

Product Features

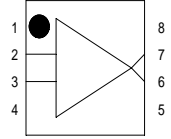
- 0.1 to 6GHz Frequency Range
- +34 dBm P-1dB at 1.96GHz
- +53 dBm OIP3 at 1.96GHz
- 16 dB Gain at 1.96GHz
- 7 dB Noise Figure

Product Description

The GSP7433-30 is an unmatched General Purpose Medium Power Amplifier that covers the 100MHz to 6GHz frequency range with 16 dB nominal matched gain at 1.96GHz. It also has superior Third Order Intermodulation Distortion characteristics.

The GSP7433-30 is an amplifier fabricated with high reliability InGaP/GaAs Heterojunction Bipolar Transistor (HBT) process. It requires external, bandwidth optimized matching for operation. The amplifier is ideal for wireless Base Station predriver and wide dynamic range power amplifier final stages in WLAN and WiMAX transceivers. It is in a unique 3mm square DFN plastic package.

This amplifier can be used for current and next generation equipment wireless applications to 6GHz



Pin	Function
1,4,5,8	N/C
2,3	Input
6,7	Output
Paddle	Ground

Applications

- Mobile infrastructure
- ISM
- WLAN
- RFID
- WiMAX/WiBRO

Specifications (1)

Parameter	Units	Min	Typ	Max
Frequency Range	MHz	100		6000
Test Frequency (2)	MHz		1960	
Gain (2)	dB	15	16	
Pout @ -1dB GCP	dBm	33	34	
Input Return Loss (2)	dB		15	
Output Return Loss (2)	dB		7	
OIP3 (2)	dBm	50	53	
Noise Figure (2)	dB		7	
Operating Current	mA		700	

1. Test conditions unless otherwise specified: 25°C, Supply Voltage = +7.00V
2. Measured in evaluation circuit tuned for 1930MHz – 1990MHz

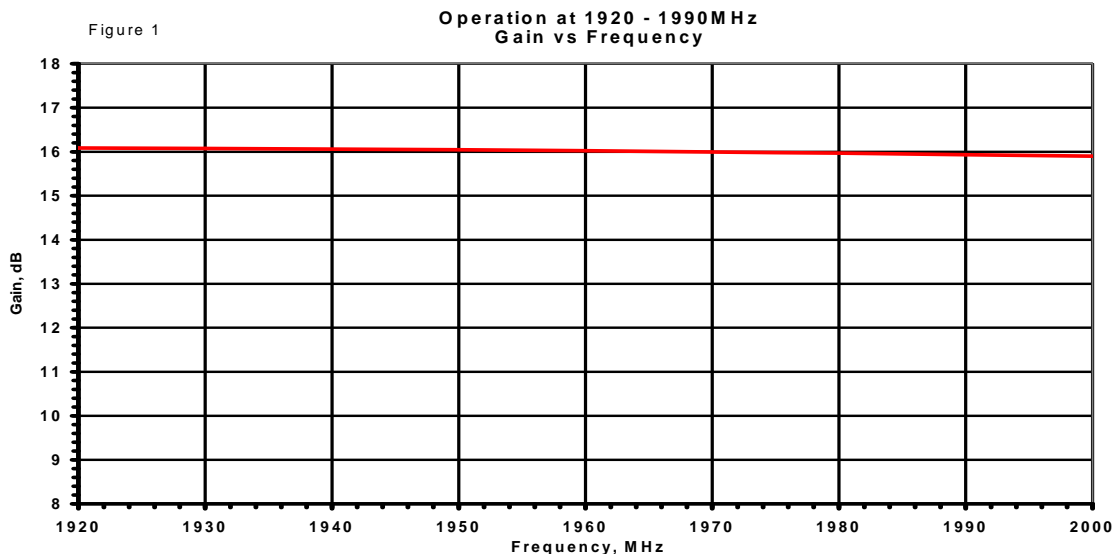


Figure 2
Operation at 1930 -1990MHz
Return Loss vs Frequency

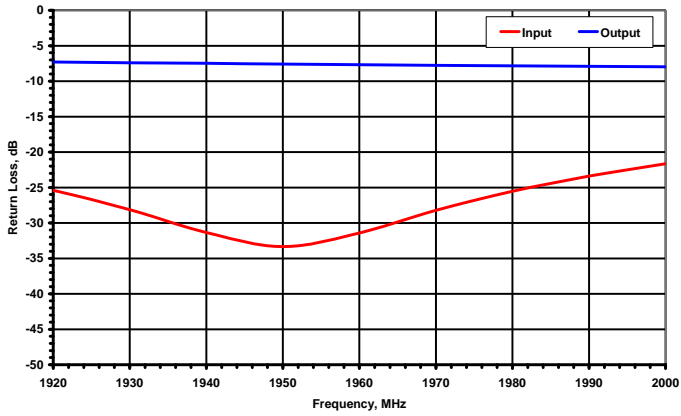


Figure 3
Operation at 1930 -1990MHz
Output Power and Power Added Efficiency vs Frequency

