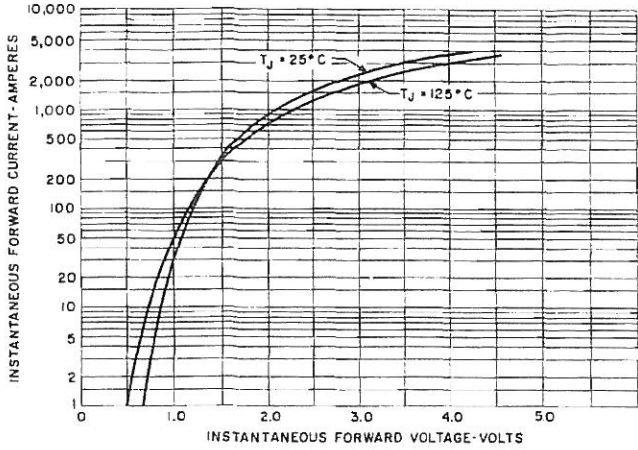
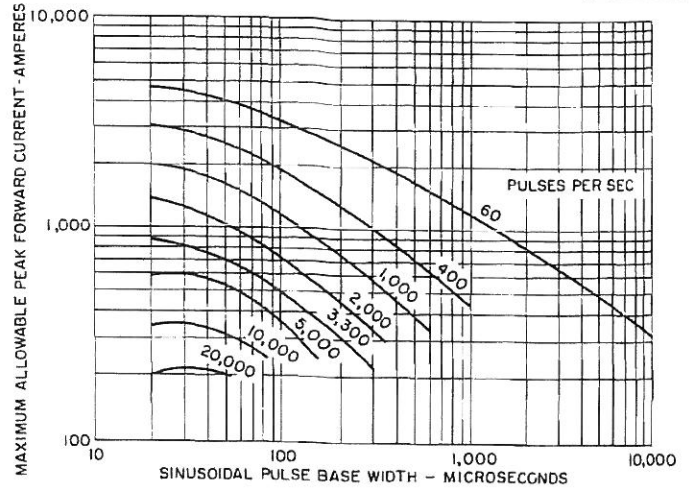


