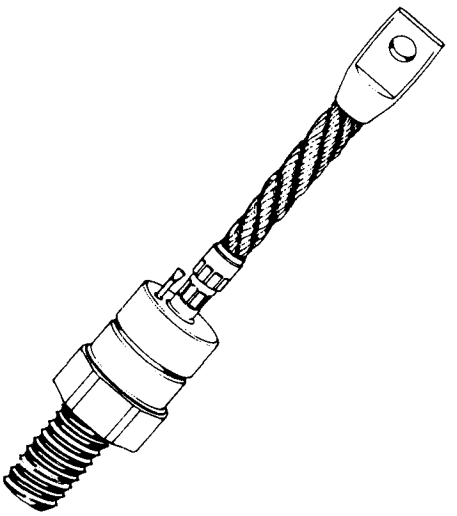
Silicon RECTIFIERS

1N4044-56,R

The A190 (1N3735) Series is General Electric's highly reliable, all-diffused Pic Pac 250 ampere silicon rectifier diode.



The proven benefits of G. E.'s high current rectifier diodes are:

- Choice of stud anode or stud cathode types
- Thermal fatigue resistant
- Low reverse current
- Great uniformity of product
- Higher surge current capabilities

RATINGS AND SPECIFICATIONS:[1]

	1N4044	1N4045	1N4046	1N4047	1N4048	1N4049	1N4050	1N4051	1N4052	1N4053	1N4054	1N4055	1N4056
*Maximum Allowable Transient Peak Reverse Voltage, V_{RM} (non-rep) (non-repetitive, 8.33 millisecond half sine wave pulse)[2]	100	200	250	300	350	400	525	650	800	925	1050	1175	1300
*Maximum Allowable Working and Repetitive Peak Reverse Voltage, V_{RM} (wkg) & V_{RM} (rep)[3], and DC Blocking Voltage, V_R[4]	50	100	150	200	250	300	400	500	600	700	800	900	1000
*Maximum Allowable Average Forward Current, I_T (AV) (single phase, 120°C case temperature)	275 amperes												
*Maximum Allowable Peak One-Cycle Surge Current, I_{TSM} (60 cps single-phase basis, non-repetitive)	5000 amperes												
Minimum I^2t Rating (non-repetitive)	50,000 amperes² seconds (see Chart 6)												
*Maximum Peak Forward Voltage Drop, V_{TM} (I_O=275 amps DC, T_C=120°C)	1.35 volts												
*Maximum Full Load Reverse Current, $I_{R(AV)}$ (full-cycle average, 120°C case temperature, single phase)	15 milliamperes												
Maximum Thermal Resistance, $R_{\theta JC}$ (junction to case)	0.18°C/watt												
*Storage and Junction Operating Temperature, T_C	−65°C to +190°C												
Stud Torque[5]—Maximum	325 inch-pounds (375 kg-cm)												
—Minimum	275 inch-pounds (320 kg-cm)												

NOTES: [1]Models listed are stud cathode (forward polarity) types. Order 1N40__R for stud anode (reverse polarity) types. Ratings and specifications are for frequencies from 50 up to 400 cycles/second, except where noted differently.

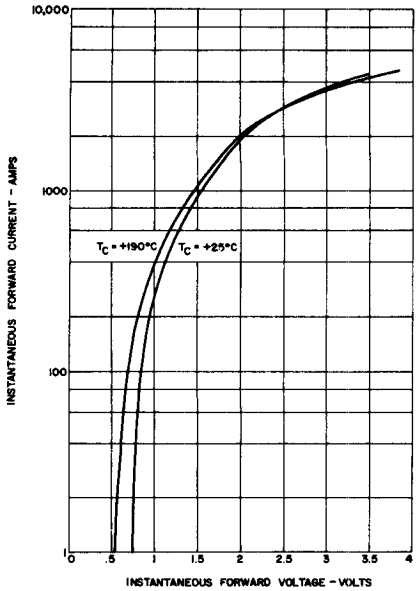
[2]Non-repetitive voltage and current ratings, as contrasted to repetitive ratings, are ratings which apply for occasional or unpredictable overloads. For example, the forward surge current ratings are non-repetitive ratings that are used in fault co-ordination work.