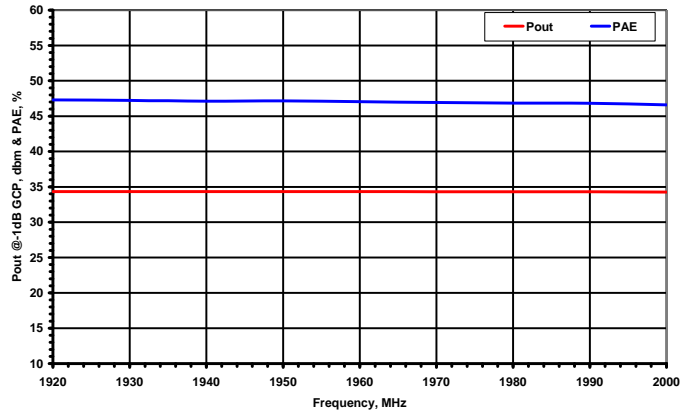


Figure 4
Operation at 1930 - 1990MHz
OIP3 vs Frequency

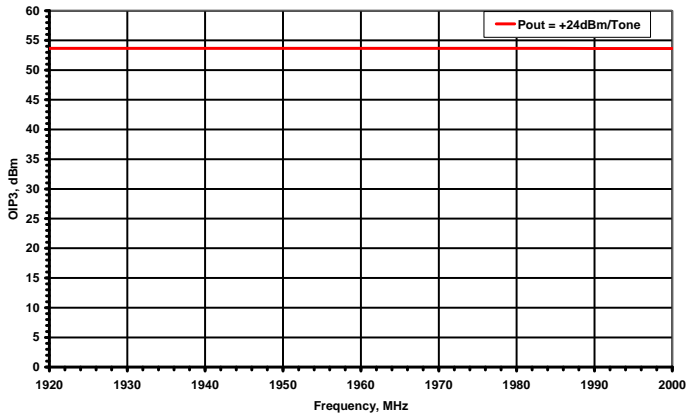


Figure 5
Operation at 1930 - 1990MHz
Group Delay vs Frequency

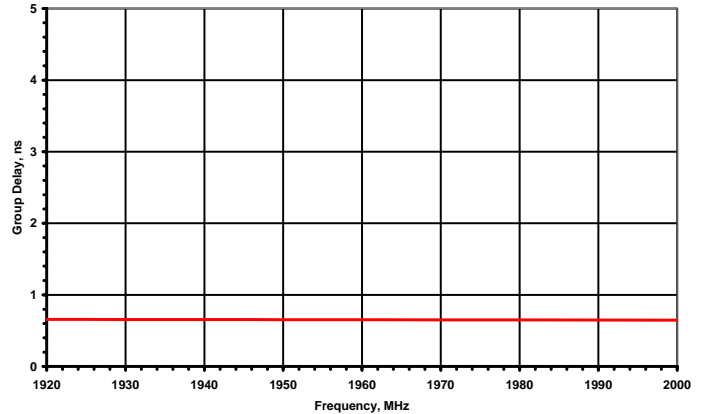


Figure 6 Operation at 2300 - 2400 MHz
Gain vs Frequency

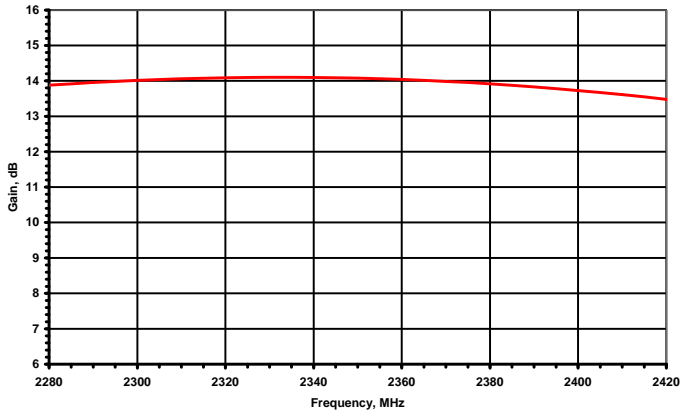


Figure 7 Operation at 2300 - 2400 MHz
Return Loss vs Frequency

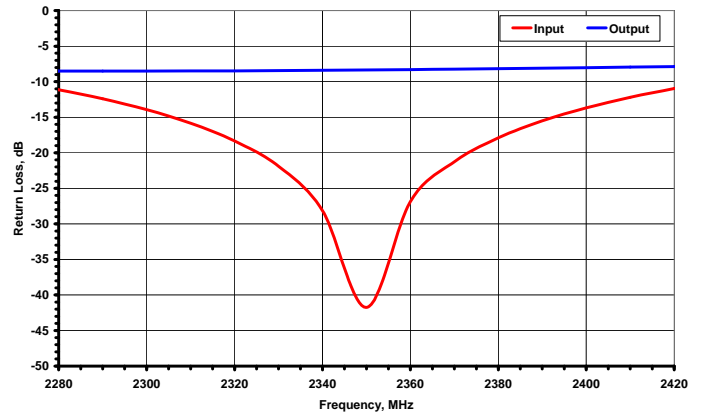


Figure 8 Operation at 2300 - 2400 MHz
Output Power & Power Added Efficiency vs Frequency