DEVICE SPECIFICATIONS

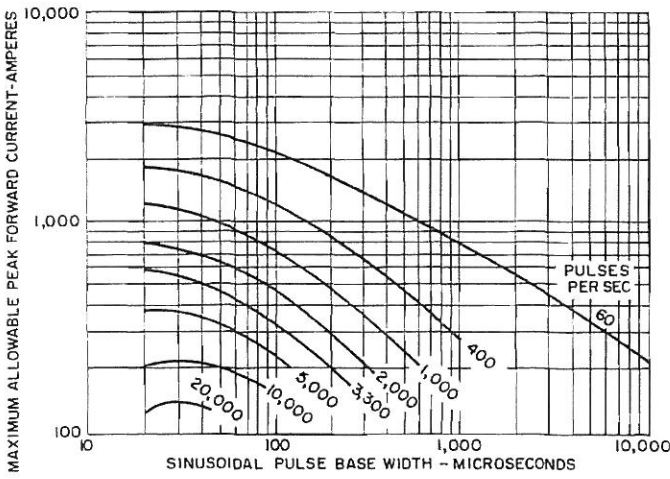
A187



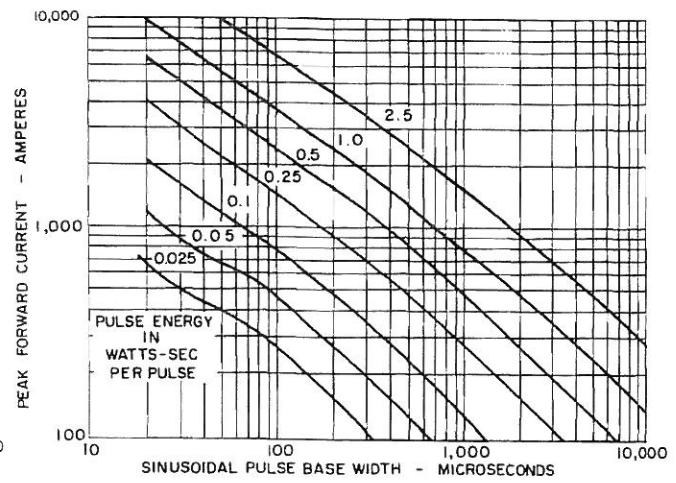
1. MAXIMUM FORWARD CHARACTERISTICS



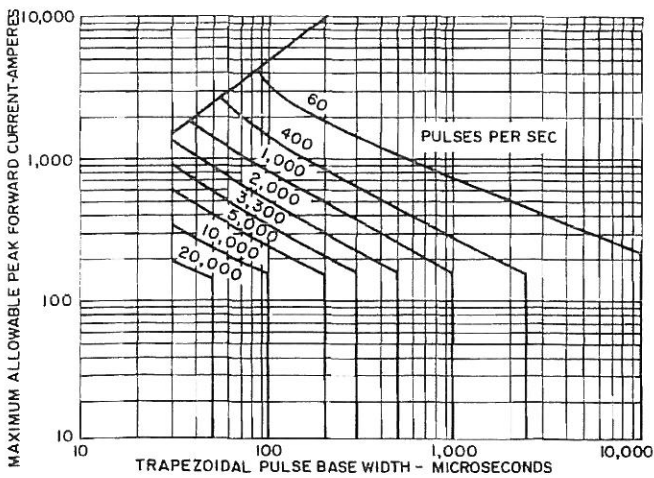
2. MAXIMUM ALLOWABLE PEAK FORWARD CURRENT SINUSOIDAL WAVEFORM ($T_C = 65^\circ C$)



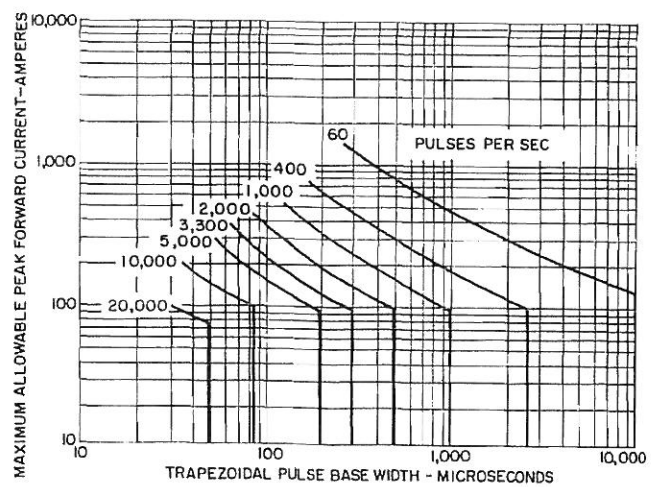
3. MAXIMUM ALLOWABLE PEAK FORWARD CURRENT SINUSOIDAL WAVEFORM ($T_C = 90^\circ C$)



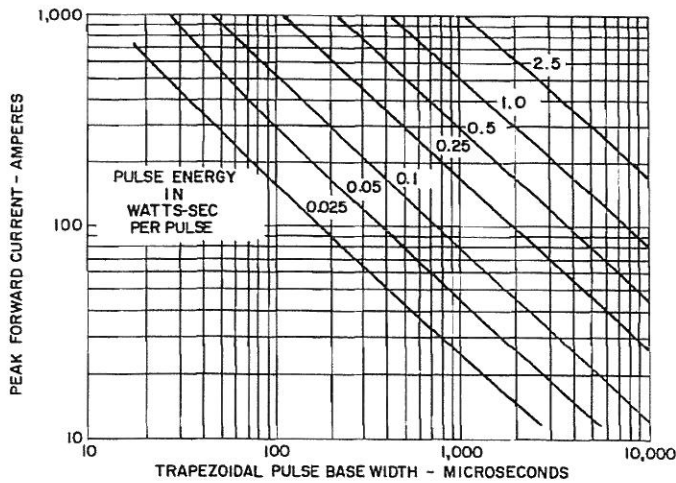
4. SINUSOIDAL PULSE ENERGY ($T_J = 125^\circ C$)



