



## VDI Waveguide Amplifiers

| Product Name                          | WR19AMP     | WR15AMP                    | WR12AMP     | WR12AMP-S2  | WR12AMP-S4  | WR10AMP     | WR10AMP-S2 | WR10AMP-S4  | WR8.0AMP    | WR8.0AMP-M1 | WR8.0AMP-M2 | WR8.0AMP-M4 |
|---------------------------------------|-------------|----------------------------|-------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|-------------|
| RF Frequency Band (GHz)               | 40-60       | 50-75                      | 60-90       | 60-90       | 60-90       | 75-110      | 75-110     | 75-110      | 90-140      | 90-140      | 90-140      | 90-140      |
| Input / Output Flange (UG-3007/U-M)   | WR-19       | WR-15                      | WR-12       | WR-12       | WR-12       | WR-10       | WR-10      | WR-10       | WR-8.0      | WR-8.0      | WR-8.0      | WR-8.0      |
| Gain (Typical, dB)                    | 16          | 20                         | 18          | 18          | 18          | 17          | 17         | 17          | 21          | 21          | 21          | 21          |
| Saturated Output Power (Typical, dBm) | 20          | 19                         | 20          | 22          | 24.5        | 20          | 22         | 24.5        | 19          | 21.5        | 24.5        | 27.5        |
| Output P1dB (Typical)                 | 17          | 11                         | 16          | 18          | 20          | 16          | 18         | 21          | 13          | 15          | 18          | 21          |
| Input Reflection, S11 (Typical, dB)   | -10         | -10                        | -10         | -10         | -10         | -8          | -8         | -8          | -7          | -5          | -10         | -10         |
| Output Reflection, S22 (Typical, dB)  | -10         | -10                        | -10         | -10         | -10         | -8          | -8         | -8          | -10         | -5          | -10         | -10         |
| RF Input Damage Limit (dBm)           | 7           | 7                          | 7           | 10          | 13          | 7           | 10         | 13          | 7           | 7           | 10          | 13          |
| Bias Voltage (V)                      | 9 ± 1       | 9 ± 1                      | 9 ± 1       | 9 ± 1       | 9 ± 1       | 9 ± 1       | 9 ± 1      | 9 ± 1       | 9 ± 1       | 9 ± 1       | 9 ± 1       | 9 ± 1       |
| Current Draw (Typical / Maximum, mA)  | 400 / 500   | 450 / 1200                 | 150 / 500   | 300 / 1000  | 600 / 2000  | 150 / 500   | 300 / 1000 | 600 / 2000  | 300 / 800   | 350 / 1050  | 700 / 2100  | 350 / 1050  |
| Bias Voltage Connector*               | SMP(m)      | SMP(m)                     | SMP(m)      | SMP(m)      | SMP(m)      | SMP(m)      | SMP(m)     | SMP(m)      | SMP(m)      | SMP(m)      | SMP(m)      | SMP(m)      |
| Product Name                          | WR8.0AMP-M8 | WR6.5AMP                   | WR6.5AMP-S2 | WR6.5AMP-S4 | WR6.5AMP-S8 | WR5.1AMP    | WR4.3AMP   | WR4.3AMP-M2 | WR4.3AMP-M4 | WR4.3AMP-M8 | WR3.4AMP**  |             |
| RF Frequency Band (GHz)               | 90-140      | 110-170                    | 110-170     | 110-170     | 110-170     | 140-220     | 170-260    | 170-260     | 170-260     | 170-260     | 220-330     |             |
| Input / Output Flange (UG-3007/U-M)   | WR-8.0      | WR-6.5                     | WR-6.5      | WR-6.5      | WR-6.5      | WR-5.1      | WR-4.3     | WR-4.3      | WR-4.3      | WR-4.3      | WR-3.4      |             |
| Gain (Typical, dB)                    | 21          | 20                         | 20          | 20          | 20          | 22          | 24         | 24          | 20          | 20          | 24          |             |
| Saturated Output Power (Typical, dBm) | 30          | 18                         | 20          | 22.5        | 25          | 13          | 16         | 18.5        | 21          | 23          | 5           |             |
| Output P1dB (Typical)                 | 24          | 11                         | 13          | 16          | 18          | 7           | 9          | 12          | 15          | 18          | -1          |             |
| Input Reflection, S11 (Typical, dB)   | -10         | -9                         | -9          | -9          | -10         | -9          | -7         | -7          | -7          | -10         | -8          |             |
