



Micro Commercial Components
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DL5221 THRU DL5281

Features

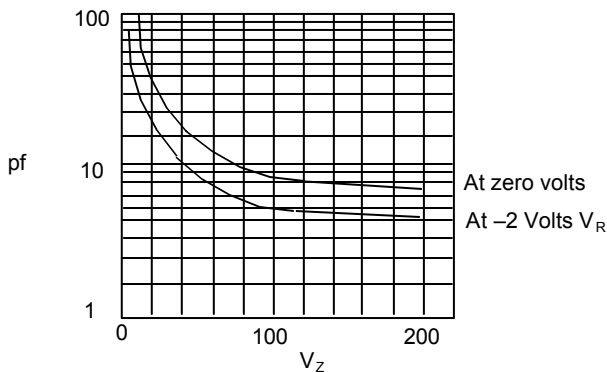
- Wide Voltage Range Available
- Glass Package
- High Temp Soldering: 250°C for 10 Seconds At Terminals
- Surface Mount Package

**500 mW
 Zener Diode
 2.4 to 200 Volts**

Maximum Ratings

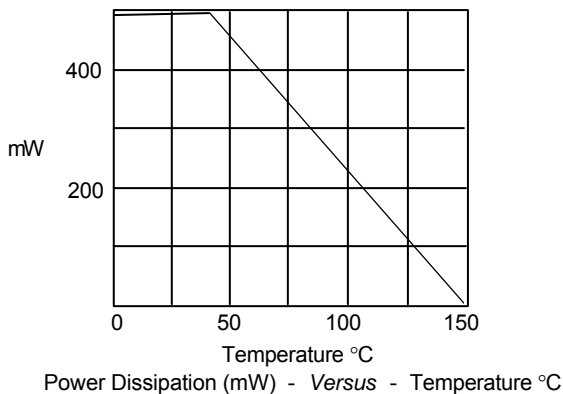
- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- 500 mWatt DC Power Dissipation
- Power Derating: 4.0mW/°C above 50°C
- Forward Voltage @ 200mA: 1.1 Volts

Figure 1 - Typical Capacitance



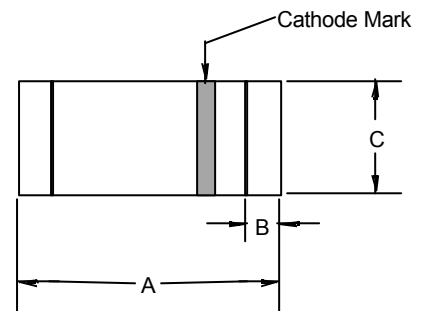
Typical Capacitance (pf) – versus – Zener voltage (V_Z)

Figure 2 - Derating Curve



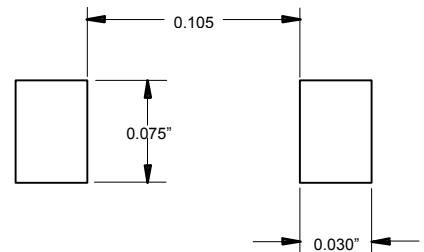
Power Dissipation (mW) - Versus - Temperature °C

MINIMELF



| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | .134 | .142 | 3.40 | 3.60 | |
| B | .008 | .016 | .20 | .40 | |
| C | .055 | .059 | 1.40 | 1.50 | ∅ |

