

- 1N5518B THRU 1N5546B AVAILABLE IN JANHC AND JANKC PER MIL-PRF-19500/437
- ZENER DIODE CHIPS
- ALL JUNCTIONS COMPLETELY PROTECTED WITH SILICON DIOXIDE
- ELECTRICALLY EQUIVALENT TO 1N5518B THRU 1N5546B
- 0.5 WATT CAPABILITY WITH PROPER HEAT SINKING
- COMPATIBLE WITH ALL WIRE BONDING AND DIE ATTACH TECHNIQUES, WITH THE EXCEPTION OF SOLDER REFLOW

**CD5518B**  
 thru  
**CD5546B**

### MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C  
 Storage Temperature: -65°C to +175°C  
 Forward Voltage @ 200 mA: 1.5 Volts Maximum

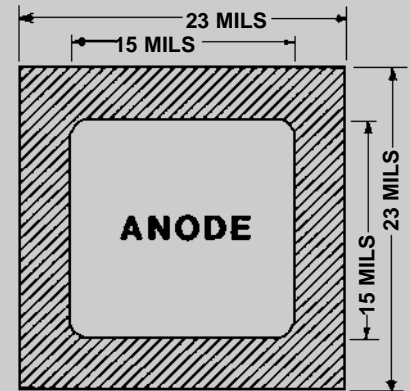
### ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified

JEDEC TYPE NUMBER	NOMINAL ZENER VOLTAGE $V_Z @ I_{ZT}$ VOLTS (Note 1)	TEST CURRENT $I_{ZT}$ mAdc	MAX. ZENER IMPEDANCE $Z_{ZT} @ I_{ZT}$ OHMS (Note 2)	MAX. REVERSE LEAKAGE CURRENT		REGULATION FACTOR $^3V_Z$ VOLTS (Note 3)	LOW $V_Z$ CURRENT $I_{ZL}$ mAdc
				$I_R$ $\mu$ Adc	$V_R$ VOLTS		
CD5518B	3.3	20	26	5.0	1.0	0.90	2.0
CD5519B	3.6	20	24	3.0	1.0	0.90	2.0
CD5520B	3.9	20	22	1.0	1.0	0.90	2.0
CD5521B	4.3	20	18	3.0	1.5	0.75	2.0
CD5522B	4.7	10	22	2.0	2.0	0.60	1.0
CD5523B	5.1	5.0	26	2.0	2.5	0.65	0.25
CD5524B	5.6	3.0	30	2.0	3.5	0.30	0.25
CD5525B	6.2	1.0	30	1.0	5.0	0.20	0.01
CD5526B	6.8	1.0	30	1.0	6.2	0.10	0.01
CD5527B	7.5	1.0	35	0.5	6.8	0.05	0.01
CD5528B	8.2	1.0	40	0.5	7.5	0.05	0.01
CD5529B	9.1	1.0	45	0.1	8.2	0.05	0.01
CD5530B	10.0	1.0	60	0.05	9.1	0.10	0.01
CD5531B	11.0	1.0	80	0.05	9.9	0.20	0.01
CD5532B	12.0	1.0	90	0.05	10.8	0.20	0.01
CD5533B	13.0	1.0	90	0.01	11.7	0.20	0.01
CD5534B	14.0	1.0	100	0.01	12.6	0.20	0.01
CD5535B	15.0	1.0	100	0.01	13.5	0.20	0.01
CD5536B	16.0	1.0	100	0.01	14.4	0.20	0.01
CD5537B	17.0	1.0	100	0.01	15.3	0.20	0.10
CD5538B	18.0	1.0	100	0.01	16.2	0.20	0.01
CD5539B	19.0	1.0	100	0.01	17.1	0.20	0.01
CD5540B	20.0	1.0	100	0.01	18.0	0.20	0.01
CD5541B	22.0	1.0	100	0.01	19.8	0.25	0.01
CD5542B	24.0	1.0	100	0.01	21.6	0.30	0.01
CD5543B	25.0	1.0	100	0.01	22.4	0.35	0.01
CD5544B	28.0	1.0	100	0.01	25.2	0.40	0.01
CD5545B	30.0	1.0	100	0.01	27.0	0.45	0.01
CD5546B	33.0	1.0	100	0.01	29.7	0.50	0.01

**NOTE 1** Suffix "B" voltage range equals nominal Zener voltage  $\pm$  5%. Suffix "A" equals  $\pm$  10%. No Suffix equals  $\pm$  20%. Zener voltage is read using a pulse measurement, 10 milliseconds maximum. "C" suffix =  $\pm$  2% and "D" suffix =  $\pm$  1%.

