AMERICAN MICROSEMICONDUCTOR

# *50 Watt Zener Diode*

Technical Specifications



## FEATURES

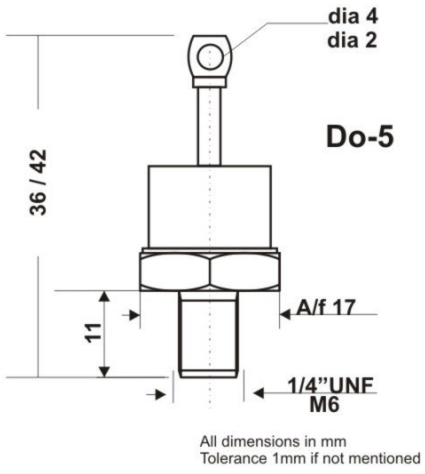
- Volt. Range: 6.2V to 200V
- Low Zener Impedance
- Available in normal polarity or reverse
- DO5 Package
- 1N4554 to 1N3350

## ABSOLUTE MAX. RATINGS

- Storage temp. range: -65°C to +150°C
- Max case operating temp.: -65°C to +150°C
- Max junction temp.: 150°C
- Power dissipation: 50W
- Power derating (derat above 75°C): 0.5 mw/°C
- Forward voltage (@2A): 1.5V

## ELECTRICAL CHARACTERISTICS @ CASE OP. TEMP. 30°C

| Nom $V_{ZT}$ (V) | Type Number | SPE Type | $I_{ZT}$ (mA) | $R_{ZT}$ max | $I_R$ (uA) | $V_R$ (V) | $I_{ZM}$ (mA) |
|---|---|---|---|---|---|---|---|
| **3.9** | 1N4549 | | 3200 | | | 0.5 | 11900 |
| **4.3** | 1N4550 | | 2900 | | | 0.5 | 10650 |
| **4.7** | 1N4551 | | 2650 | | | 1.0 | 9700 |
| **5.1** | 1N4552 | | 2450 | | | 1.0 | 8900 |
| **5.6** | 1N4553 | | 2250 | | | 1.0 | 8100 |
| **6.2** | 1N4554 | 50Z6V2 | 2000 | 0.14 | 20 | 2.0 | 7300 |
| **6.8** | 1N3305 | 50Z6V8 | 1850 | 0.20 | 300 | 4.5 | 6600 |
| **7.5** | 1N3306 | 50Z7V5 | 1700 | | | 5.0 | 5900 |
| **8.2** | 1N3307 | 50Z8V2 | 1450 | 0.45 | 35 | 5.84 | 5300 |
| **9.1** | 1N3308 | 50Z9 | 1370 | 0.5 | 25 | 6.82 | 5200 |
| **10** | 1N3309 | 50Z10 | 1200 | 0.6 | 25 | 7.50 | 4700 |
| **11** | 1N3310 | 50Z11 | 1100 | 0.8 | 10 | 8.25 | 4300 |
| **12** | 1N3311 | 50Z12 | 1000 | 1 | 10 | 9.00 | 3900 |
| **13** | 1N3312 | 50Z13 | 960 | 1.1 | 10 | 9.75 | 3500 |
| **14** | 1N3313 | 50Z14 | 895 | 1.4 | 10 | 10.50 | 3300 |
| **15** | 1N3314 | 50Z15 | 830 | 1.6 | 10 | 11.25 | 3000 |
| **16** | 1N3315 | 50Z16 | 780 | 2 | 10 | 12.00 | 2800 |
| **18** | 1N3317 | 50Z18 | 700 | 2.4 | 10 | 13.50 | 2600 |
| **20** | 1N3319 | 50Z20 | 630 | 2.5 | 10 | 15.00 | 2400 |
| **22** | 1N3320 | 50Z22 | 570 | 2.6 | 10 | 16.50 | 2000 |
| **24** | 1N3321 | 50Z24 | 530 | 2.8 | 10 | 18.00 | 1900 |
| **27** | 1N3323 | 50Z27 | 460 | 3 | 10 | 20.25 | 1600 |
| **30** | 1N3324 | 50Z30 | 420 | 3.2 | 10 | 22.50 | 1400 |
| **33** | 1N3325 | 50Z33 | 380 | 3.5 | 10 | 24.75 | 1300 |
| **36** | 1N3326 | 50Z36 | 350 | 4 | 10 | 27.00 | 1200 |
| **39** | 1N3327 | 50Z39 | 320 | 4.5 | 10 | 27.00 | 1100 |
| **43** | 1N3328 | 50Z43 | 290 | 5 | 10 | 29.25 | 1000 |
| **47** | 1N3330 | 50Z47 | 270 | 5.2 | 10 | 35.25 | 930 |
| **51** | 1N3332 | 50Z51 | 245 | 6 | 10 | 38.25 | 830 |
| **56** | 1N3334 | 50Z56 | 220 | 7 | 10 | 42.00 | 750 |
| **62** | 1N3335 | 50Z62 | 200 | 8 | 10 | 46.50 | 690 |
| **68** | 1N3336 | 50Z68 | 180 | 9 | 10 | 51.00 | 630 |
| **75** | 1N3337 | 50Z75 | 170 | 11 | 10 | 56.25 | 570 |
| **82** | 1N3338 | 50Z82 | 150 | 15 | 10 | 61.50 | 520 |
| **91** | 1N3339 | 50Z91 | 140 | 20 | 10 | 68.25 | 450 |




