

1 Watt Ku Band Packaged Amplifier TGA2903-EPU-SG

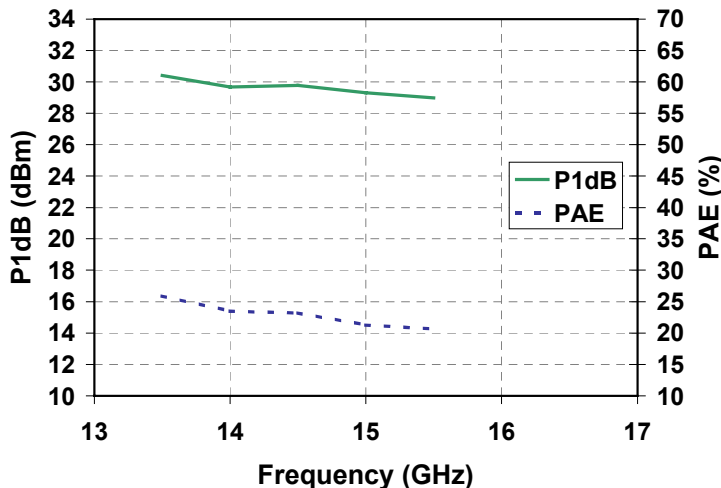
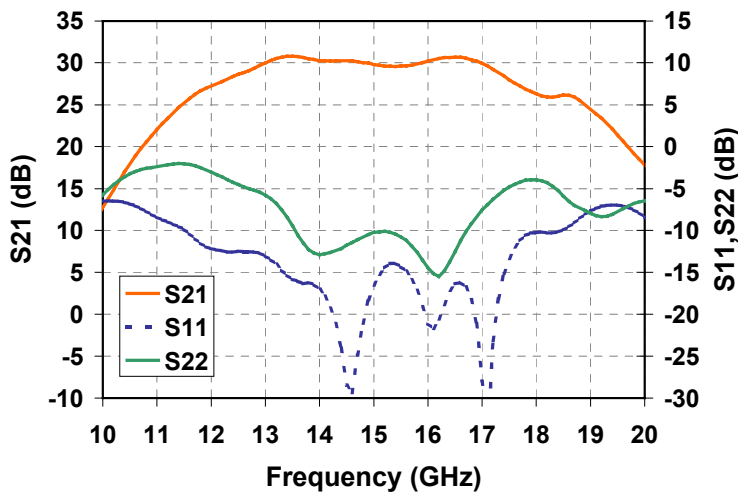


Key Features and Performance

- Surface Mountable
- Frequency Range: 13 - 17 GHz
- 30 dBm Midband Pout
- 30 dB Nominal Gain
- 15 dB Typical Input Return Loss
- 8 dB Typical Output Return Loss
- 0.5µm pHEMT Technology
- Bias Conditions: 7 V, 430 mA
- Available in Tape & Reel or Waffle Pack
- Package dimensions:
9.4 x 6.4 x 0.1 mm (370 x 250 x 4 mils)

Preliminary Measured Performance

Bias Conditions: Vd=7 V Id=430 mA



Primary Applications

- VSAT
- Point to Point

Note: Devices designated as EPU are typically early in their characterization process prior to finalizing all electrical and process specifications. Specifications are subject to change without notice.

**TABLE I
MAXIMUM RATINGS**

Symbol	Parameter <u>1/</u>	Value	Notes
V_D	Drain Voltage	8 V	<u>2/</u>
V_G	Gate Voltage Range	-5V to 0V	
I_D	Drain Current (Quiescent)	591 mA	<u>2/</u>
$ I_G $	Gate Current	14 mA	
P_{IN}	Input Continuous Wave Power	17 dBm	<u>2/</u>
P_D	Power Dissipation	TBD	<u>2/</u>
T_{CH}	Operating Channel Temperature	150 °C	<u>3/ 4/</u>
T_M	Mounting Temperature (30 Seconds)	320 °C	
T_{STG}	Storage Temperature	-65 to 150 °C	

- 1/ These ratings represent the maximum operable values for this device.
- 2/ Combinations of drain voltage, drain current, input power and output power shall not exceed P_D .
- 3/ These ratings apply to each individual FET.
- 4/ Junction operating temperature will directly affect the device median time to failure (T_M). For maximum life, it is recommended that junction temperatures be maintained at the lowest possible levels.

