)							
100	A437A	-	A430A	-	-	A570A	-
200	A437B	-	A430B	-	-	A570B	-
300	A437C	-	A430C	-	-	A570C	-
400	A437D	-	A430D	-	-	A570D	-
500	A437E	-	A430E	-	-	A570E	-
600	A437M	-	A430M	-	-	A570M	-
700	A437S	-	A430S	-	-	-	-
800	A437N	A596N	A430N	-	-	-	-
900	A437T	A596T	A430T	-	-	-	-
1000	A437P	A596P	A430P	-	-	-	A640P
1100	A437PA	A596PA	A430PA	-	-	-	A640PA
1200	A437PB	A596PB	A430PB	-	-	-	A640PB
1300	A437PC	A596PC	A430PC	-	-	-	A640PC
1400	A437PD	A596PD	A430PD	-	-	-	A640PD
1500	A437PE	-	A430PE	-	A696PE	-	A640PE
1600	-	-	-	-	A696PM	-	A640PM
1700	-	-	-	-	A696PS	-	A640PS
1800	-	-	-	-	A696PM	-	A640PM
1900	-	-	-	-	A696PT	-	A640PT
2000	-	-	-	A540L	A696L	-	A640L
2100	-	-	-	A540LA	-	-	-
2200	-	-	-	A540LB	-	-	-
2300	-	-	-	A540LC	-	-	-
2400	-	-	-	A540LD	-	-	-
2500	-	-	-	-	-	-	-
2600	-	-	-	-	-	-	-
2700	-	-	-	-	-	-	-
2800	-	-	-	-	-	-	-
2900	-	-	-	-	-	-	-
3000	-	-	-	-	-	-	-
I_{FM} (surge) Max. peak one cycle, non-recurrent surge current (60 Hz sine wave, 1 phase operation) @ max. rated load conditions (A)	10,000	10,000	10,000	12,000	14,000	18,000	15,000
I^2t Max. non-repetitive for 8.3 msec (A^2 sec)	415,000	415,000	415,000	597,000	-	1,300,000	1,062,000
T_J Operating junction temperature range ($^\circ C$)	-40 to +175	-40 to +175	-40 to +200	-40 to +200	-40 to +150	-40 to +200	-40 to +200
T_{stg} Storage temperature range ($^\circ C$)	-40 to +200	-40 to +200	-40 to +200	-40 to +200	-40 to +150	-40 to +200	-40 to +200
$R_{\theta JC}$ Max. thermal resistance, junction-to-case ($^\circ C/W$)	.057	.057	.06	.057	.036	.057	.045
V_{FM} Max. peak forward voltage drop @ rated $I_{F(AV)}$ (1 phase operation) @ $T_C = (^\circ C)$	2.0 25	2.3 125	1.55 25	1.15 150	-	1.0 25	1.0 25
Q_{rr} Max. reverse recovered charge @ $T_J = 25^\circ C$	100	300	-	-	500	-	-
PACKAGE NO.	183	182	183	182	183	182	183

Silicon RECTIFIER

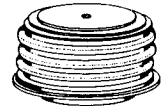
A570

600 Volts 1500A Avg.

The A570 Series of high power rectifier diodes feature the proven, alloy-diffused construction used in a new General Electric pressure-mounted package.

FEATURES:

- High Current Rectifier
- Pressure Contacts
- Glazed Ceramic Package with 1" Creepage Path
- Reversibility (eliminates need for special reverse polarity units)
- Hermetic Seal
- Available in Factory Assembled Heat Exchangers or Ready-to-Mount



IMPORTANT: Mounting instructions on the last page of the C501 specification must be followed.

MAXIMUM ALLOWABLE RATINGS

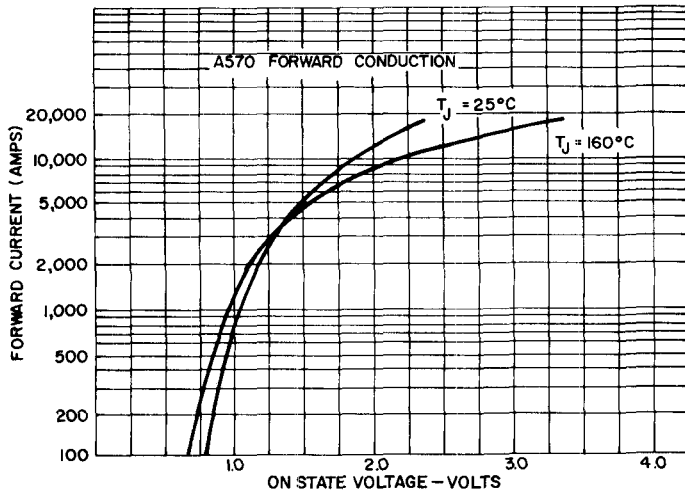
TYPE	REPETITIVE PEAK REVERSE VOLTAGE $V_{RRM}, T_J = -40^{\circ}\text{C to } +200^{\circ}\text{C}$	NON-REPETITIVE PEAK REVERSE VOLTAGE $V_{RSM}, T_J = 0^{\circ}\text{C to } +200^{\circ}\text{C}$
A570M	600 Volts	700 Volts
A570E	500	600
A570D	400	500
A570C	300	400
A570B	200	300
A570A	100	200