**Note:**
Normal polarity indicated anode to case.

When using Jedec standards suffix R denotes reverse polarity (cathode to case). Suffix A and B denote tolerance of 10% and 5%. No suffix indicated tolerance of 20%.

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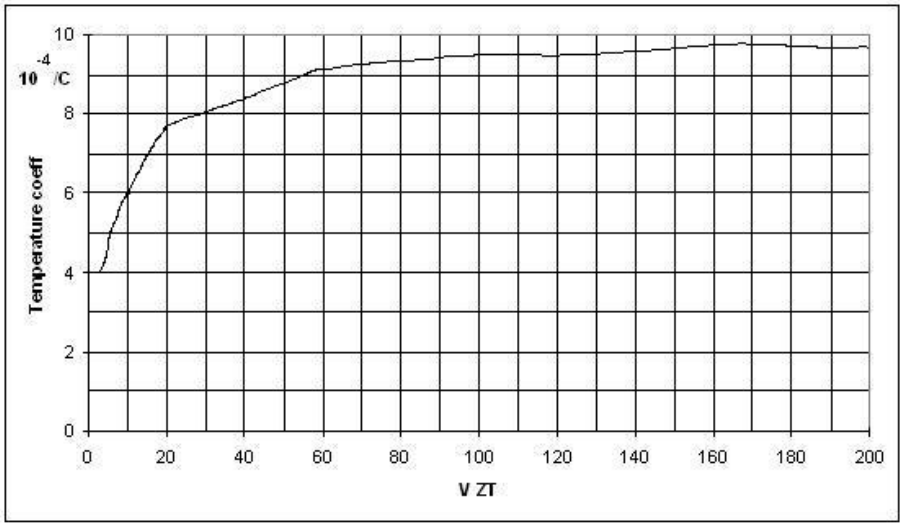

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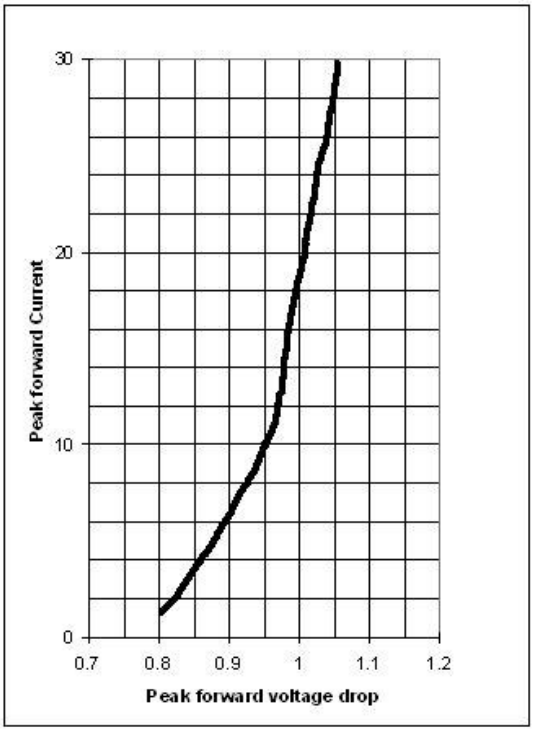
## ELECTRICAL CHARAC. (CONT.)