| Output Reflection, S22 (Typical, dB)  | -10         | -10                        | -10         | -10         | -10         | -10         | -2         | -2          | -2          | -10         | -6          |             |
| RF Input Damage Limit (dBm)           | 16          | 7                          | 10          | 13          | 16          | 7           | 3          | 6           | 9           | 12          | 0           |             |
| Bias Voltage (V)                      | 9 ± 1       | 9 ± 1                      | 9 ± 1       | 9 ± 1       | 9 ± 1       | 9 ± 1       | 9 ± 1      | 9 ± 1       | 9 ± 1       | 9 ± 1       | 9 ± 1       |             |
| Current Draw (Typical / Maximum, mA)  | 350 / 1050  | 200 / 600                  | 400 / 1200  | 800 / 2400  | 1600 / 4800 | 150 / 350   | 300 / 800  | 600 / 1600  | 1200 / 3200 | 2400 / 6400 | 100 / 200   |             |
| Bias Voltage Connector*               | SMP(m)      | SMP(m)                     | SMP(m)      | SMP(m)      | SMP(m)      | SMP(m)      | SMP(m)     | SMP(m)      | SMP(m)      | SMP(m)      | SMP(m)      |             |
| Product Name                          | 64AMP       | VDI12.0AMP-0067/0087-20-20 | 64AMP       | 130AMP      | 130AMP-M2   | 130AMP-M4   | 160AMP     | 160AMP-M2   | 160AMP-M4   | 160AMP-M8   | 195AMP      | 195AMP-M2   |
| RF Frequency Band (GHz)               | 66-72       | 67-87                      | 66-72       | 120-140     | 120-140     | 120-140     | 150-180    | 150-180     | 150-170     | 150-170     | 180-200     | 180-200     |
| Input / Output Flange (UG-3007/U-M)   | WR-15       | WR-12                      | WR-15       | WR-6.5      | WR-6.5      | WR-6.5      | WR-5.1     | WR-5.1      | WR-5.1      | WR-5.1      | WR-5.1      | WR-5.1      |
| Gain (Typical, dB)                    | 12          | 20                         | 12          | 24          | 24          | 24          | 23         | 22          | 22          | 22          | 18          | 17          |
| Saturated Output Power (Typical, dBm) | 27          | 19                         | 27          | 21.5        | 24.5        | 27.5        | 21         | 24          | 26.5        | 29          | 19          | 21.5        |
| Output P1dB (Typical)                 | 23          | 15                         | 23          | 15          | -           | 21          | 14         | -           | 18          | 20          | 13 (est.)   | -           |
| Input Reflection, S11 (Typical, dB)   | -8          | -10                        | -8          | -5          | -5          | -5          | -5         | -10         | -10         | -10         | -6          | -8          |
| Output Reflection, S22 (Typical, dB)  | -8          | -10                        | -8          | -5          | -5          | -5          | -10        | -10         | -10         | -10         | -6          | -6          |
| RF Input Damage Limit (dBm)           | 23          | 7                          | 23          | 7           | 10          | 10          | 10         | 13          | 16          | 19          | 10          | 13          |
| Bias Voltage (V)                      | 5 ± 0.1     | 9 ± 1                      | 5 ± 0.1     | 9 ± 1       | 9 ± 1       | 9 ± 1       | 9 ± 1      | 9 ± 1       | 9 ± 1       | 9 ± 1       | 9 ± 1       | 9 ± 1       |
| Current Draw (Typical / Maximum, mA)  | 1300 / -    | 150 / 500                  | 1300 / -    | 500 / 1000  | 1000 / 2000 | 2000 / 4000 | 600 / 1200 | 1200 / 2400 | 2400 / 4800 | 4800 / 9600 | 700 / 1300  | 1400 / 2600 |
| Bias Voltage Connector*               | SMP(m)      | SMP(m)                     | SMP(m)      | SMP(m)      | Contact VDI | SMP(m)      | SMP(m)     | SMP(m)      | SMP(m)      | SMP(m)      | SMP(m)      | SMP(m)      |

\*All amplifiers will meet the P1dB specification listed above. P1dB data will not be provided with each amplifier.

\*Amplifiers with SMP(m) Bias Connectors include SMP(f) to LEMO and SMP(f) to SMA(m) bias cables. The SMP to LEMO 00 cable is for use with an SAX-UP or CCU Module. The SMP to SMA cable is for general use.

\*\*WR-3.4 amplifier specifications are goal specifications. Contact VDI for more information.

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