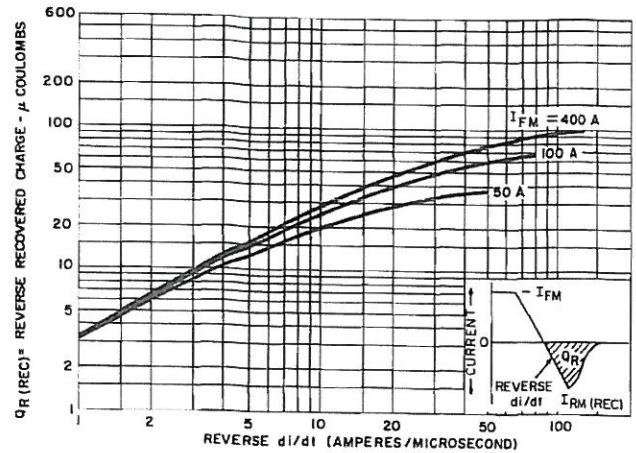
5. MAXIMUM ALLOWABLE PEAK FORWARD CURRENT TRAPEZOIDAL WAVEFORM ($T_C = 65^\circ C$)



6. MAXIMUM ALLOWABLE PEAK FORWARD CURRENT TRAPEZOIDAL WAVEFORM ($T_C = 90^\circ C$)

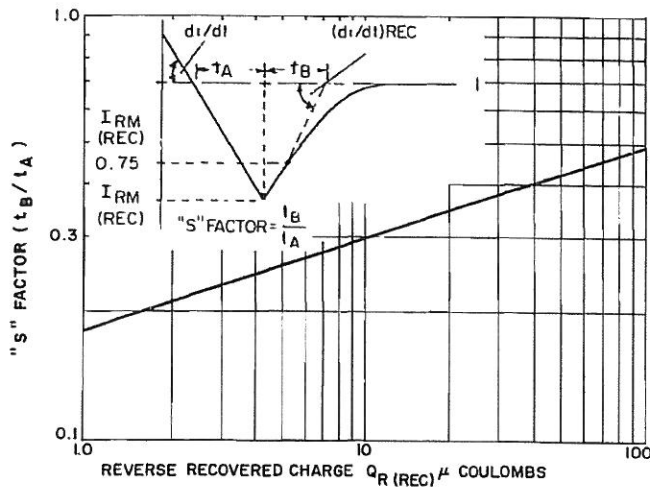


7. TRAPEZOIDAL PULSE ENERGY, DI/DT
(RISING & FALLING) = 100 A/μs
(T_J = 125°C)

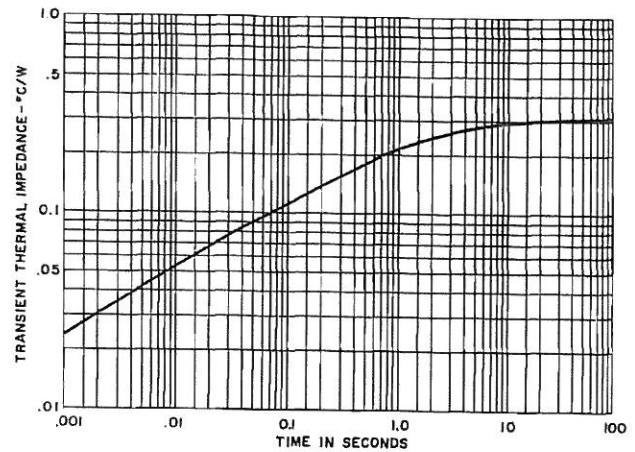


8. RECOVERED CHARGE (T_J = 125°C)
(Maximum Recovered Charge Group 12)

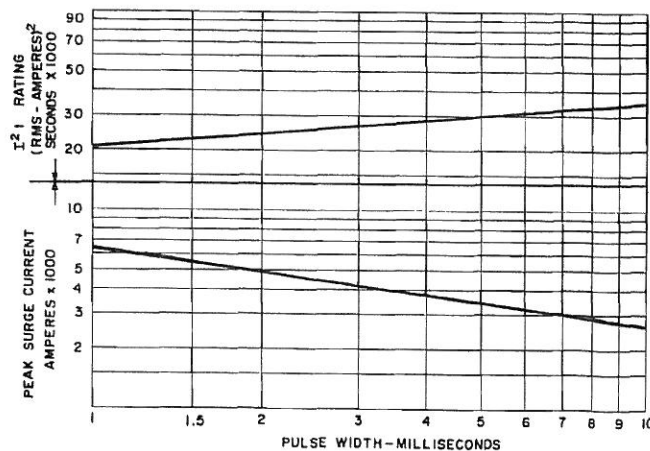
If maximum recovered charge group 12 is required, request A187 X9, e.g. A187BX9, A187RBX9, etc.



9. TYPICAL "S" FACTOR VERSUS REVERSE RECOVERED CHARGE (T_J = 125°C)



10. TRANSIENT THERMAL IMPEDANCE - JUNCTION-TO-CASE



11. SUB-CYCLE SURGE FORWARD CURRENT AND I²t RATINGS VERSUS PULSE TIME FOLLOWING RATED LOAD CONDITIONS

OUTLINE DRAWING