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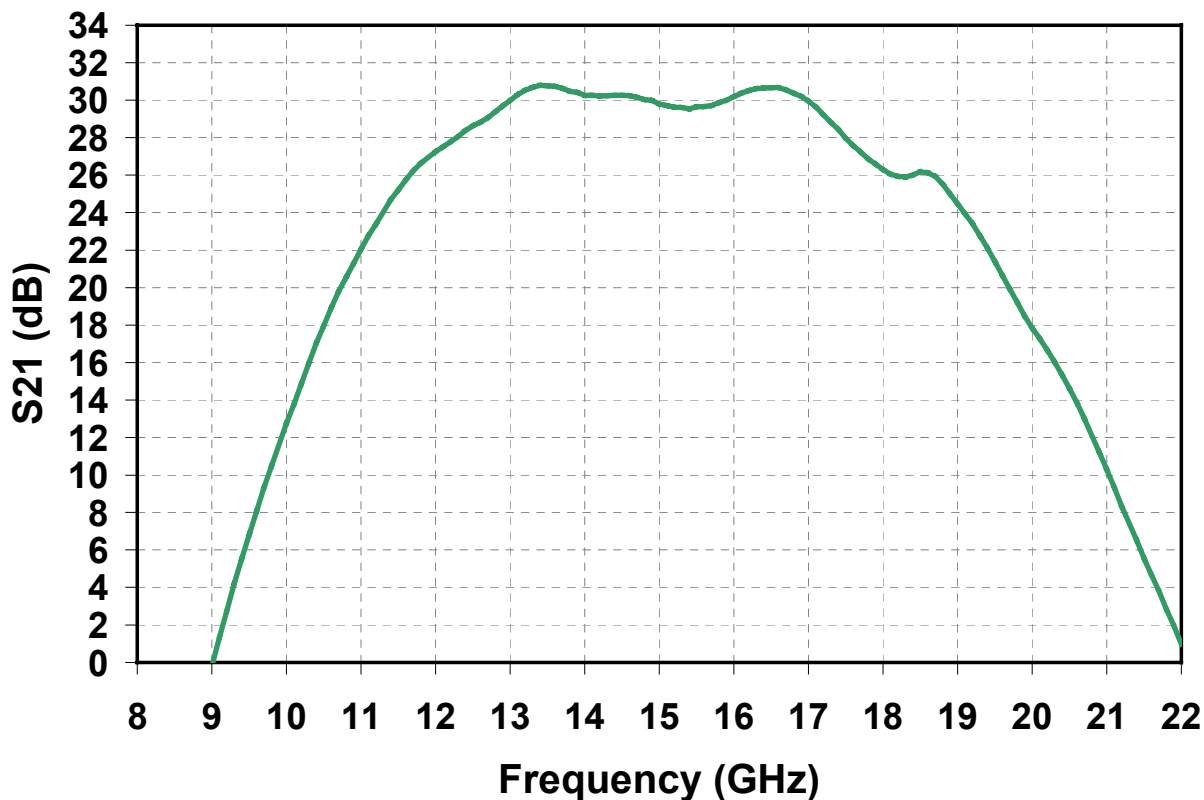
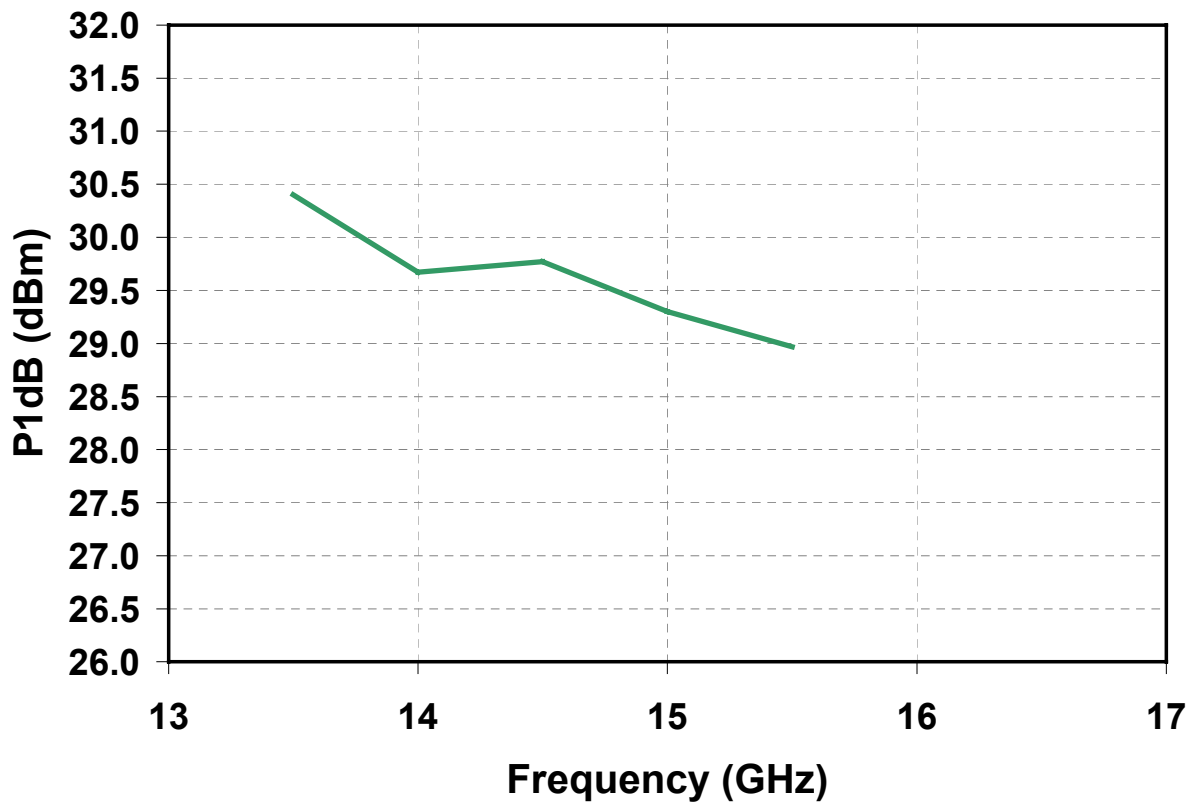
TABLE II
RF CHARACTERIZATION TABLE
($T_A = 25^\circ\text{C}$, Nominal)
($V_d = 7\text{V}$, $I_d = 430\text{mA} \pm 5\%$)

