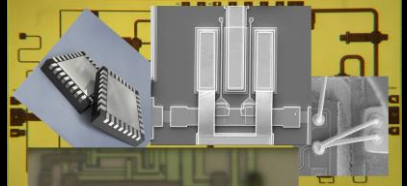
TMC2112D
25-29.5 GHz
Power Amplifier



mmTRON
Unleashing the mmWave Frontier

Product Features

- RF frequency: 25 to 29 GHz
- Linear Gain: 17 dB
- Psat: 25 W
- Die Size: X=5.0 mm, Y=5.0 mm
- 0.15um GaN HEMT Process
- 4 mil SiC substrate
- DC Power: 18 VDC, 1.3 A

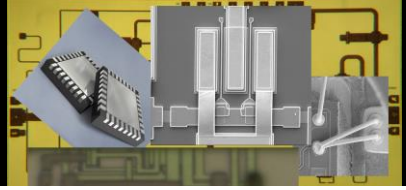
Application

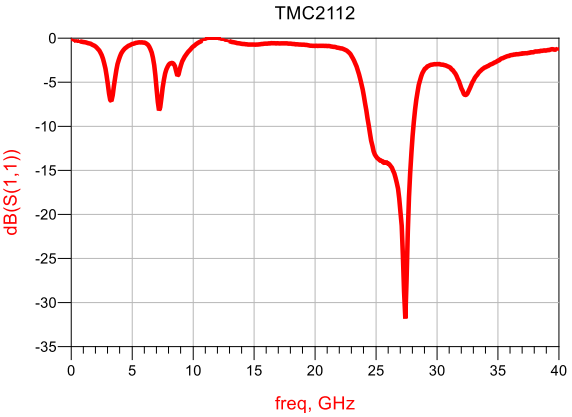
- 5G Wireless
- SATCOM
- Military Radar, EW

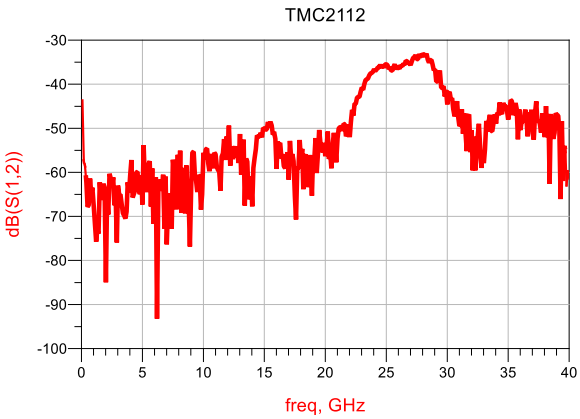
Product Description

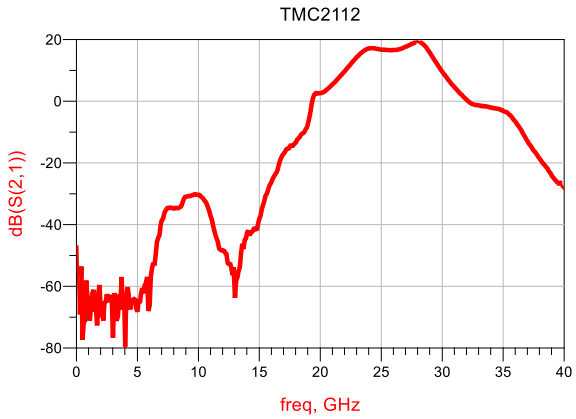
The TMC2112D GaN HEMT Power amplifier is a 25W two-stage Single-ended power MMIC, designed for use in 5G wireless, SATCOM and Military Radar and EW applications. The TMC2112D is a 50 Ω matched design which eliminates the need for RF port matching. To ensure rugged and reliable operation and moisture protection, the TMC2112D is designed and layed out to lower the maximum junction temperature. Both bond pad and backside metallization are Au-based that is compatible with ribbon and wedge bonding and high conductivity epoxy and eutectic die attach methods. TMC2112D can be biased from 18V to 28V to adjust output power levels in the 25W to 40W range while maintaining excellent PAE and NPR.