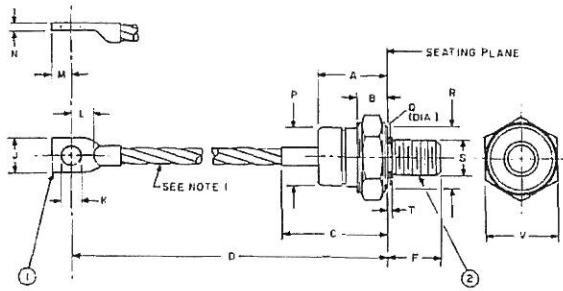


TABLE OF DIMENSIONS
Conversion Table

SYM.	DECIMAL INCHES		METRIC MM		NOTES
	MIN.	MAX.	MIN.	MAX.	
A	1.020	1.140	25.90	28.96	
B	.390	.500	9.90	12.70	
C	1.570	1.790	39.87	44.45	
D	4.750	5.150	120.65	130.81	
J	.520	.625	13.20	15.88	
K	.270	.291	6.85	7.39	
L	.320	-	8.12	-	
M	.280	.320	7.11	8.13	
N	.070	.110	1.77	2.79	
P	.840	.910	21.33	23.11	
R	.920	-	23.36	-	3
T	-	.060	-	1.52	4
V	1.052	1.063	26.72	27.00	

NOTES:

1. Flexible Copper Lead, 9/32 Inch Nominal Diameter.
2. One Nut and One Lockwasher Supplied With Each Unit. Material of Hardware is Steel-Cad Plated.
3. "R" Dimension is Diameter of Effective Seating Area.
4. "T" Dimension is Area of Unthreaded Portion. Complete Threads are Within 2.5 Threads of Seating Plane.
5. Angular Orientation of Terminals is Undefined.
6. Approximate Weight: 105 Grams.