SYMBOL	PARAMETER	TEST CONDITION	LIMITS			UNITS
			MIN	TYP	MAX	
Gain	Small Signal Gain	F = 13-17GHz		30		dB
IRL	Input Return Loss	F = 13-17GHz		15		dB
ORL	Output Return Loss	F = 13-17GHz		10		dB
PWR	Output Power @ P1dB	F = 13-17GHz		30		dBm
PAE	Power Added Efficiency @ P1dB	F = 13-17GHz		22		%

Note: Table III Lists the RF Characteristics of typical devices as determined by fixtured measurements.

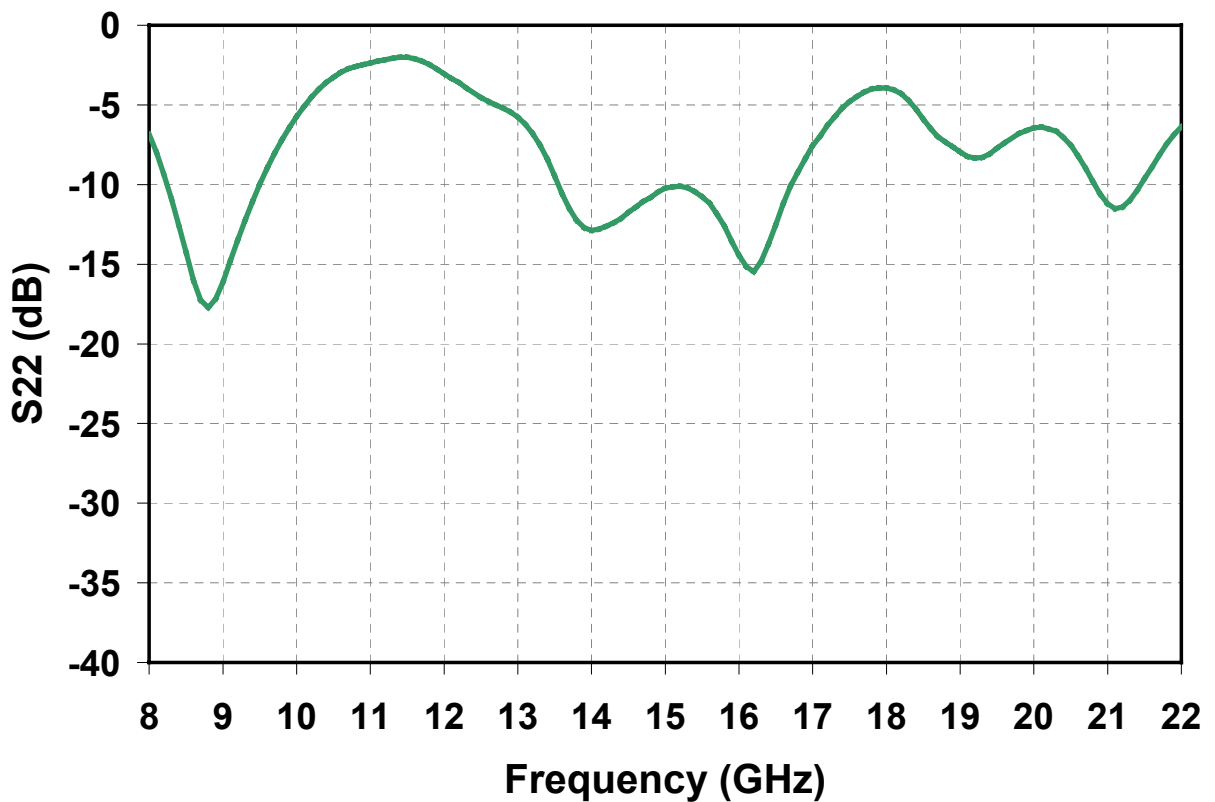
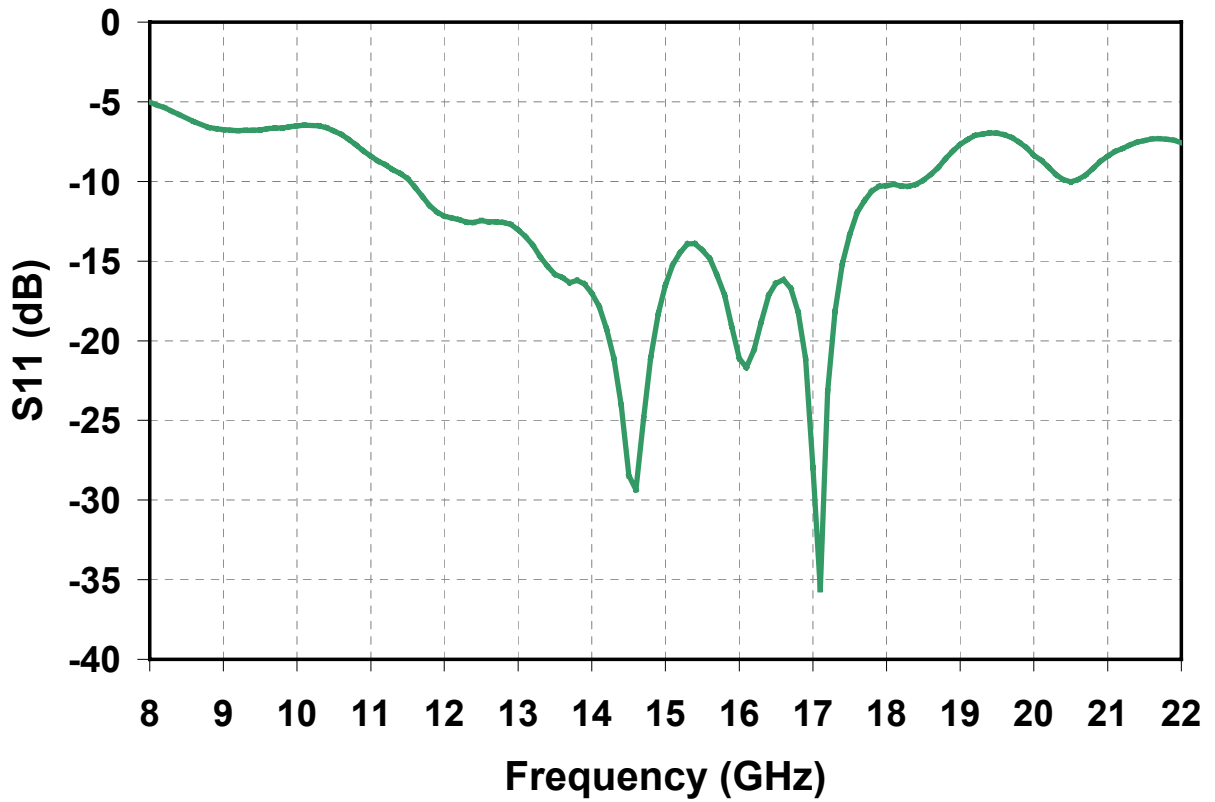
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Typical Fixtured Performance



