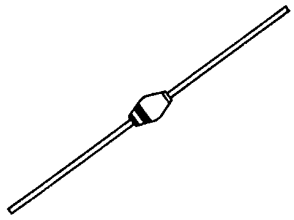
1N5179 SEE PAGE 266
1N5332 SEE PAGE 209

Lead Mounted
Rectifier

TRANSIENT VOLTAGE PROTECTED
5.0 Amps 200-800 Volts

A15 SERIES
1N5624
1N5625
1N5626
1N5627

THE GENERAL ELECTRIC A15 IS A 5.0 AMPERE RATED, AXIAL LEADED GENERAL PURPOSE RECTIFIER. ITS DUAL HEATSINK CONSTRUCTION PROVIDES RIGID MECHANICAL SUPPORT FOR THE PELLET AND EXCELLENT THERMAL CHARACTERISTICS. PASSIVATION AND PROTECTION OF THE SILICON PELLET'S PN JUNCTION ARE PROVIDED BY SOLID GLASS; NO ORGANIC MATERIALS ARE PRESENT WITHIN THE HERMETICALLY SEALED PACKAGE.



The A15 is "Transient Voltage Protected." This device will dissipate up to 1000 watts in the reverse direction without damage. Voltage Transients generated by household or industrial power lines are dissipated.

absolute maximum ratings: (25°C unless otherwise specified)

	1N5624 (A15B)	1N5625 (A15D)	1N5626 (A15M)	1N5627 (A15N)	
*Reverse Voltage (−65°C to +175°C, T_J)					
Repetitive Peak, V_{RRM}	200	400	600	800	Volts
DC, V_R	200	400	600	800	Volts
Average Forward Current, I_F					
*70°C ambient, see rating curves	3.0				Amps
25°C ambient, see rating curves	5.0				Amps
*Peak Surge Forward Current, I_{FSM}					
Non repetitive, .0083 sec., half sine wave, Full Load JEDEC Method	125				Amps
Peak Surge Forward Current, I_{FSM}					
Non-repetitive, .001 sec., half sine wave, Full load 175°C, T_J	225				Amps
*Junction Operating Temperature Range	−65 to +175				°C
*Storage Temperature Range	−65 to +200				°C
I^2t, RMS for fusing .001 to .01 sec.	25				Amp^2sec
Peak Non-repetitive Reverse Power Rating					
20 μsec half sine wave at Max T_J	1000				Watts
*100 μsec., JEDEC	450				Watts

*Mounting: Any position. Lead temperature 290°C maximum to ⅛" from body for 5 seconds maximum during mounting.

electrical characteristics:

Maximum Forward Voltage Drop, V_F					
I_F = 5.0A, T_A = 25°C	1.1				Volts
*I_F = 3.0A, T_A = 70°C	0.95				Volts
Maximum Reverse Current, I_R, at rated V_{RRM}					
T_J = 25°C	5.0				μA
*T_J = 175°C	300	300	200	200	μA
Typical Reverse Current @ 25°C	1.0				μA
Typical Reverse Recovery Time, T_{rr}	2.5				μsec
Maximum Reverse Recovery Time, T_{rr}	5.0				μsec
Recovery Circuit Per MIL-S-19500/286C					

*JEDEC Registered data.

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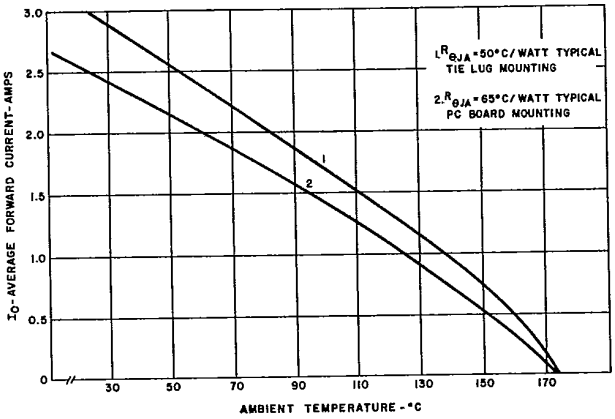
A15
1N5624-7

