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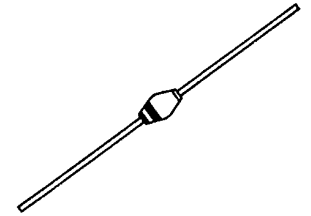
### Lead Mounted Rectifier

**TRANSIENT VOLTAGE PROTECTED**  
**5.0 Amps                      200-800 Volts**

<b>A15 SERIES</b>
<b>1N5624</b>
<b>1N5625</b>
<b>1N5626</b>
<b>1N5627</b>

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 PELLETS 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)

	<b>1N5624</b> <small>(A15B)</small>	<b>1N5625</b> <small>(A15D)</small>	<b>1N5626</b> <small>(A15M)</small>	<b>1N5627</b> <small>(A15N)</small>	
*Reverse Voltage (-65°C to +175°C, T <sub>J</sub> )					
Repetitive Peak, V <sub>RRM</sub>	200	400	600	800	Volts
DC, V <sub>R</sub>	200	400	600	800	Volts
Average Forward Current, I <sub>F</sub>					
*70°C ambient, see rating curves	←────────────────── 3.0 ───────────────────→				Amps
25°C ambient, see rating curves	←────────────────── 5.0 ───────────────────→				Amps
*Peak Surge Forward Current, I <sub>FSM</sub>					
Non repetitive, .0083 sec., half sine wave, Full Load JEDEC Method	←────────────────── 125 ───────────────────→				Amps
Peak Surge Forward Current, I <sub>FSM</sub>					
Non-repetitive, .001 sec., half sine wave, Full load 175°C, T <sub>J</sub>	←────────────────── 225 ───────────────────→				Amps
*Junction Operating Temperature Range	←────────────────── -65 to +175 ───────────────────→				°C
*Storage Temperature Range	←────────────────── -65 to +200 ───────────────────→				°C
I <sup>2</sup> t, RMS for fusing .001 to .01 sec.	←────────────────── 25 ───────────────────→				Amp <sup>2</sup> sec
Peak Non-repetitive Reverse Power Rating					
20 μsec half sine wave at Max T <sub>J</sub>	←────────────────── 1000 ───────────────────→				Watts
*100 μsec., JEDEC	←────────────────── 450 ───────────────────→				Watts
*Mounting: Any position. Lead temperature 290°C maximum to 1/8" from body for 5 seconds maximum during mounting.					

**electrical characteristics:**

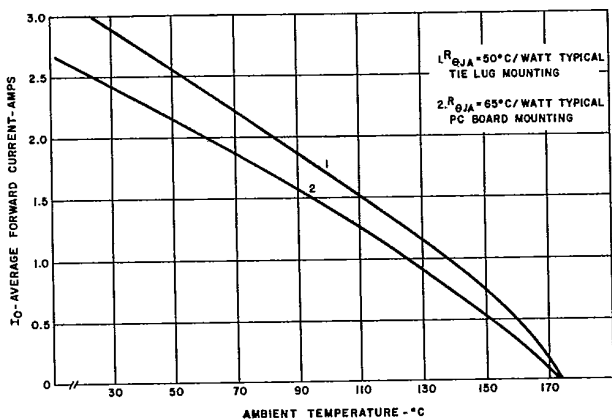
Maximum Forward Voltage Drop, V <sub>F</sub>					
I <sub>F</sub> = 5.0A, T <sub>A</sub> = 25°C	←────────────────── 1.1 ───────────────────→				Volts
*I <sub>F</sub> = 3.0A, T <sub>A</sub> = 70°C	←────────────────── 0.95 ───────────────────→				Volts
Maximum Reverse Current, I <sub>R</sub> , at rated V <sub>RRM</sub>					
T <sub>J</sub> = 25°C	←────────────────── 5.0 ───────────────────→				μA
*T <sub>J</sub> = 175°C	300	300	200	200	μA
Typical Reverse Current @ 25°C	←────────────────── 1.0 ───────────────────→				μA
Typical Reverse Recovery Time, T <sub>rr</sub>	←────────────────── 2.5 ───────────────────→				μsec
Maximum Reverse Recovery Time, T <sub>rr</sub>	←────────────────── 5.0 ───────────────────→				μsec
Recovery Circuit Per MIL-S-19500/286C					
*JEDEC Registered data.					