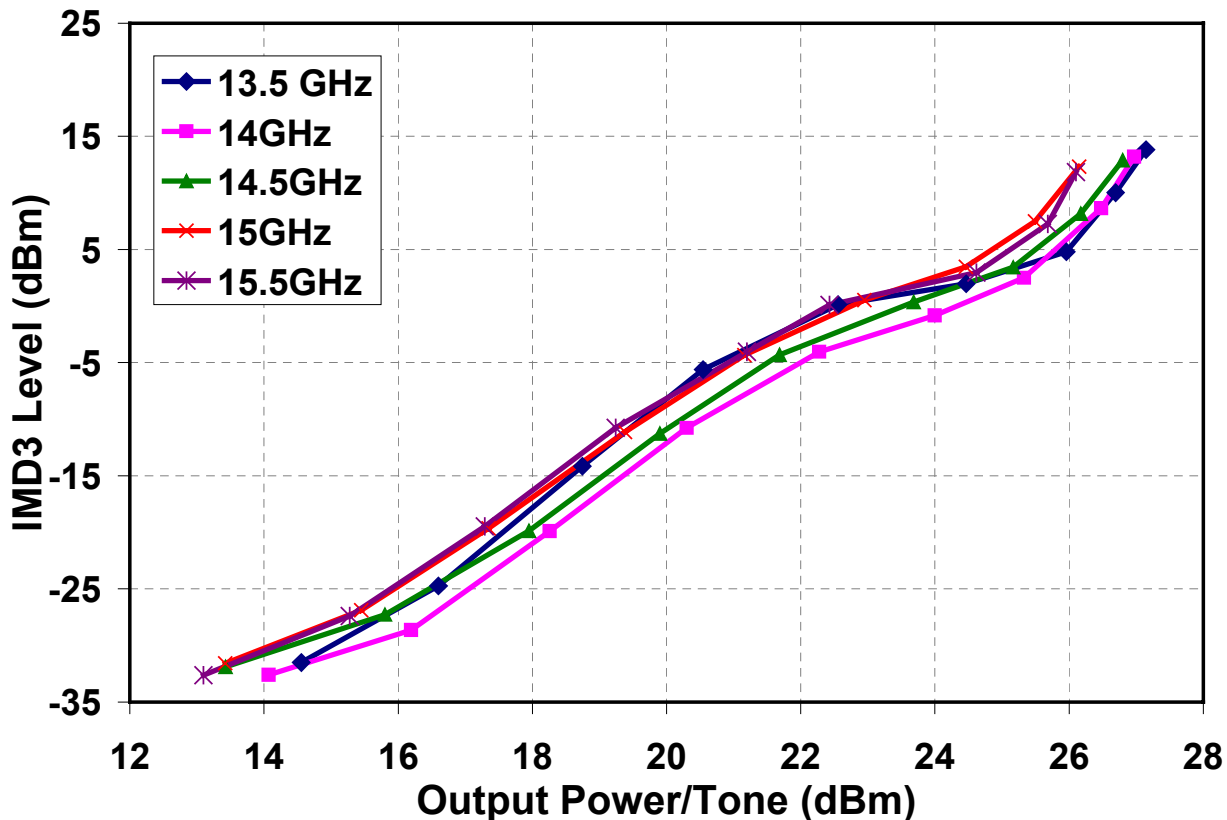
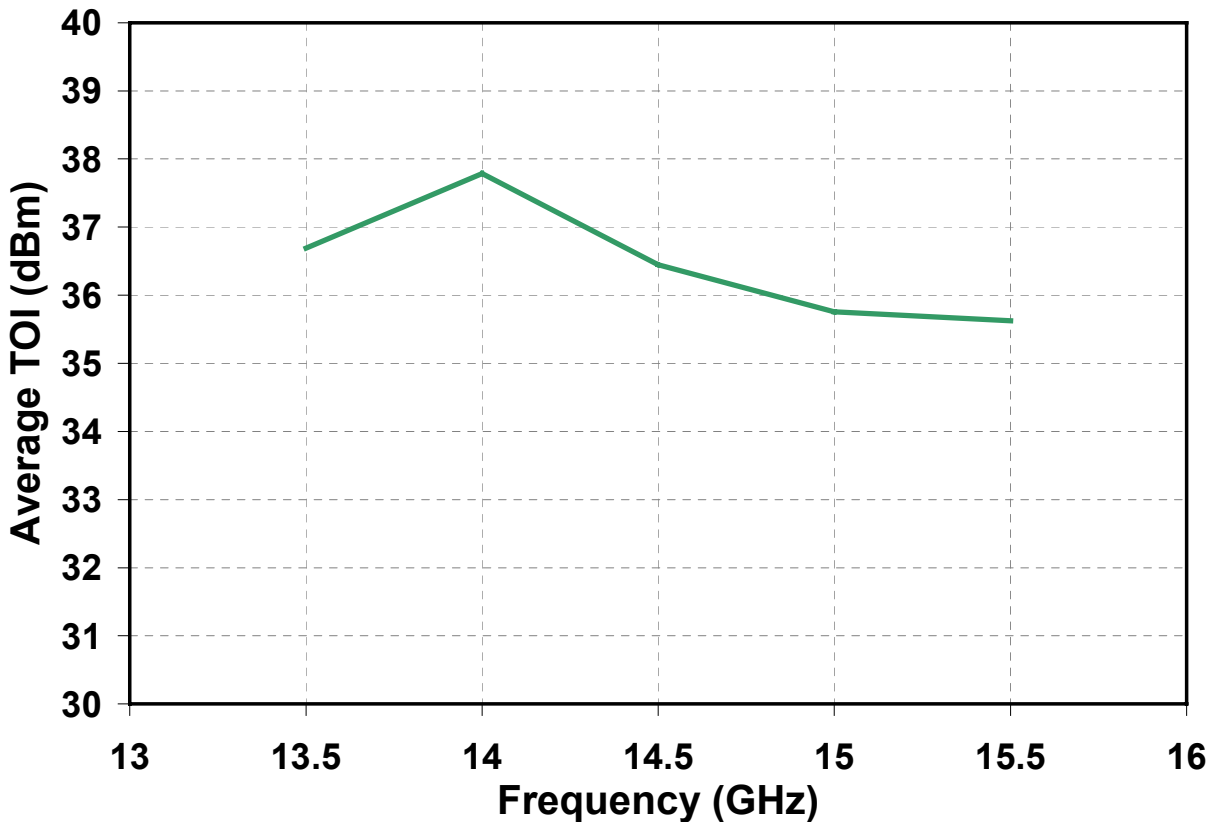
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Typical Fixtured Performance