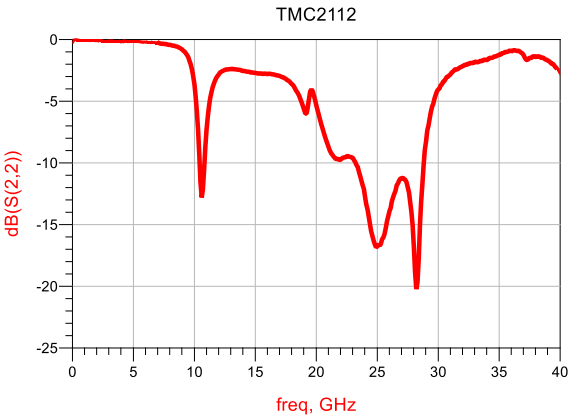
Electrical Performance : **Vdd = 18 V, Vgg = -3.7 V, TA = 25 °C, F = 27 GHz**				
	min	**Typ**	**Max**	**Units**
Frequency	25		29.5	GHz
Gain		17		dB
Return Loss		10		dB
Psat		44		dBm
PAE		28		%
Bias Voltage		18		V
Bias Current		1300		mA

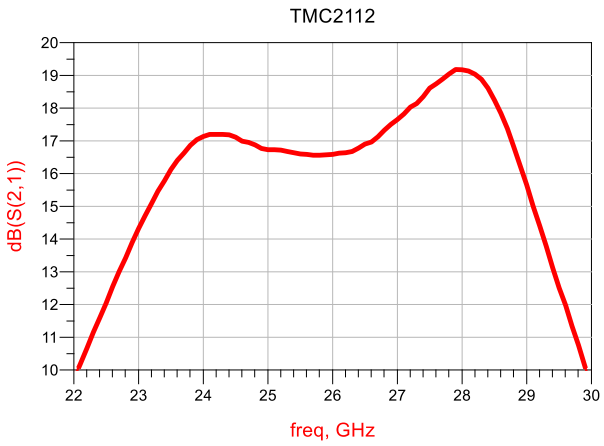


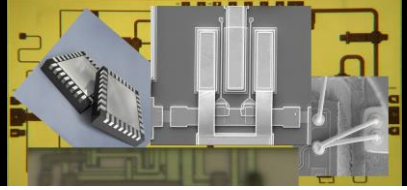

TMC2112
dB(S(1,1))
freq, GHz