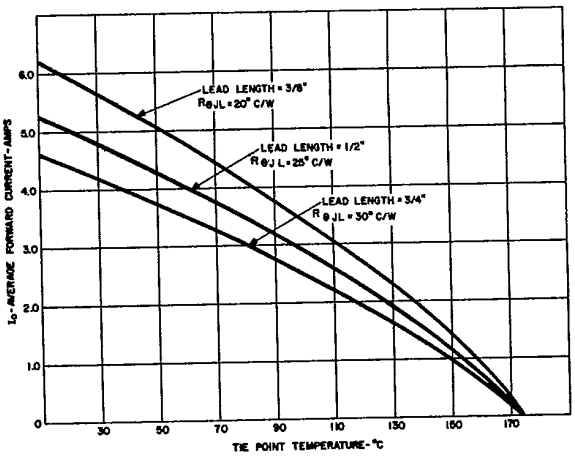
CIRCUIT DESIGN INFORMATION

MAXIMUM ALLOWABLE DC OUTPUT CURRENT RATINGS

SINGLE PHASE, RESISTIVE AND INDUCTIVE LOADS

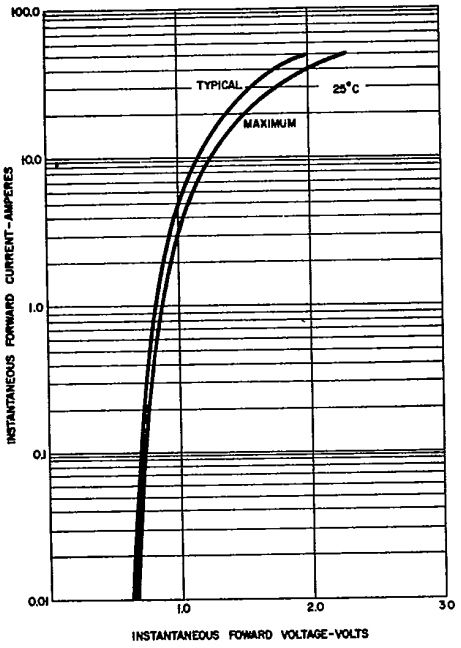


AMBIENT OPERATION
(See Tie Point Mounting Below)

