

- 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

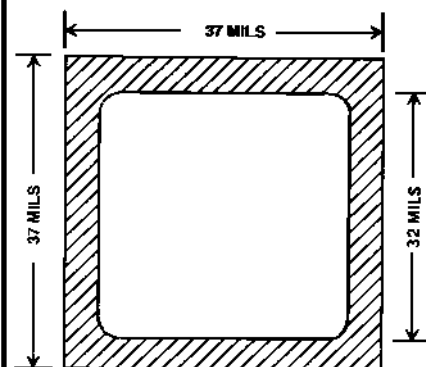
### ELECTRICAL CHARACTERISTICS @ 25°C

| CDI<br>TYPE<br>NUMBER<br><br>(NOTE 1) | NOMINAL<br>ZENER<br>VOLTAGE<br>V <sub>Z</sub> @ 1ZT<br>(NOTE 2) | ZENER<br>TEST<br>CURRENT<br>1ZT | MAXIMUM ZENER IMPEDANCE<br>(NOTE 3) |      |     | MAX. DC<br>ZENER<br>CURRENT<br>1ZM | MAX. REVERSE<br>LEAKAGE CURRENT<br>I <sub>R</sub> @ V <sub>R</sub> |       |
|---------------------------------------|---|---------------------------------|-------------------------------------|------|-----|------------------------------------|--|-------|
|                                       |   |                                 | Z <sub>ZT</sub> @ 1ZT               |      | mA  |                                    | μA   | VOLTS |
|                                       |   |                                 | OHMS                                | OHMS |     |                                    |  |       |
| 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 ± 5% for "B" Suffix. "A" Suffix denotes ± 10%, No Suffix denotes ± 20%, "C" suffix denotes ± 2%, "D" suffix denotes ± 1%.

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

**NOTE 3** Zener impedance is derived by superimposing on 1ZT A 60Hz rms a.c. current equal to 10% of 1ZT



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 ± 2 mils



**COMPENSATED DEVICES INCORPORATED**

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# CD3016 thru CD3045B

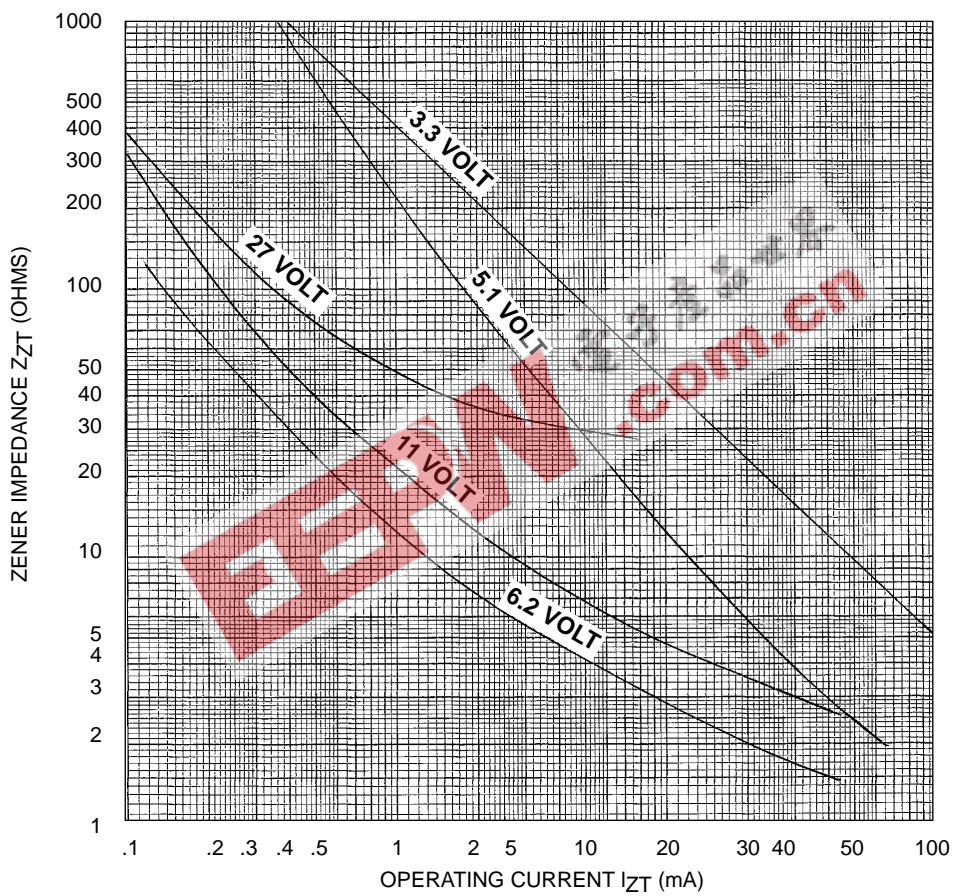


FIGURE 3

ZENER IMPEDANCE VS. OPERATING CURRENT