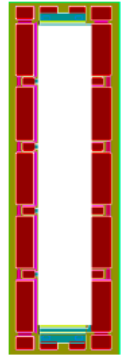


AMT2201-2 1 – 13GHz 50W Power Chip



Key Features :

- Frequency : 1 – 13GHz
- Maximum output power : 50W
- Maximum power added efficiency : 65%
- Supply voltage : 28V, -2.1V
- Chip dimensions : 2.8mm x 0.95mm x 0.1mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.

Description :

AMT2201-2 is a 50W maximum output power chip, the design is based on SiC substrate Gallium Nitrate (GaN) HEMT process, with ground through metal via on the back technology. Maximum 65% efficiency in 1 – 13GHz frequency range.

Electrical Characteristics (Ta = 25°C)

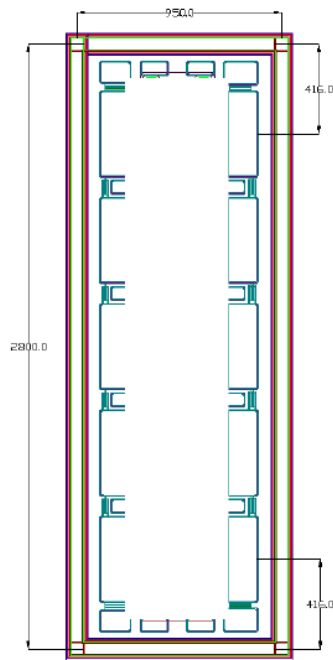
| Symbol | Parameter | Test Condition | Value | | | Unit |
|----------|-------------------------------|------------------------|-------|---------|-----|------|
| | | | Min | Typical | Max | |
| Gain | Small Signal Gain | Vd = 28V Vg = -2.1V | - | 15 | - | dB |
| Gpae_max | Power Gain at max. Efficiency | | - | 10 | - | dB |
| Psat_max | Max. saturated Output Power | | - | 50 | - | W |
| PAE_max | Max. Power Added Efficiency | | - | 65 | - | % |

Single Chip Load Pull Characteristics

T = +25° C, Vds = +28V, Vgs = -2.1V, Id_Q = 100Am, Simulation Result :

| Frequency (GHz) | Zs | Zl | Gain (dB) @PAE_max | Gain (dB) @Pout_max | Pout(W) @PAE_max | PAEmax (%) | Pout_max (W) |
|-----------------|------------|------------|--------------------|---------------------|------------------|------------|--------------|
| 4 | 1.3-j4.9 | 12.6+j14.3 | 10.3 | 12.3 | 10.6 | 75 | 16.9 |
| 6 | 1.07-j2.33 | 8.7+j12.4 | 9.8 | 10.8 | 12.2 | 70 | 15.4 |
| 8 | 1.12-j0.9 | 6.13+j9.7 | 7.7 | 8.7 | 11.9 | 66 | 15 |
| 10 | 1.08-j0.22 | 3.1+j8.05 | 6.2 | 7.1 | 11.4 | 62 | 14.4 |
| 12 | 1.15-j1.08 | 3+j5.9 | 5.3 | 5.8 | 12 | 59 | 13.5 |

Chip Dimension (Unit : μm)



Please see Appendix A for details.