MODEL	TERMINAL 1	TERMINAL 2	S THREAD SIZE	F THREAD LENGTH	Q RELIEF DIAMETER
A1B7 FORWARD POLARITY	ANODE	CATHODE	3/8 - 24	.640 .610 IN.	.373 .344 IN.
A1B7R REVERSE POLARITY	CATHODE	ANODE	UNF - 2A	16.26 15.49 MM	9.47 8.74 MM

MOUNTING INSTRUCTIONS

Following these installation instructions will result in a rectifier diode-to-heatsink contact thermal resistance of 0.10 C/watt or less.

1. Be sure mounting surface is clean and flat within .001 inch/inch.
2. Mounting hole diameter should not exceed the outside diameter of the rectifier diode stud by more than 1/16 inch, and should be deburred.
3. Use Dow Corning's DC3, 4, 340 or 640 or GE G3221 or equivalent, on mounting surfaces that come in contact with the heatsink.
4. Use only hardware furnished with each rectifier diode.
5. Tighten with a torque wrench, from nut side, to 100 lb-in max.

5.2 Condensed Electrical and Thermal Characteristics and Ratings



RECTIFIERS 150 TO 225 AMPERES

JEDEC TYPE	IN3260-74	—	—	—	—
GE TYPE	—	A180	A187	A215	A399

SPECIFICATIONS

$I_{FM(AV)}$	Max. average forward (1 phase operation)	160	150	150	150	225	
	$T_C = (^{\circ}C)$	125	143	65	108	80	
V_{RM} (Rep)	Max. repetitive peak reverse voltage (V)	100-1200	100-1500	100-1500	800	600-1500	
I_{FM} (Surge)	Max. peak one cycle, non-recurrent surge current (1 phase operation) 50 Hz.	—	3200	2600	2800	3350	
	@ max. rated load conditions (A) 60 Hz.	2000	3400	2800	3000	3500	
I^2t	Max. non-repetitive for 1.5 msec (A^2sec)	6000	26000	23000	24000	22000	
T_J	Operation junction temperature range ($^{\circ}C$)	-55 to 190	-40 to 200	-40 to 125	-40 to 175	-40 to 125	
$R_{\theta JC}$	Max. thermal resistance, junction-to-case ($^{\circ}C/W$)	.3	.3	.3	.35	.095	
V_{FM}	Max. peak forward voltage drop @ rated $I_{F(AV)}$ (1 phase operation)	1.3	1.3	1.7	1.3	2.7	
	@ $T_C = (^{\circ}C)$	125	143	25	108	65	
$Q_{R(REC)}$	Reverse recovered charge @ rated T_J (μc)	—	—	50	—	15	
t_{rr}	Reverse recovery time @ rated T_J (μs)	—	—	2.3	—	1.5	
V_F	Max. forward ⁽¹⁾ voltage drop for the current range:	$I_{MIN}(A)$	10	10	10	100	200
		$I_{MAX}(A)$	2000	6000	6000	25000	5000
		A	.3905	.53	.363	-1.4	.038
		B	.0137	.079	.151	0.727	.234
		C	.0008	8.85E-4	7.04E-4	.0022	5.95E-4
$R_{\theta JC}$	Transient thermal ⁽²⁾ resistance for time:	D	.0343	-8.1E-3	4.12E-3	-1.31	.025
		$T_{MIN}(S)$.001	.001	.001	.001	.001
		$T_{MAX}(S)$.01	.01	.01	.01	.01
		F	.21	.21	.21	.261	.072
		G	.34	.34	.34	.49	.24
Package Outline No.		128	127.1	127.1	323	109.1	
Maximum Stud Torque (In-Lbs/N-M)		—	100/11.3	100/11.3	—	800/3.56	
Max Mounting Force (Lbs./Kn)		—	—	—	—	—	
Expanded Electrical Characterization, see page:		N.A.	N.A.	N.A.	151	162	

⁽¹⁾Voltage Drop Model: $V_F = A + B \cdot L_N(I) + C \cdot I + D\sqrt{I}$

⁽²⁾Transient Thermal Resistance Model: $R_{\theta JC} = F$