SUGGESTED SOLDER PAD LAYOUT



DL5221 thru DL5281



| MCC PART NUMBER | NOMINAL ZENER VOLTAGE V_Z @ I_{ZT} VOLTS | TEST CURRENT I_{ZT} mA | MAXIMUM ZENER IMPEDANCE 'B' SUFFIX ONLY | | MAXIMUM REVERSE LEAKAGE CURRENT | | MAX. ZENER VOLTAGE TEMP COEFFICIENT 'B' SUFFIX ONLY %/ °C |
|-----------------|---|-----------------------------|---|---|---|-----|--|
| | | | Z_{ZT} @ I_{ZT} OHMS | Z_{ZK} @ $I_{ZK} = 0.25\text{mA}$ OHMS | I_R @ V_R μA VOLTS | | |
| DL5221 | 2.4 | 20 | 30 | 1200 | 100 | 1.0 | -0.085 |
| DL5222 | 2.5 | 20 | 30 | 1250 | 100 | 1.0 | -0.085 |
| DL5223 | 2.7 | 20 | 30 | 1300 | 75 | 1.0 | -0.080 |
| DL5224 | 2.8 | 20 | 30 | 1400 | 75 | 1.0 | -0.080 |
| DL5225 | 3.0 | 20 | 29 | 1600 | 50 | 1.0 | -0.075 |
| DL5226 | 3.3 | 20 | 28 | 1600 | 25 | 1.0 | -0.070 |
| DL5227 | 3.6 | 20 | 24 | 1700 | 15 | 1.0 | -0.065 |
| DL5228 | 3.9 | 20 | 23 | 1900 | 10 | 1.0 | -0.060 |
| DL5229 | 4.3 | 20 | 22 | 2000 | 5.0 | 1.0 | ± 0.055 |
| DL5230 | 4.7 | 20 | 19 | 1900 | 5.0 | 2.0 | ± 0.030 |
| DL5231 | 5.1 | 20 | 17 | 1600 | 5.0 | 2.0 | ± 0.030 |
| DL5232 | 5.6 | 20 | 11 | 1600 | 5.0 | 3.0 | +0.038 |
| DL5233 | 6.0 | 20 | 7.0 | 1600 | 5.0 | 3.5 | +0.038 |
| DL5234 | 6.2 | 20 | 7.0 | 1000 | 5.0 | 4.0 | +0.045 |
| DL5235 | 6.8 | 20 | 5.0 | 750 | 3.0 | 5.0 | +0.050 |
| DL5236 | 7.5 | 20 | 6.0 | 500 | 3.0 | 6.0 | +0.058 |
| DL5237 | 8.2 | 20 | 8.0 | 500 | 3.0 | 6.5 | +0.062 |
| DL5238 | 8.7 | 20 | 8.0 | 600 | 3.0 | 6.5 | +0.065 |
| DL5239 | 9.1 | 20 | 10 | 600 | 3.0 | 7.0 | +0.068 |
| DL5240 | 10 | 20 | 17 | 600 | 3.0 | 8.0 | +0.075 |
| DL5241 | 11 | 20 | 22 | 600 | 2.0 | 8.4 | +0.076 |
| DL5242 | 12 | 20 | 30 | 600 | 1.0 | 9.1 | +0.077 |
| DL5243 | 13 | 9.5 | 13 | 600 | 0.5 | 9.9 | +0.079 |
| DL5244 | 14 | 9.0 | 15 | 600 | 0.1 | 10 | +0.082 |
| DL5245 | 15 | 8.5 | 16 | 600 | 0.1 | 11 | +0.082 |
| DL5246 | 16 | 7.8 | 17 | 600 | 0.1 | 12 | +0.083 |
| DL5247 | 17 | 7.4 | 19 | 600 | 0.1 | 13 | +0.084 |
| DL5248 | 18 | 7.0 | 21 | 600 | 0.1 | 14 | +0.085 |
| DL5249 | 19 | 6.6 | 23 | 600 | 0.1 | 14 | +0.086 |
| DL5250 | 20 | 6.2 | 25 | 600 | 0.1 | 15 | +0.086 |
| DL5251 | 22 | 5.6 | 29 | 600 | 0.1 | 17 | +0.087 |
| DL5252 | 24 | 5.2 | 33 | 600 | 0.1 | 18 | +0.088 |
| DL5253 | 25 | 5.0 | 35 | 600 | 0.1 | 19 | +0.089 |
| DL5254 | 27 | 4.6 | 41 | 600 | 0.1 | 21 | +0.090 |
| DL5255 | 28 | 4.5 | 44 | 600 | 0.1 | 21 | +0.091 |
