

Virginia Diodes Inc. Waveguide Band Designations

Last Modified : 6/29/2010



| Internal Band Designation | EIA Band Designation | Internal Dimensions (mils) | Internal Dimensions (mm) | Frequency Range (GHz) | TE(10) Cutoff (GHz) | WG Loss Low - High ¹ (dB/mm) | Flange Designation | Description | Letter Desig. |
|---------------------------|----------------------|----------------------------|--------------------------|-----------------------|---------------------|---|--------------------|------------------------------------|---------------|
| WR- 51.0 | WR- 51 | 510 x 255 | 12.954 x 6.477 | 15.0 - 22.0 | 11.6 | 0.0005 - 0.0004 | | | |
| WR- 42.0 | WR- 42 | 420 x 170 | 10.668 x 4.318 | 17.5 - 26.5 | 14.0 | 0.0008 - 0.0006 | | | K |
| WR- 34.0 | WR- 34 | 340 x 170 | 8.636 x 4.318 | 22.0 - 33.0 | 17.4 | 0.001 - 0.0007 | | | |
| WR- 28.0 | WR- 28 | 280 x 140 | 7.112 x 3.556 | 26.5 - 40.0 | 21.1 | 0.0013 - 0.0009 | UG-599/U | Square, Four hole fixing | Ka |
| WR- 22.4 | WR- 22 | 224 x 112 | 5.690 x 2.845 | 33.0 - 50.5 | 26.3 | 0.0019 - 0.0013 | UG-383/U | Circular, Four hole fixing/doweled | Q |
| WR- 18.8 | WR- 19 | 188 x 94 | 4.775 x 2.388 | 40.0 - 60.0 | 31.4 | 0.0023 - 0.0016 | UG-383/UM | Circular, Four hole fixing/doweled | U |
| WR- 14.8 | WR- 15 | 148 x 74 | 3.759 x 1.880 | 50.5 - 75.0 | 39.9 | 0.0034 - 0.0024 | UG-385/U | Circular, Four hole fixing/doweled | V |
| WR- 12.2 | WR- 12 | 122 x 61 | 3.099 x 1.549 | 60.0 - 90.0 | 48.4 | 0.0047 - 0.0032 | UG-387/U | Circular, Four hole fixing/doweled | E |
| WR- 10.0 | WR- 10 | 100 x 50 | 2.540 x 1.270 | 75.0 - 110.0 | 59.0 | 0.0061 - 0.0043 | UG-387/UM | Circular, Four hole fixing/doweled | W |
| WR- 8.0 | WR- 8 | 80 x 40 | 2.032 x 1.016 | 90.0 - 140.0 | 73.8 | 0.0092 - 0.0059 | UG-387/UM | Circular, Four hole fixing/doweled | F |
| WR- 6.5 | WR- 6 | 65 x 32.5 | 1.651 x 0.826 | 110.0 - 170.0 | 90.8 | 0.0128 - 0.0081 | UG-387/UM | Circular, Four hole fixing/doweled | D |
| WR- 5.1 | WR- 5 | 51 x 25.5 | 1.295 x 0.648 | 140.0 - 220.0 | 116 | 0.0185 - 0.0117 | UG-387/UM | Circular, Four hole fixing/doweled | G |
| WR- 4.3 | WR- 4 | 43 x 21.5 | 1.092 x 0.546 | 170.0 - 260.0 | 137 | 0.0227 - 0.0151 | UG-387/UM | Circular, Four hole fixing/doweled | |
| WR- 3.4 | WR- 3 | 34 x 17 | 0.864 x 0.432 | 220.0 - 330.0 | 174 | 0.0308 - 0.0214 | UG-387/UM | Circular, Four hole fixing/doweled | |
| WR- 2.8 | n/a | 28 x 14 | 0.711 x 0.356 | 260.0 - 400.0 | 211 | 0.0436 - 0.0287 | UG-387/UM | Circular, Four hole fixing/doweled | |
| WR- 2.2 | n/a | 22 x 11 | 0.559 x 0.279 | 330.0 - 500.0 | 268 | 0.063 - 0.041 | UG-387/UM | Circular, Four hole fixing/doweled | |
| WR- 1.9 | n/a | 19 x 9.5 | 0.483 x 0.241 | 400.0 - 600.0 | 311 | 0.072 - 0.051 | UG-387/UM | Circular, Four hole fixing/doweled | |
| WR- 1.5 | n/a | 15 x 7.5 | 0.381 x 0.191 | 500.0 - 750.0 | 393 | 0.105 - 0.073 | UG-387/UM | Circular, Four hole fixing/doweled | |
| WR- 1.2 | n/a | 12 x 6 | 0.305 x 0.152 | 600.0 - 900.0 | 492 | 0.159 - 0.104 | UG-387/UM | Circular, Four hole fixing/doweled | |
| WR- 1.0 | n/a | 10 x 5 | 0.254 x 0.127 | 750.0 - 1100.0 | 590 | 0.192 - 0.135 | n/a | | |
| WR- 0.8 | n/a | 8 x 4 | 0.203 x 0.102 | 900.0 - 1400.0 | 738 | 0.292 - 0.188 | n/a | | |
| WR- 0.65 | n/a | 6.5 x 3.25 | 0.165 x 0.083 | 1100.0 - 1700.0 | 908 | 0.406 - 0.258 | n/a | | |
| WR- 0.51 | n/a | 5.1 x 2.55 | 0.130 x 0.065 | 1400.0 - 2200.0 | 1157 | 0.586 - 0.369 | n/a | | |

1) The waveguide loss is calculated assuming the conductivity of Gold, and a surface roughness factor of 1.5. The two values listed represent the loss at the low end and high end of the frequency range.