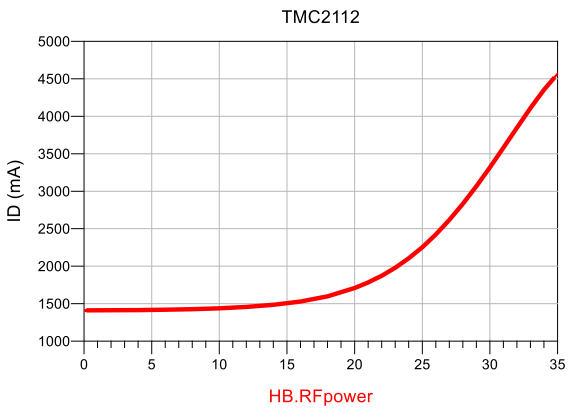

TMC2112
dB(S(1,2))
freq, GHz

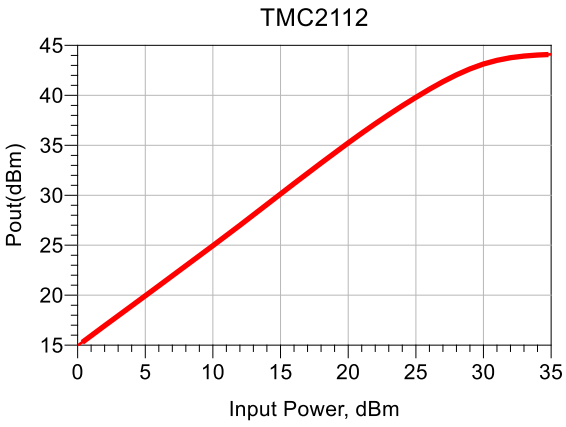

TMC2112
dB(S(2,1))
freq, GHz

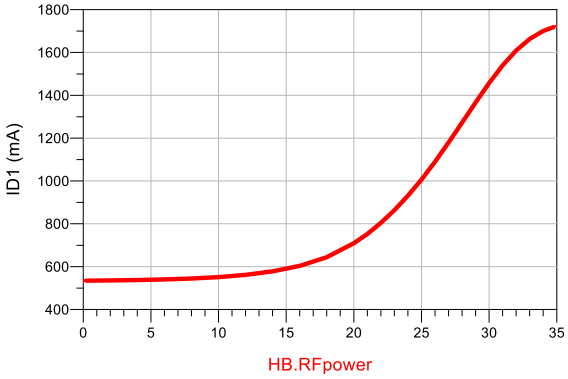

TMC2112
dB(S(2,2))
freq, GHz

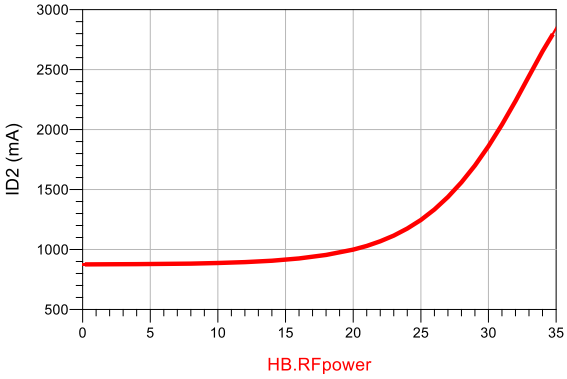

TMC2112
dB(S(2,1))
freq, GHz

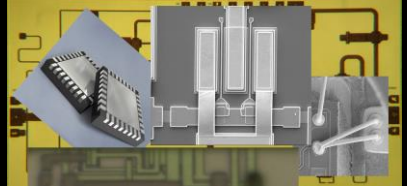


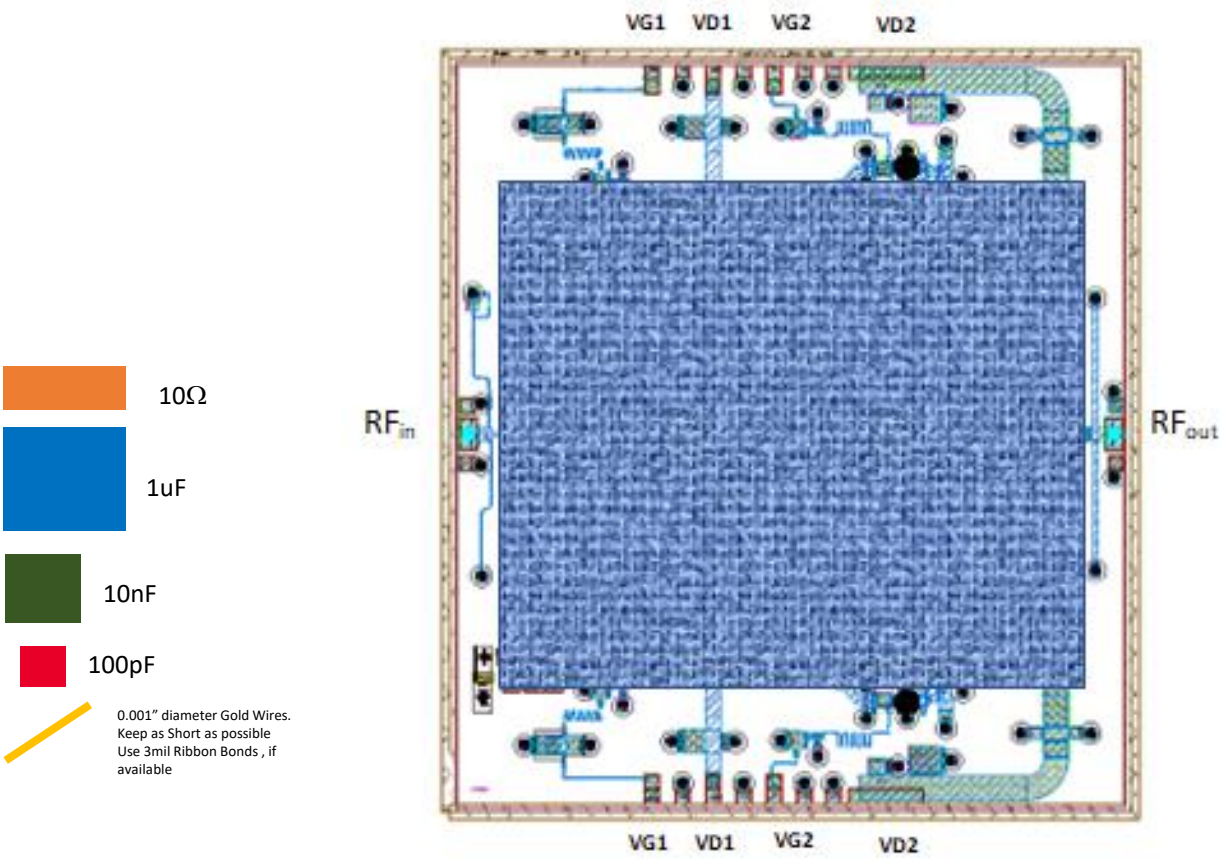


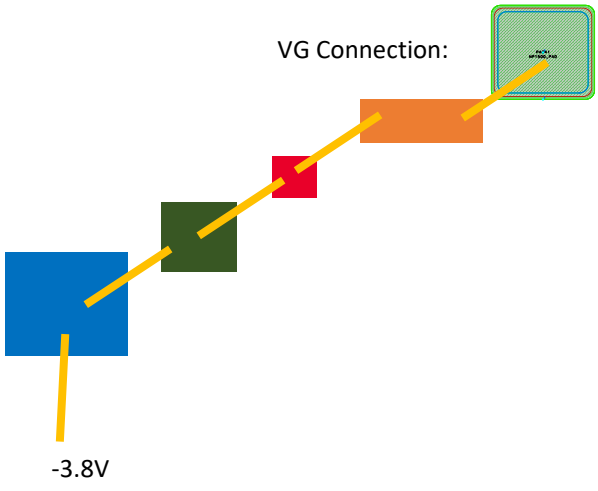