| DL5256 | 30 | 4.2 | 49 | 600 | 0.1 | 23 | +0.091 |
| DL5257 | 33 | 3.8 | 58 | 700 | 0.1 | 25 | +0.092 |
| DL5258 | 36 | 3.4 | 70 | 700 | 0.1 | 27 | +0.093 |
| DL5259 | 39 | 3.2 | 80 | 800 | 0.1 | 30 | +0.094 |
| DL5260 | 43 | 3.0 | 93 | 900 | 0.1 | 33 | +0.095 |
| DL5261 | 47 | 2.7 | 105 | 1000 | 0.1 | 36 | +0.095 |
| DL5262 | 51 | 2.5 | 125 | 1100 | 0.1 | 39 | +0.096 |
| DL5263 | 56 | 2.2 | 150 | 1300 | 0.1 | 43 | +0.096 |
| DL5264 | 60 | 2.1 | 170 | 1400 | 0.1 | 46 | +0.097 |
| DL5265 | 62 | 2.0 | 185 | 1400 | 0.1 | 47 | +0.097 |
| DL5266 | 68 | 1.8 | 230 | 1600 | 0.1 | 52 | +0.097 |
| DL5267 | 75 | 1.7 | 270 | 1700 | 0.1 | 56 | +0.098 |
| DL5268 | 82 | 1.5 | 330 | 2000 | 0.1 | 62 | +0.098 |
| DL5269 | 87 | 1.4 | 370 | 2200 | 0.1 | 68 | +0.099 |
| DL5270 | 91 | 1.4 | 400 | 2300 | 0.1 | 69 | +0.099 |
| DL5271 | 100 | 1.3 | 500 | 2600 | 0.1 | 76 | +0.110 |
| DL5272 | 110 | 1.1 | 750 | 3000 | 0.1 | 84 | +0.110 |
| DL5273 | 120 | 1.0 | 900 | 4000 | 0.1 | 91 | +0.110 |
| DL5274 | 130 | 0.95 | 1100 | 4500 | 0.1 | 99 | +0.110 |
| DL5275 | 140 | 0.90 | 1300 | 4500 | 0.1 | 106 | +0.110 |
| DL5276 | 150 | 0.85 | 1500 | 5000 | 0.1 | 114 | +0.110 |
| DL5277 | 160 | 0.80 | 1700 | 5500 | 0.1 | 122 | +0.110 |
| DL5278 | 170 | 0.74 | 1900 | 5500 | 0.1 | 129 | +0.110 |
| DL5279 | 180 | 0.68 | 2200 | 6000 | 0.1 | 137 | +0.110 |
| DL5280 | 190 | 0.66 | 2400 | 6500 | 0.1 | 144 | +0.110 |
| DL5281 | 200 | 0.65 | 2500 | 7000 | 0.1 | 152 | +0.110 |

NOTE 1: Table as shown lists type numbers, which indicate a tolerance of $\pm 20\%$ with guaranteed limits on only V_Z , I_R , and V_F . Devices with guaranteed limits on all six parameters are indicated by suffix "A" for $\pm 10\%$, "B" for $\pm 5\%$, "C" for $\pm 2\%$, and "D" for $\pm 1\%$ tolerance

NOTE 2: The electrical characteristics are measured after allowing the device to stabilize for 20 seconds.

NOTE 3: Temperature coefficient (\dot{a}_{VZ}). Test conditions for temperature coefficient are as follows:

- $I_{ZT} = 7.5\text{mA}$, $T_1 = 25^\circ\text{C}$, $T_2 = 125^\circ\text{C}$ (DL5221 thru DL5242)
- $I_{ZT} = \text{Rated } I_{ZT}$, $T_1 = 25^\circ\text{C}$, $T_2 = 125^\circ\text{C}$ (DL5243 thru DL5281)

Device to be temperature stabilized with current applied prior to reading breakdown voltage at the specified ambient temperature.