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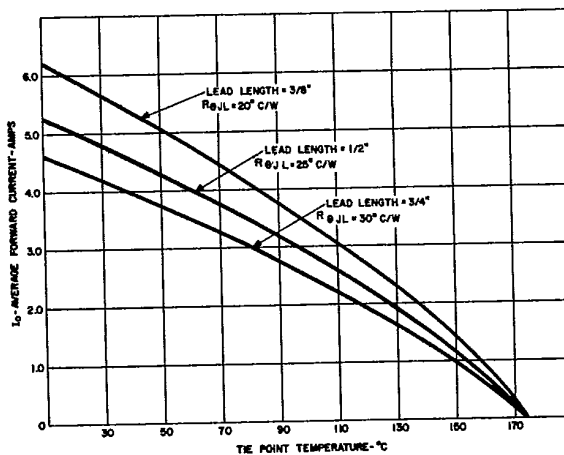
### CIRCUIT DESIGN INFORMATION

#### MAXIMUM ALLOWABLE DC OUTPUT CURRENT RATINGS SINGLE PHASE, RESISTIVE AND INDUCTIVE LOADS



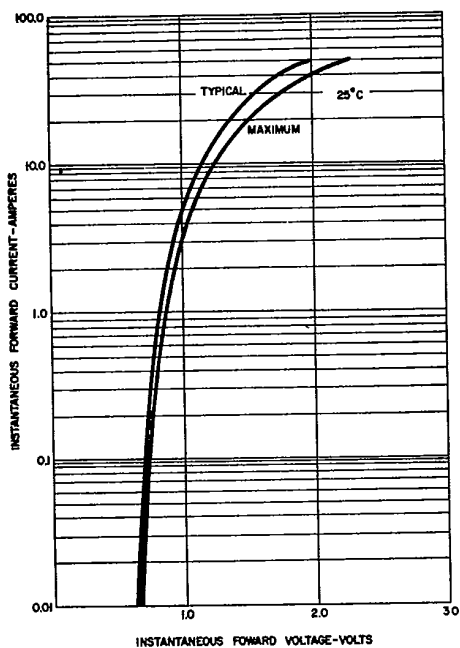
AMBIENT OPERATION

(See Tie Point Mounting Below)

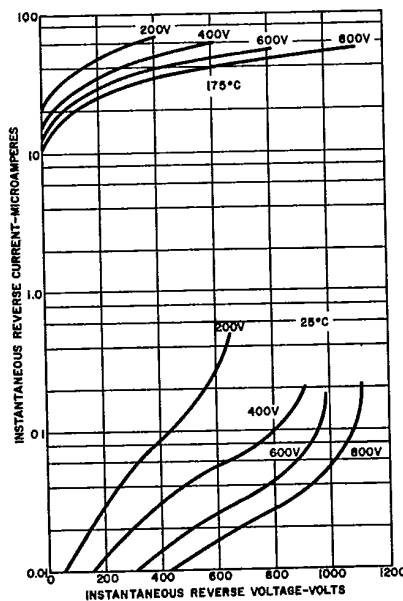


TIE POINT OPERATION

### TYPICAL CHARACTERISTICS



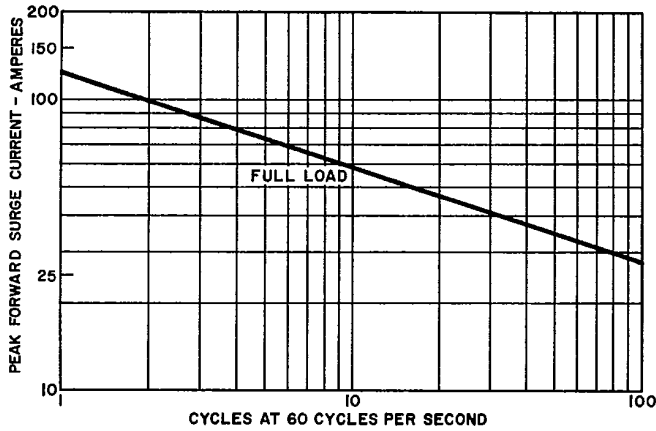
FORWARD CHARACTERISTICS



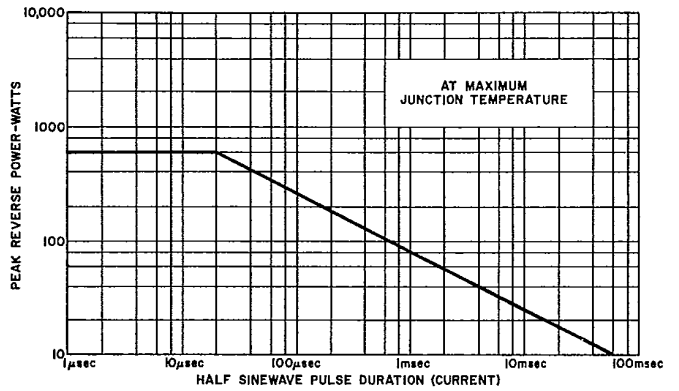
REVERSE CHARACTERISTICS

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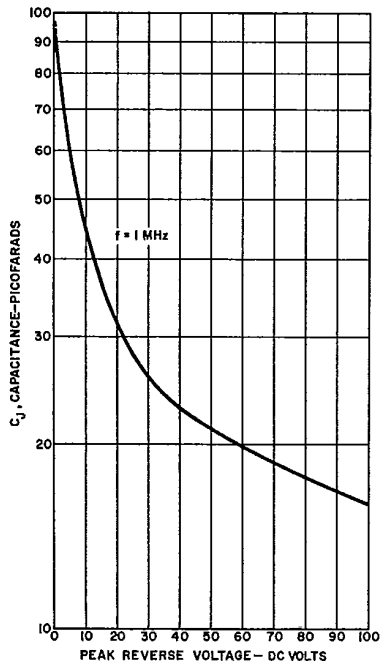
TYPICAL CHARACTERISTICS