Average Forward Current	1500 Amperes, 1 Φ Average
Peak One-Cycle Surge Current	18,000 Amperes
Minimum I^2t (for times ≥ 1.5 msec)	1,050,000 Ampere ² Seconds
Minimum I^2t (at 8.3 msec)	1,300,000 Ampere ² Seconds
Peak Forward Voltage Drop ($T_C = 160^{\circ}\text{C}$, 1000 Amps. Peak)	0.96 Volts
Peak Reverse Leakage Current ($T_J = 200^{\circ}\text{C}$, $V = \text{Rated } V_{RRM}$)	50 mA
Maximum Thermal Resistance, $R_{\theta JS}$ (Double-Side Cooling)	.06 $^{\circ}\text{C/Watt}$
Storage Temperature, T_{stg}	-40 $^{\circ}\text{C to } +200^{\circ}\text{C}$
Operating Junction Temperature, T_J	-40 $^{\circ}\text{C to } +200^{\circ}\text{C}$
Mounting Force Required	2200 Lbs. $\pm 10\%$ 9.8 KN $\pm 10\%$

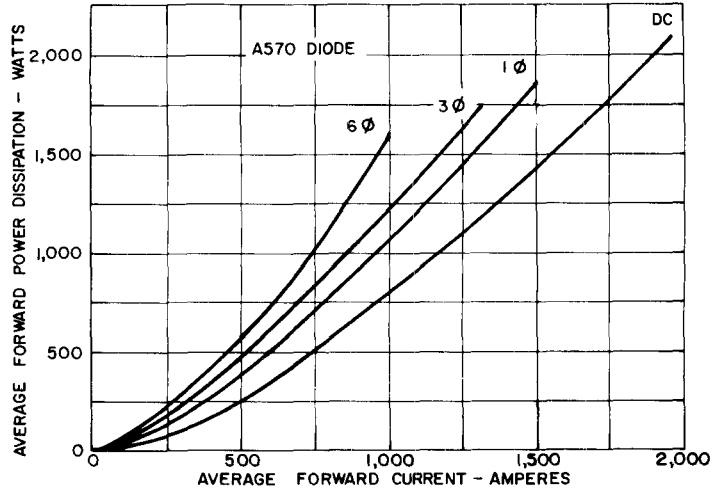
NOTES:

¹ Assumes a heatsink thermal resistance of less than 1.0 $^{\circ}\text{C/watt}$.

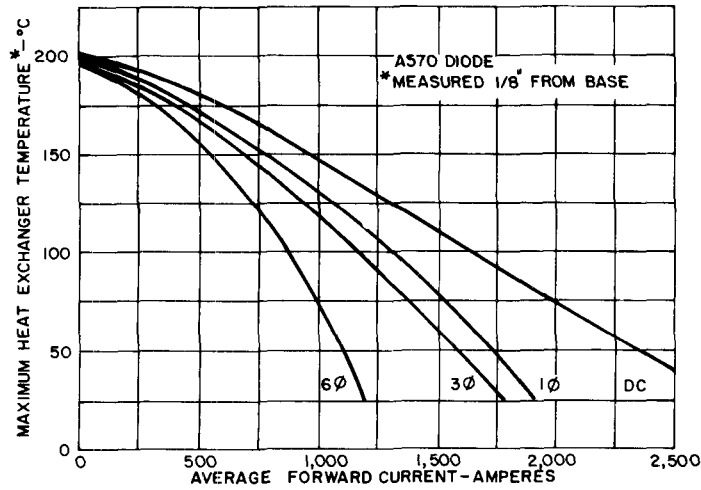
² Non-recurrent voltage and current ratings, as contrasted to repetitive ratings which apply for occasional or unpredictable overloads. For example, the forward surge current ratings are non-recurrent ratings that are used in fault coordination work.