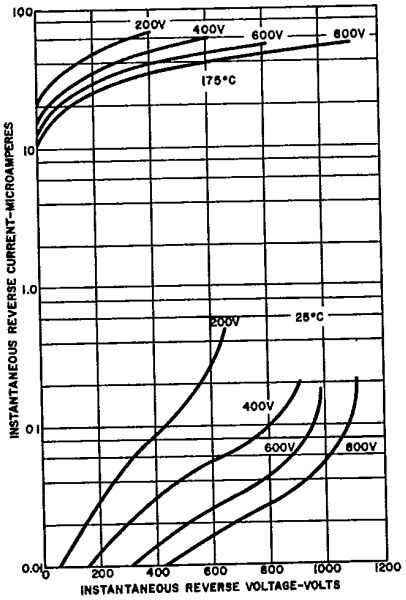


TIE POINT OPERATION

TYPICAL CHARACTERISTICS



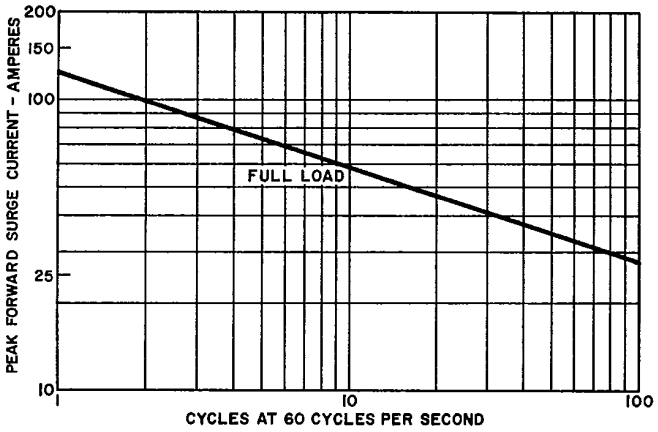
FORWARD CHARACTERISTICS



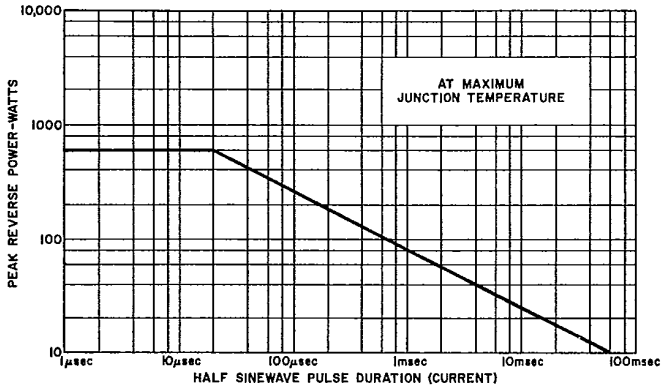
REVERSE CHARACTERISTICS

A15
1N5624-7

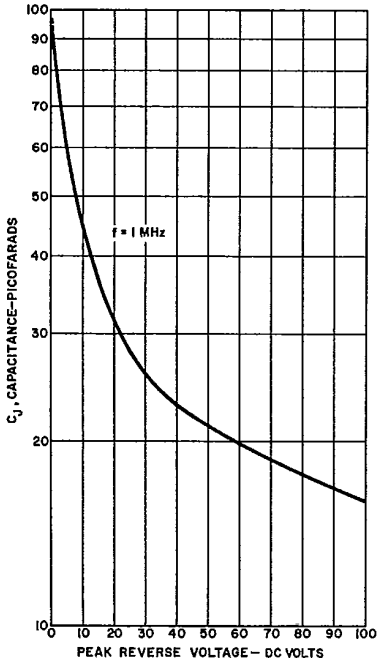
TYPICAL CHARACTERISTICS



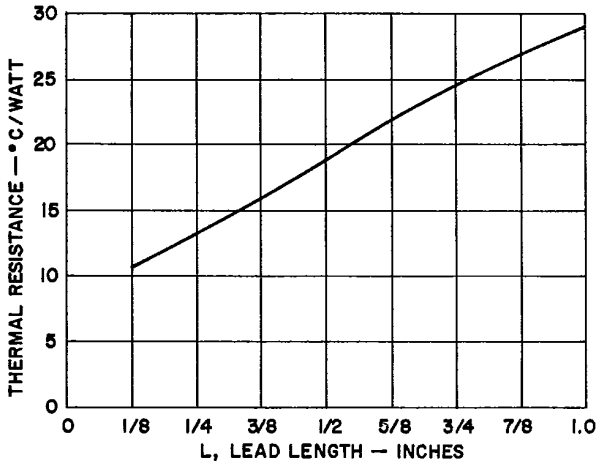
MAXIMUM NON-REPETITIVE MULTICYCLE FORWARD SURGE CURRENT



MAXIMUM NON-REPETITIVE AVALANCHE SURGE POWER



JUNCTION CAPACITANCE



STEADY STATE THERMAL RESISTANCE

1N5624-7

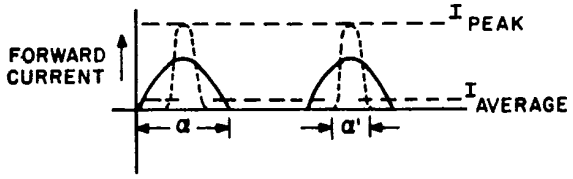
Current Derating (capacitive load)

Average forward current as specified under maximum ratings, page 1, and derating curves for high temperature operation, above, must be corrected for applications with capacitive loads. As the current conduction angle, α', is decreased, the peak current required to maintain the *same average current* increases, i.e., the peak-to-average current ratio increases from 3.14. Figure 3 gives the derating required based on this increase in peak to average current ratio for sine wave operation. For more complete information consult Application Note 200.30.

METHOD: 1. Determine conduction angle α' in degrees for *particular circuit as designed.*
2. Enter Figure 3 for the particular conduction angle and read corresponding percent of forward current per cell.
3. Multiply this value times average forward current for resistive load from igures 1 and 2 as given for the actual ambient or tiepoint temperature required.

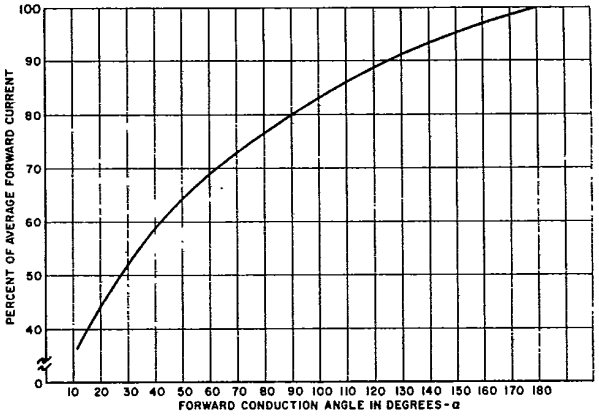
See Typical Examples Below

TYPICAL EXAMPLES (25°C Ambient Temperature)					
	Example No. 1	Example No. 2	Example No. 3	Example No. 4	Units
Conduction Angle (α)	170	110	130	70	Degrees
Rated Average Current (Resistive Load)	3	3	3	3	Amp.
% of Average Current	0.98	0.86	0.92	0.73	%
Rated Average Current (Capacitive Load)	2.9	2.6	2.8	2.2	Amps.



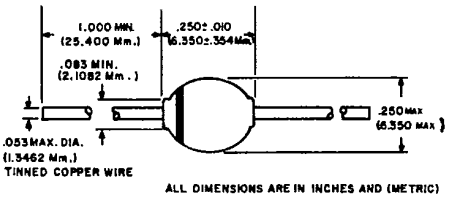
α = CONDUCTION ANGLE (180°)
α' = SHORTENED CONDUCTION ANGLE

OSCILLOSCOPE PRESENTATION

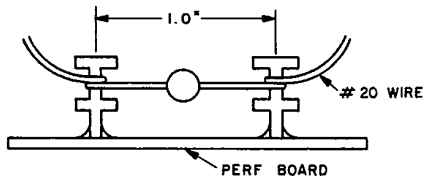


DERATING FOR SHORTENED CONDUCTION ANGLE

OUTLINE DRAWING



TYPICAL TIE LUG MOUNTS



TYPICAL PC BOARD MOUNTING