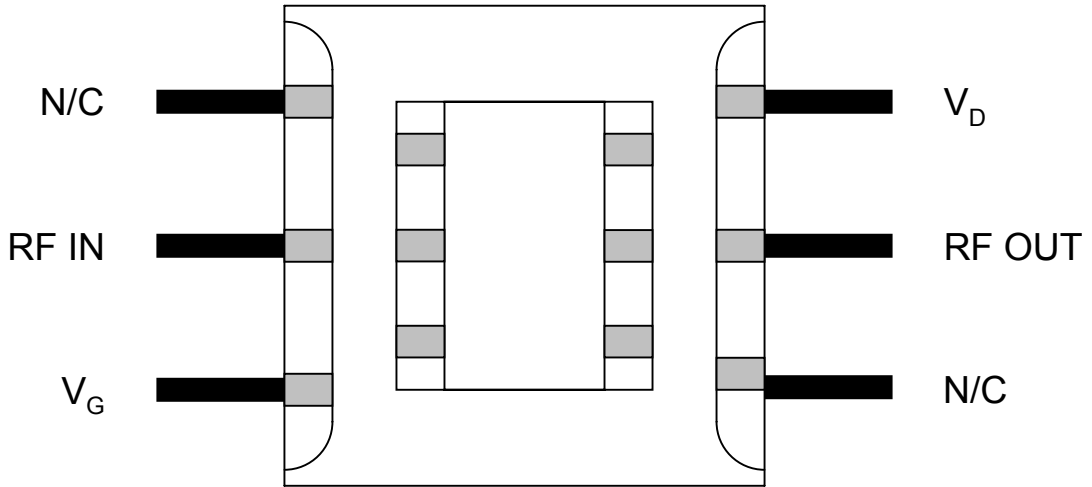
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Typical Fixtured Performance