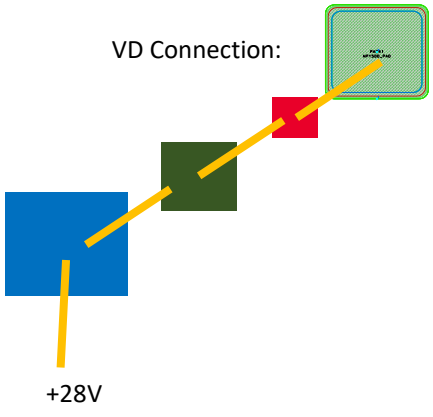


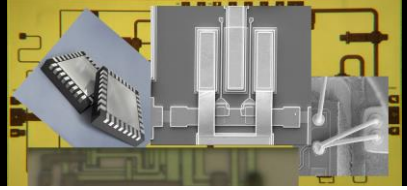


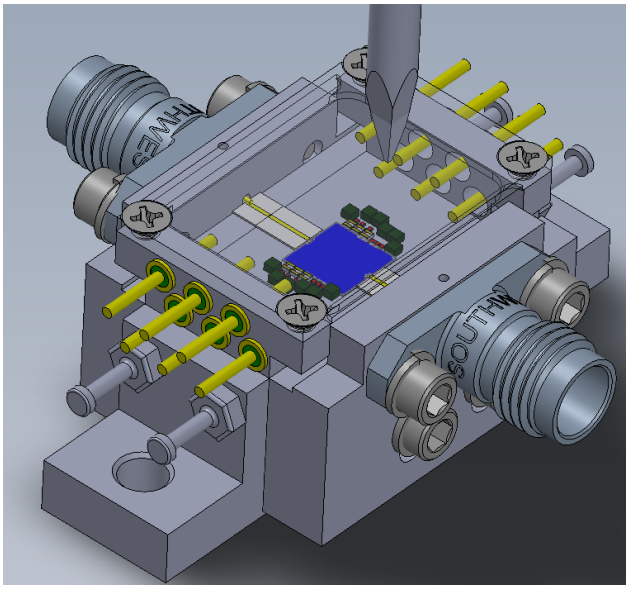


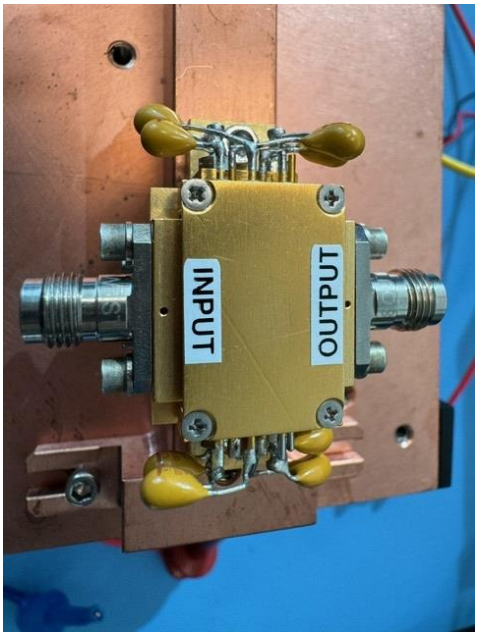

VG1
VD1
VG2
VD2
RFin
RFout
10Ω
1uF
10nF
100pF
0.001" diameter Gold Wires.
Keep as Short as possible
Use 3mil Ribbon Bonds , if
available
VG1
VD1
VG2
VD2


VG Connection:
-3.8V


VD Connection:
+28V







TMC2112
Evaluation
Module