[3]Rating assumes a rectifier diode heat sink dissipation of 2.0°C/watt, or less.

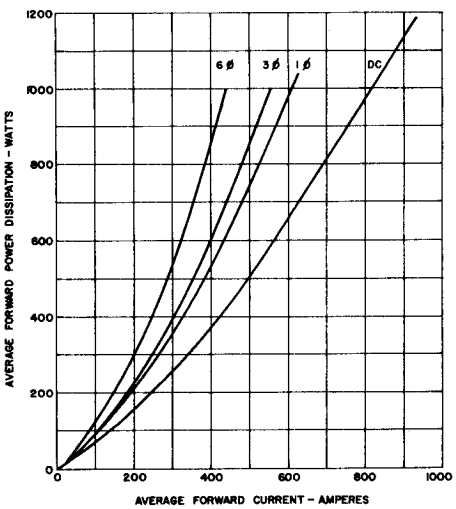
[4]Rating assumes a rectifier diode heat sink dissipation of 1.0°C/watt, or less.

[5]Use of a silicone grease (G-E #G623) between the rectifier base and heat sink is recommended.

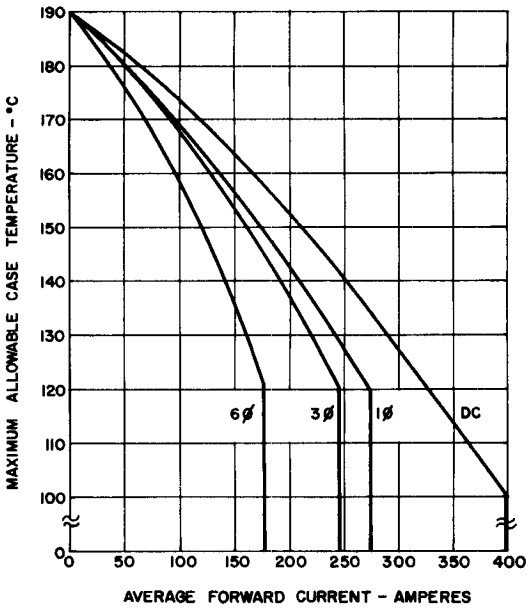
***Indicates JEDEC Registration Parameters.**