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Package Pinout Diagram

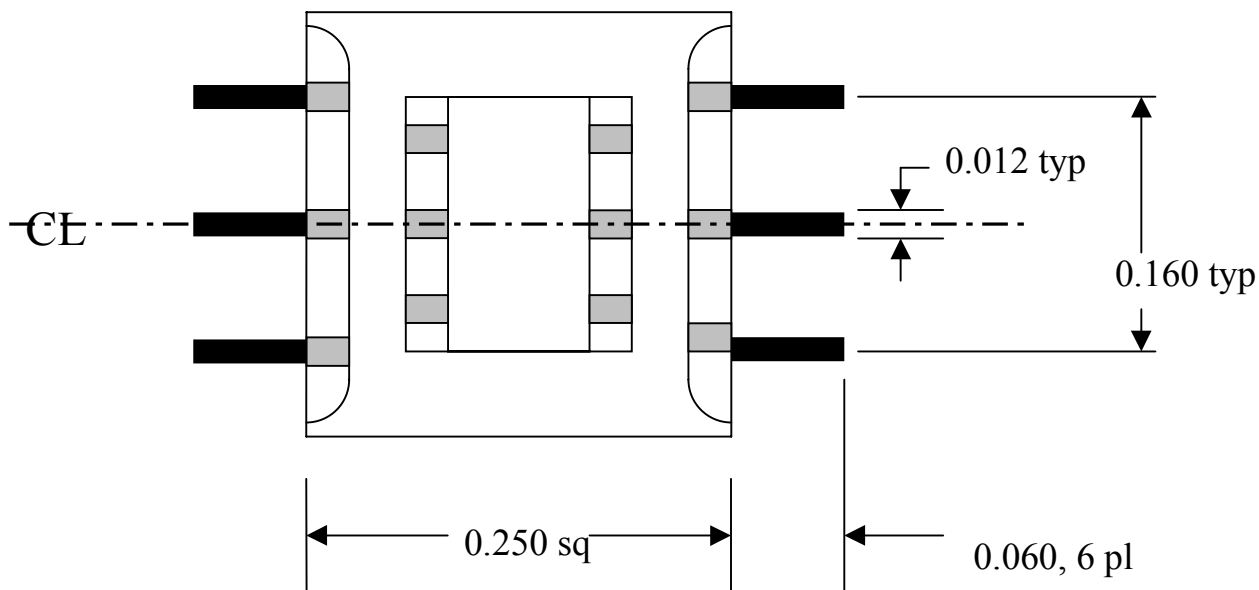


GaAs MMIC devices are susceptible to damage from Electrostatic Discharge. Proper precautions should be observed during handling, assembly and test.