**NOTE 2** Zener impedance is derived by superimposing on  $I_{ZT}$  A 60Hz rms a.c. current equal to 10% of  $I_{ZT}$ .

**NOTE 3**  $^3V_Z$  is the maximum difference between  $V_Z @ 1_{ZT}$  and  $V_Z$  at  $1_{ZL}$  measured with the device junction in thermal equilibrium at an ambient temperature of  $+25^\circ \pm 3^\circ\text{C}$ .



BACKSIDE IS CATHODE

### 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, Except Anode Pad Where Tolerance is  $\pm$  0.1 mils.



# CD5518B thru CD5546B

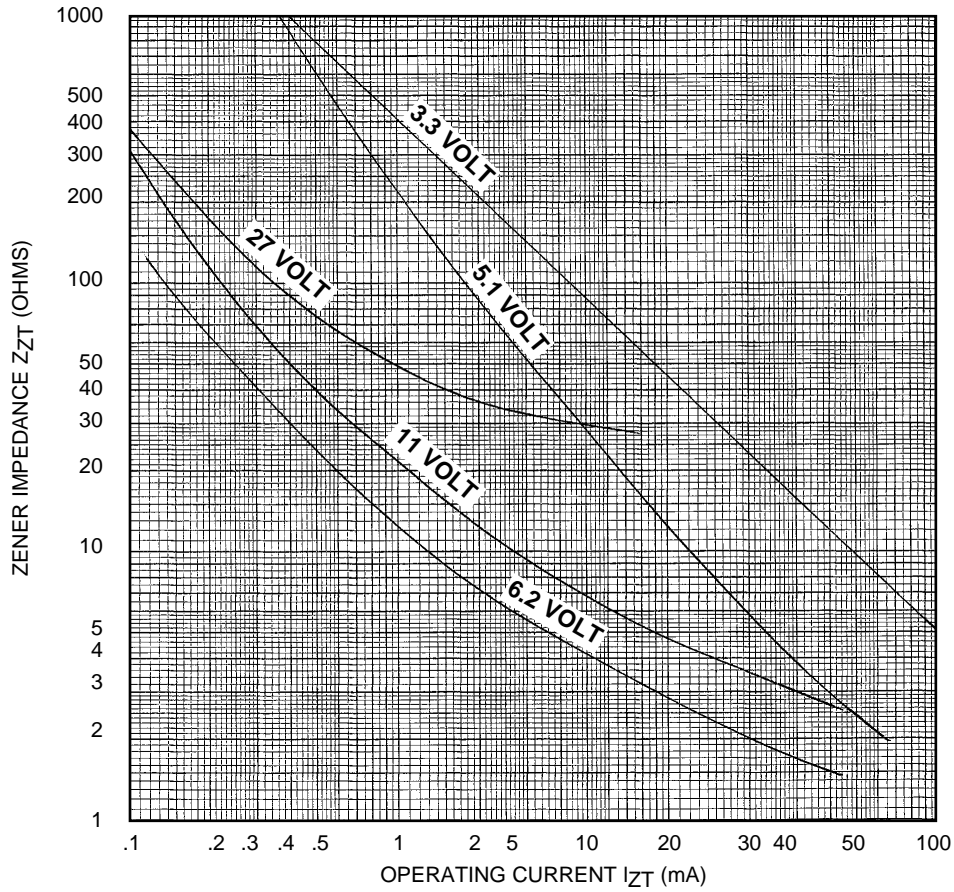


FIGURE 3

ZENER IMPEDANCE VS. OPERATING CURRENT