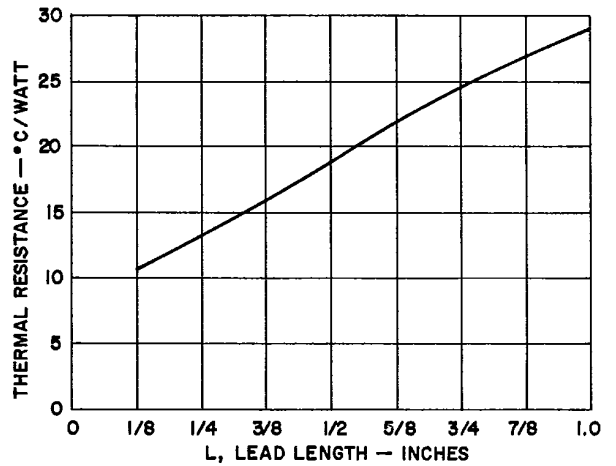
MAXIMUM NON-REPETITIVE MULTICYCLE FORWARD SURGE CURRENT



MAXIMUM NON-REPETITIVE AVALANCHE SURGE POWER



JUNCTION CAPACITANCE



STEADY STATE THERMAL RESISTANCE

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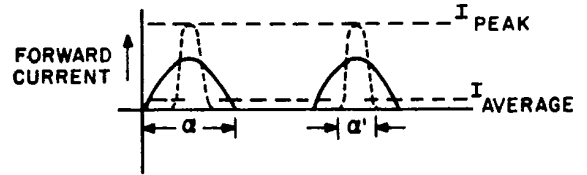
**Current Derating (capacitive load)**

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,  $\alpha'$ , 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  $\alpha'$  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 figures 1 and 2 as given for the actual ambient or tiepoint temperature required.

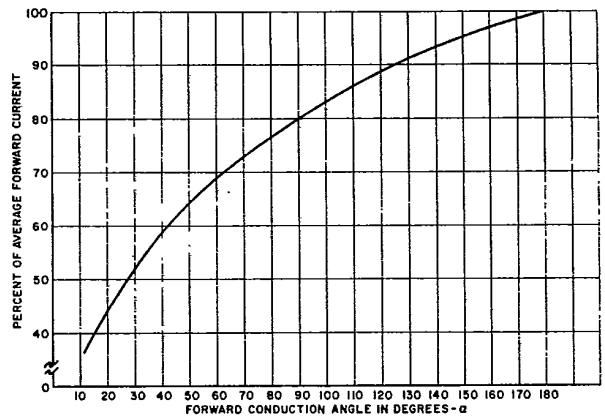
See Typical Examples Below

TYPICAL EXAMPLES (25°C Ambient Temperature)					
	Example No. 1	Example No. 2	Example No. 3	Example No. 4	Units
Conduction Angle ( $\alpha$ )	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.



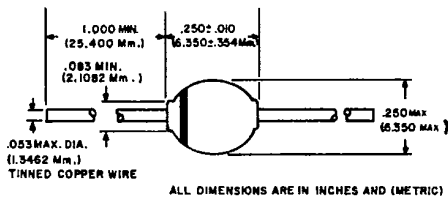
$\alpha$  = CONDUCTION ANGLE (180°)  
 $\alpha'$  = SHORTENED CONDUCTION ANGLE

**OSCILLOSCOPE PRESENTATION**

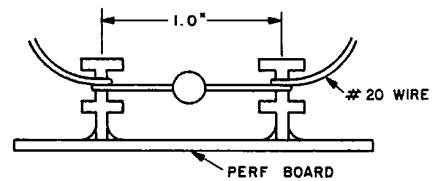


**DERATING FOR SHORTENED CONDUCTION ANGLE**

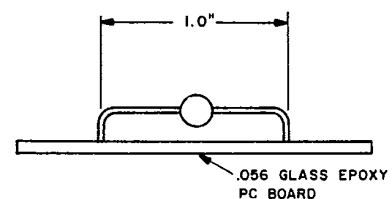
**OUTLINE DRAWING**



**TYPICAL TIE LUG MOUNTS**



**TYPICAL PC BOARD MOUNTING**



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