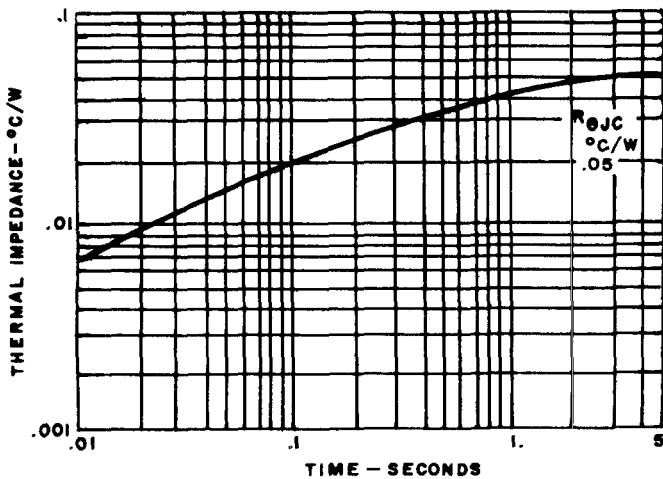
1. MAXIMUM ON-STATE CHARACTERISTICS



2. AVERAGE FORWARD POWER DISSIPATION VERSUS AVERAGE FORWARD CURRENT



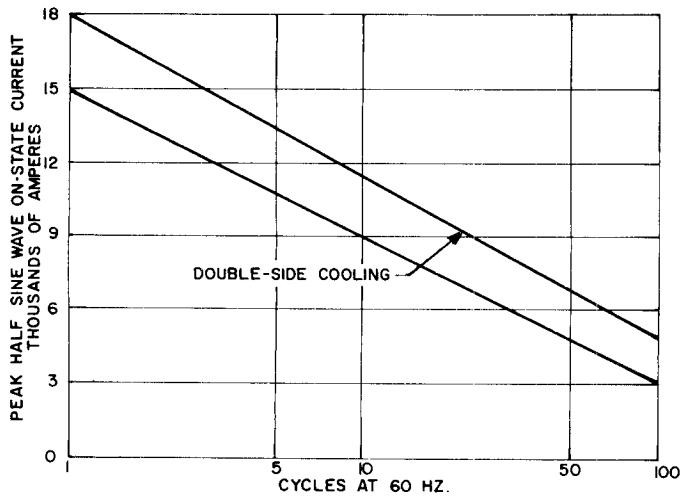
3. MAXIMUM HEAT EXCHANGER TEMPERATURE VERSUS AVERAGE FORWARD CURRENT FOR DOUBLE-SIDE COOLING



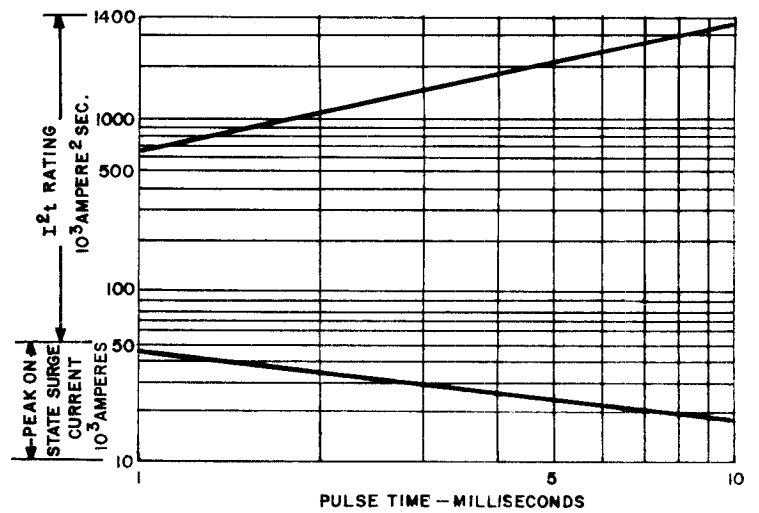
4. TRANSIENT THERMAL IMPEDANCE – JUNCTION-TO-CASE

NOTES:

1. Power "D" adds $.01^\circ\text{C/W}$ to account for both case to dissipator interfaces, when properly mounted; e.g., $R_{\theta JS} = .06^\circ\text{C/W}$. See Mounting Instructions.
2. DC Thermal Impedance is based on average full cycle junction temperature. Instantaneous junction temperature may be calculated using the following modifications.
 - end of conducting portion of cycle
 - 120° sq. wave add $.0065^\circ\text{C/W}$ along entire curve
 - 180° sq. wave add $.0047^\circ\text{C/W}$ along entire curve
 - 180° sine wave add $.0026^\circ\text{C/W}$ along entire curve
 - end of full cycle
 - any wave, subtract $.0026^\circ\text{C/W}$ along entire curve

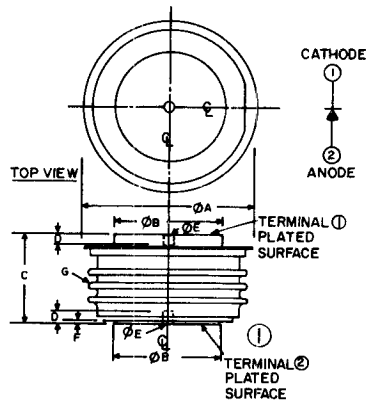


5. MAXIMUM SURGE CURRENT FOLLOWING RATED LOAD CONDITIONS



6. SUB-CYCLE PEAK SURGE ON-STATE CURRENT AND I^2t RATING FOLLOWING RATED LOAD CONDITIONS

OUTLINE DRAWING



NOTE:
1. GLAZED CERAMIC INSULATOR
WITH 1.00 INCH MIN. SURFACE
CREEPAGE (25.40mm)

SYMBOL	INCHES		MILLIMETERS		NOTE
	MIN	MAX	MIN	MAX	
ϕ A	—	2.000	—	50.80	
ϕ B	1.240	1.260	31.50	32.00	
C	1.000	1.060	25.40	26.92	
D	.080	—	2.03	—	
ϕ E	0.136	0.146	3.45	3.71	
F	.034	—	0.86	—	
G					1