

- 1N3016B THRU 1N3045B AVAILABLE IN JANHC  
PER MIL-PRF-19500/115
- 1 WATT CAPABILITY WITH PROPER HEAT SINKING
- ALL JUNCTIONS COMPLETELY PROTECTED WITH SILICON DIOXIDE
- COMPATIBLE WITH ALL WIRE BONDING AND DIE ATTACH TECHNIQUES,  
WITH THE EXCEPTION OF SOLDER REFLOW

CD3016B  
thru  
CD3045B

## MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C  
Storage Temperature: -65°C to +175°C  
Forward Voltage @ 200mA: 1.2 volts maximum

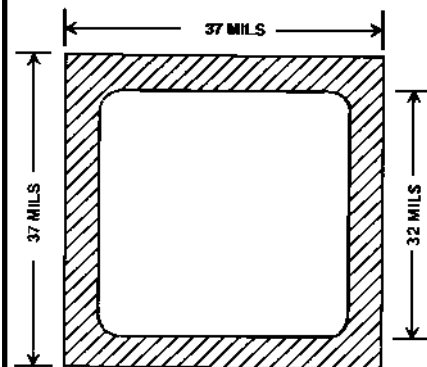
## ELECTRICAL CHARACTERISTICS @ 25°C

| CDI<br>TYPE<br>NUMBER<br><br>(NOTE 1) | NOMINAL<br>ZENER<br>VOLTAGE<br>$V_Z @ I_{ZT}$<br>(NOTE 2) | ZENER<br>TEST<br>CURRENT<br>$I_{ZT}$ | MAXIMUM ZENER IMPEDANCE<br>(NOTE 3) |      |                   | MAX. DC<br>ZENER<br>CURRENT<br>$I_{ZM}$ | MAX. REVERSE<br>LEAKAGE CURRENT<br>$I_R @ V_R$ |       |
|---------------------------------------|-----------------------------------------------------------|--------------------------------------|-------------------------------------|------|-------------------|-----------------------------------------|------------------------------------------------|-------|
|                                       |                                                           |                                      | $Z_{ZT} @ I_{ZT}$                   |      | $Z_{ZT} @ I_{ZT}$ |                                         |                                                |       |
|                                       |                                                           |                                      | OHMS                                | OHMS | mA                |                                         | $\mu A$                                        | VOLTS |
| CD3016B                               | 6.8                                                       | 37                                   | 3.5                                 | 700  | 1.0               | 140                                     | 5.0                                            | 5.2   |
| CD3017B                               | 7.5                                                       | 34                                   | 4.0                                 | 700  | .5                | 125                                     | 5.0                                            | 5.7   |
| CD3018B                               | 8.2                                                       | 31                                   | 4.5                                 | 700  | .5                | 115                                     | 5.0                                            | 6.2   |
| CD3019B                               | 9.1                                                       | 28                                   | 5                                   | 700  | .5                | 105                                     | 5.0                                            | 6.9   |
| CD3020B                               | 10                                                        | 25                                   | 7                                   | 700  | .25               | 95                                      | 5.0                                            | 7.6   |
| CD3021B                               | 11                                                        | 23                                   | 8                                   | 700  | .25               | 85                                      | 1.0                                            | 8.4   |
| CD3022B                               | 12                                                        | 21                                   | 9                                   | 700  | .25               | 80                                      | 1.0                                            | 9.1   |
| CD3023B                               | 13                                                        | 19                                   | 10                                  | 700  | .25               | 74                                      | 0.5                                            | 9.9   |
| CD3024B                               | 15                                                        | 17                                   | 14                                  | 700  | .25               | 63                                      | 0.5                                            | 11.4  |
| CD3025B                               | 16                                                        | 15.5                                 | 16                                  | 700  | .25               | 60                                      | 0.5                                            | 12.2  |
| CD3026B                               | 18                                                        | 14                                   | 20                                  | 750  | .25               | 52                                      | 0.5                                            | 13.7  |
| CD3027B                               | 20                                                        | 12.5                                 | 22                                  | 750  | .25               | 47                                      | 0.5                                            | 15.2  |
| CD3028B                               | 22                                                        | 11.5                                 | 23                                  | 750  | .25               | 43                                      | 0.5                                            | 16.7  |
| CD3029B                               | 24                                                        | 10.5                                 | 25                                  | 750  | .25               | 40                                      | 0.5                                            | 18.2  |
| CD3030B                               | 27                                                        | 9.5                                  | 35                                  | 750  | .25               | 34                                      | 0.5                                            | 20.6  |
| CD3031B                               | 30                                                        | 8.5                                  | 40                                  | 1000 | .25               | 31                                      | 0.5                                            | 22.8  |
| CD3032B                               | 33                                                        | 7.5                                  | 45                                  | 1000 | .25               | 28                                      | 0.5                                            | 25.1  |
| CD3033B                               | 36                                                        | 7.0                                  | 50                                  | 1000 | .25               | 26                                      | 0.5                                            | 27.4  |
| CD3034B                               | 39                                                        | 6.5                                  | 60                                  | 1000 | .25               | 23                                      | 0.5                                            | 29.7  |
| CD3035B                               | 43                                                        | 6.0                                  | 70                                  | 1500 | .25               | 21                                      | 0.5                                            | 32.7  |
| CD3036B                               | 47                                                        | 5.5                                  | 80                                  | 1500 | .25               | 19                                      | 0.5                                            | 35.8  |
| CD3037B                               | 51                                                        | 5.0                                  | 95                                  | 1500 | .25               | 18                                      | 0.5                                            | 38.8  |
| CD3038B                               | 56                                                        | 4.5                                  | 110                                 | 2000 | .25               | 17                                      | 0.5                                            | 42.6  |
| CD3039B                               | 62                                                        | 4.0                                  | 125                                 | 2000 | .25               | 15                                      | 0.5                                            | 47.1  |
| CD3040B                               | 68                                                        | 3.7                                  | 150                                 | 2000 | .25               | 14                                      | 0.5                                            | 51.7  |
| CD3041B                               | 75                                                        | 3.3                                  | 175                                 | 2000 | .25               | 12                                      | 0.5                                            | 56.0  |
| CD3042B                               | 82                                                        | 3.0                                  | 200                                 | 3000 | .25               | 11                                      | 0.5                                            | 62.2  |
| CD3043B                               | 91                                                        | 2.8                                  | 250                                 | 3000 | .25               | 10                                      | 0.5                                            | 69.2  |
| CD3044B                               | 100                                                       | 2.5                                  | 350                                 | 3000 | .25               | 9.0                                     | 0.5                                            | 76.0  |
| CD3045B                               | 110                                                       | 2.3                                  | 450                                 | 4000 | .25               | 8.3                                     | 0.5                                            | 83.6  |