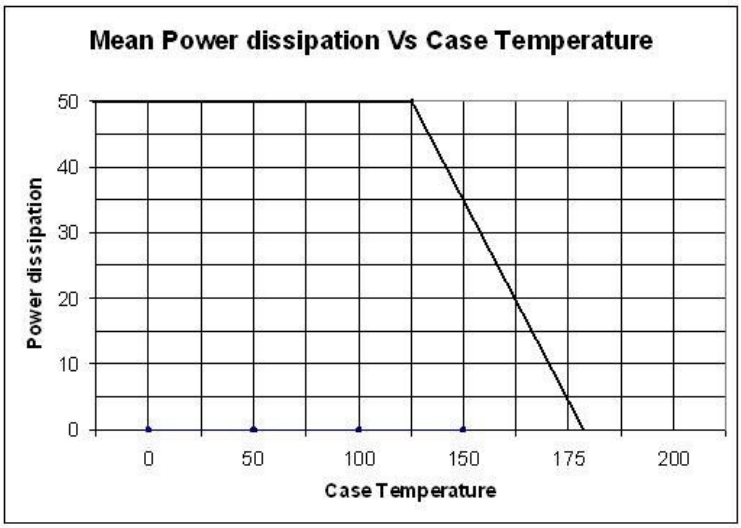
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **100** | 1N3340 | 50Z100 | 120 | 30 | 10 | 75.00 | 430 |
| **110** | 1N3342 | 50Z110 | 110 | 40 | 10 | 82.50 | 390 |
| **120** | 1N3343 | 50Z120 | 100 | 50 | 10 | 90.00 | 350 |
| **130** | 1N3344 | 50Z130 | 95 | 75 | 10 | 97.50 | 330 |
| **140** | 1N3345 | 50Z140 | 90 | 80 | 10 | 105.0 | 300 |
| **150** | 1N3346 | 50Z150 | 85 | 85 | 10 | 112.5 | 280 |
| **160** | 1N3347 | 50Z160 | 80 | 80 | 10 | 120.0 | 260 |
| **180** | 1N3349 | 50Z180 | 68 | 98 | 10 | 135.0 | 240 |
| **200** | 1N3350 | 50Z200 | 65 | 100 | 10 | 150.0 | 220 |

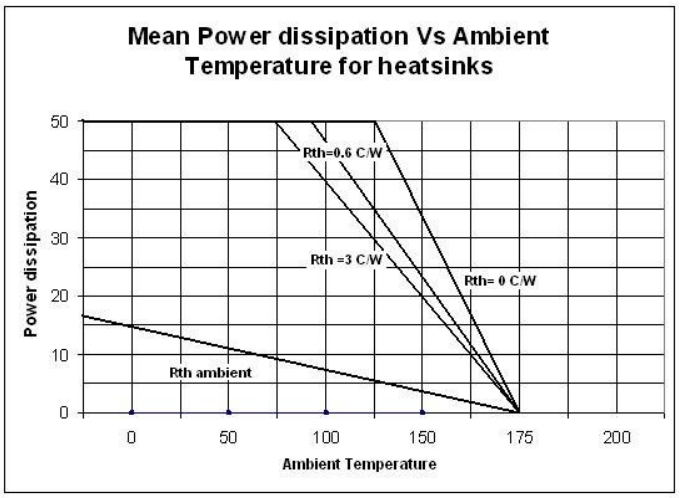
$V_{ZT}$ : Continuous reverse Voltage
$I_{ZT}$ : Regulating voltage test current
$I_R$ : Reverse current at specified $V_R$
$R_{ZT}$ : Differential resistance at $I_{ZT}$
$I_{ZM}$ : Max DC Zener current




Temperature coefficient VS Zener voltage




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