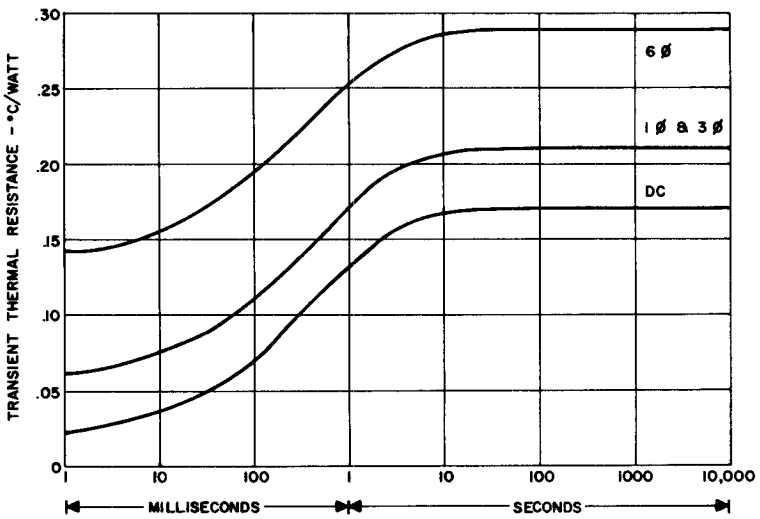
1. MAXIMUM FORWARD CHARACTERISTICS



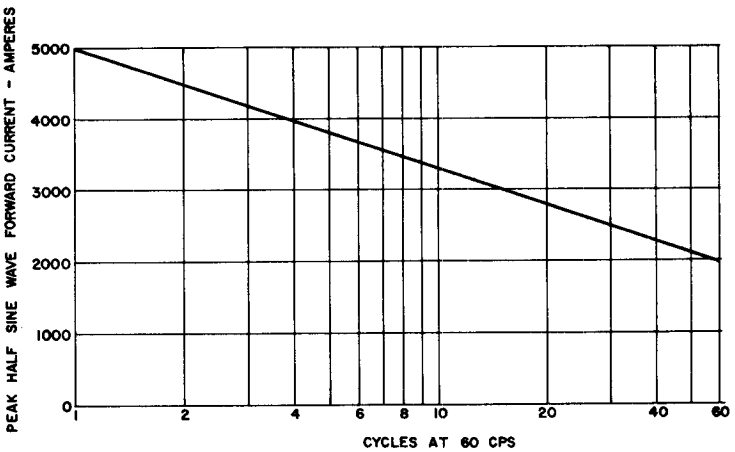
2. AVERAGE FORWARD POWER DISSIPATION VS. AVERAGE FORWARD CURRENT (T_C = +190°C)



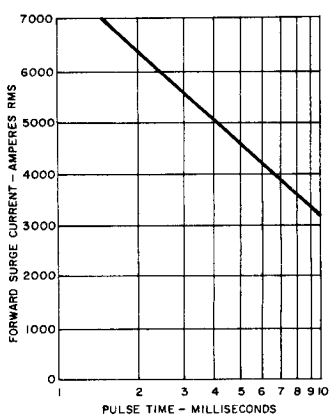
3. MAXIMUM CASE TEMPERATURE VS. AVERAGE FORWARD CURRENT



4. TRANSIENT THERMAL RESISTANCE — JUNCTION TO CASE

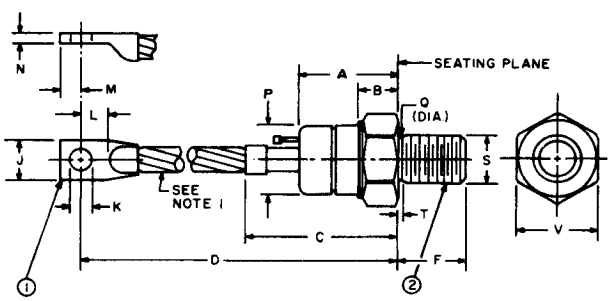


5. MAXIMUM SURGE CURRENT FOLLOWING RATED LOAD CONDITIONS (T_C = −65°C TO +190°C)



6. SUBCYCLE SURGE FORWARD CURRENT FOLLOWING RATED LOAD CONDITIONS (T_C = −65°C TO +190°C)

OUTLINE DRAWING



MODEL	TERMINAL 1	TERMINAL 2	S THREAD SIZE
1N4044-56	– (ANODE)	+ (CATHODE)	3/4 – 16 UNF – 2A
1N4044-56R	+ (CATHODE)	– (ANODE)	

TABLE OF DIMENSIONS
Conversion Table

SYM.	DECIMAL INCHES MIN.	DECIMAL INCHES MAX.	METRIC MM MIN.	METRIC MM MAX.	NOTES
A	1.450	1.550	36.83	39.37	
B	.500	.750	12.70	19.05	
C	2.300	2.500	58.42	63.50	
D	5.300	5.700	134.62	144.78	
F	.797	.827	20.24	21.01	
J	.665	.755	16.89	19.18	
K	.322	.333	8.17	8.46	
L	.437	–	11.99	–	
M	.325	.360	8.25	9.14	
N	.155	.170	–	–	
P	1.060	1.100	26.92	27.94	
Q	.660	.749	16.76	19.02	
T	–	.156	–	3.96	3
V	1.240	1.250	31.49	31.75	

NOTES:
1. Flexible Copper Lead.
2. One Nut and One Lockwasher Supplied With Each Unit. Material of Hardware is Steel, Cad Plated.
3. "T" Dimension is Area of Unthreaded Portion. Complete Threads are Within 2.5 Threads of Seating Plane.
4. Angular Orientation of Terminals is Undefined.