**NOTE 1** Zener voltage range equals nominal voltage  $\pm 5\%$  for "B" Suffix. "A" Suffix denotes  $\pm 10\%$ , No Suffix denotes  $\pm 20\%$ , "C" suffix denotes  $\pm 2\%$ , "D" suffix denotes  $\pm 1\%$ .

**NOTE 2** Zener voltage is read using a pulse measurement, 10 milliseconds maximum.

**NOTE 3** Zener impedance is derived by superimposing on  $I_{ZT}$  A 60Hz rms a.c. current equal to 10% of  $I_{ZT}$



Backside is Cathode

**FIGURE 1**

## DESIGN DATA

**METALLIZATION:**  
Top: (Anode).....Al  
Back: (Cathode).....Au

**AL THICKNESS**.....25,000 Å Min

**GOLD THICKNESS**.....4,000 Å Min

**CHIP THICKNESS**.....10 Mils

**CIRCUIT LAYOUT DATA:**  
For Zener operation, cathode must be operated positive with respect to anode.

**TOLERANCES: ALL**  
Dimensions  $\pm 2$  mils



**COMPENSATED DEVICES INCORPORATED**

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# CD3016 thru CD3045B

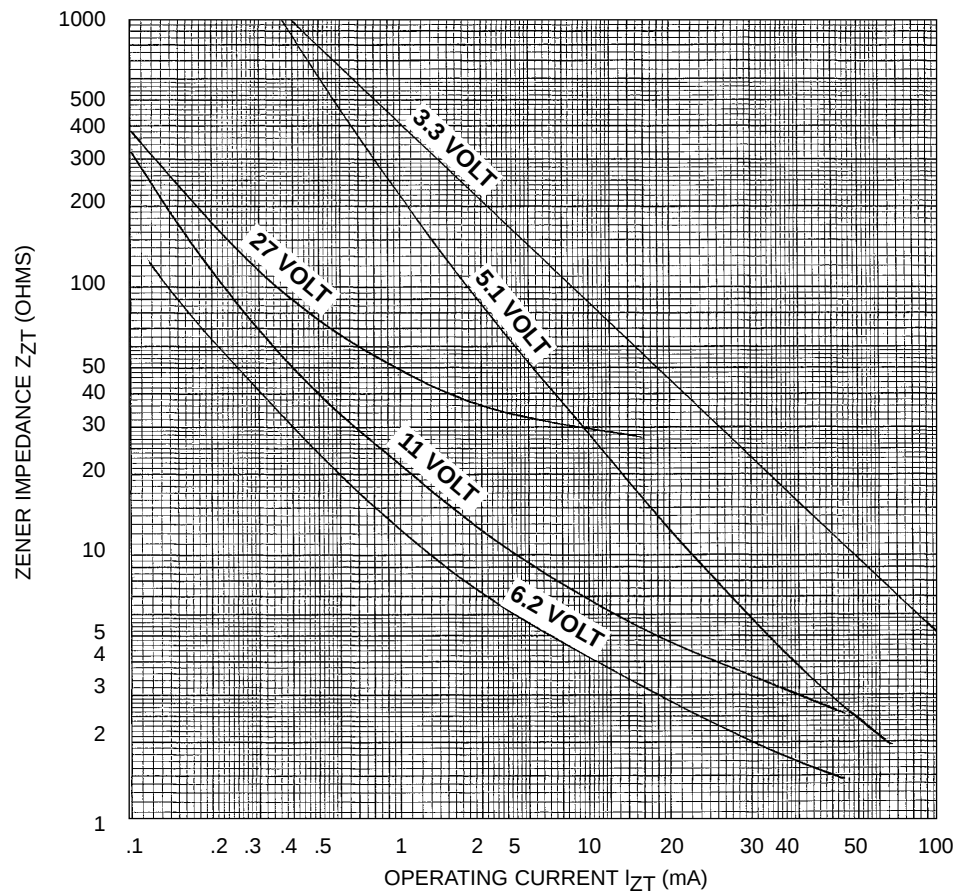


FIGURE 3

ZENER IMPEDANCE VS. OPERATING CURRENT