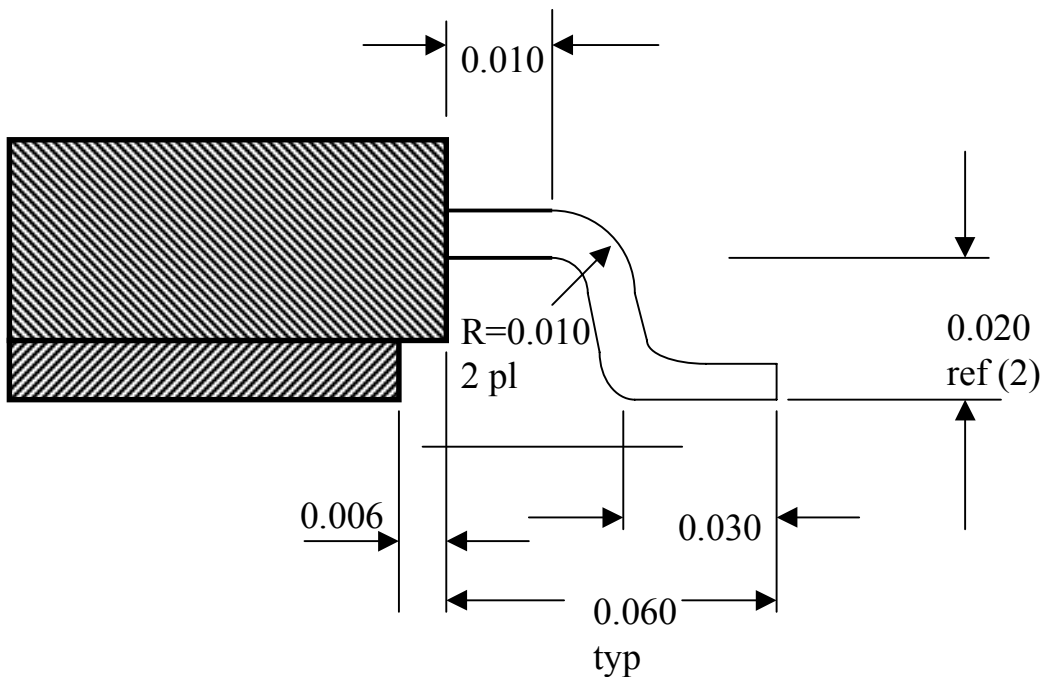
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Mechanical Drawing

Dimensions in inches



Top View

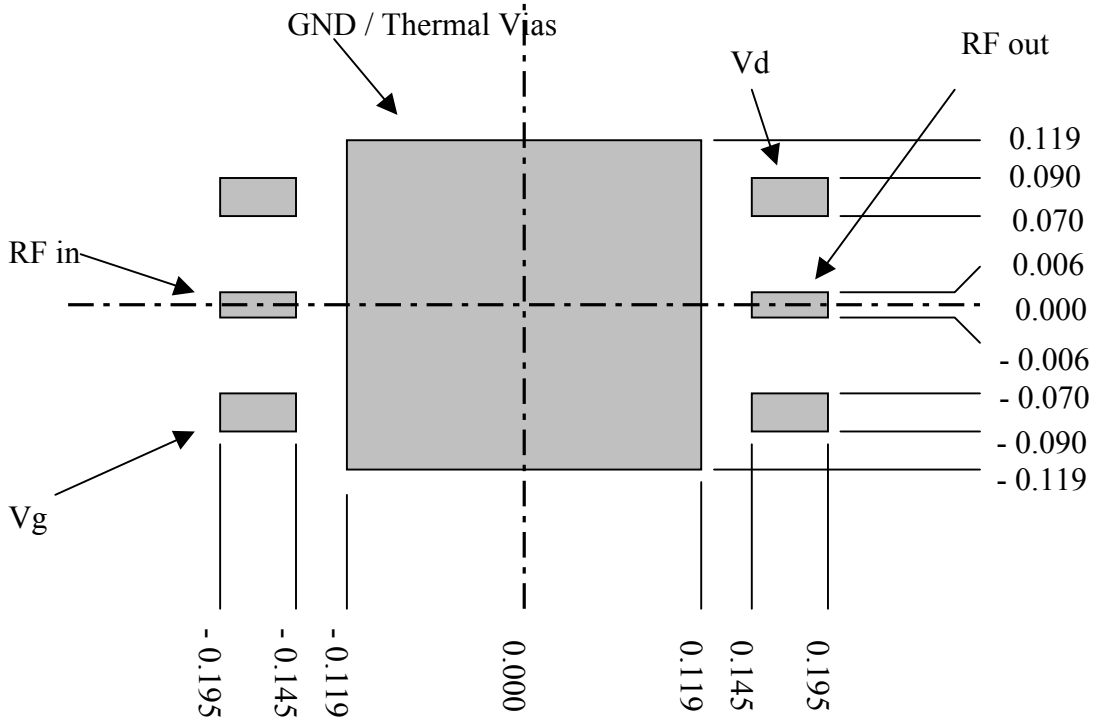


Side View

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Recommended PWB Land Pattern

Dimensions in inches



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