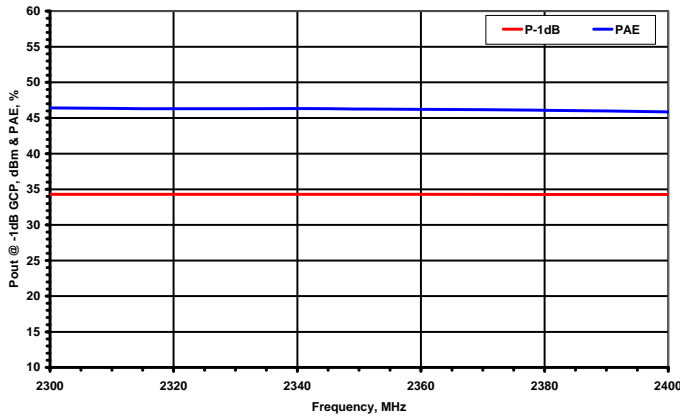


Figure 9 Operation at 2300 - 2400MHz
OIP3 vs Frequency

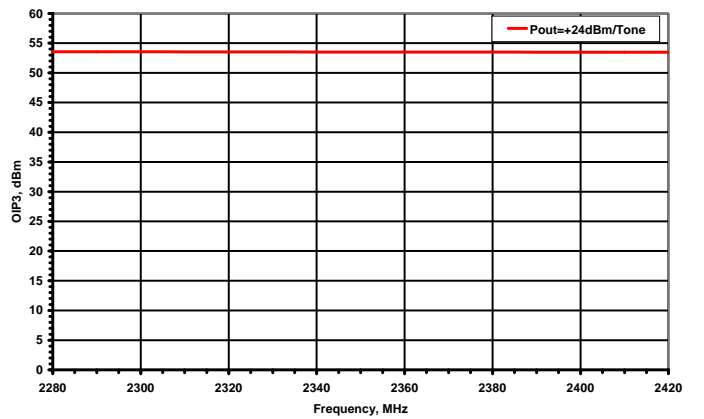


Figure 10 Operation at 2300 - 2400 MHz
Group Delay vs Frequency

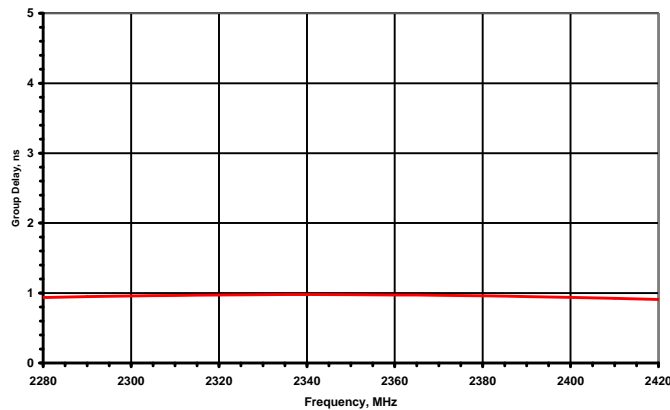


Figure 11

Operation at 2600 - 2700MHz
Gain vs Frequency

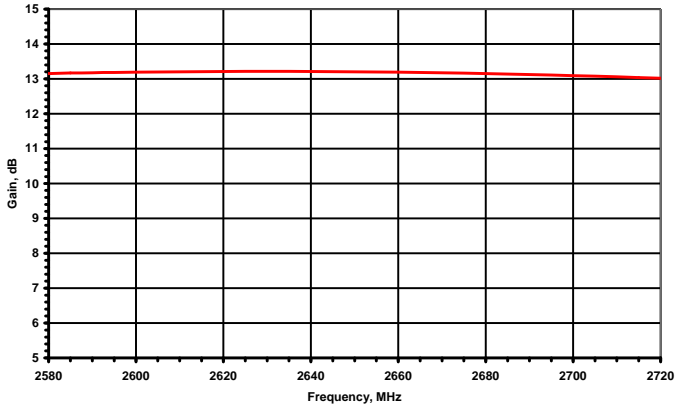


Figure 12

Operation at 2600 - 2700MHz
Return Loss vs Frequency

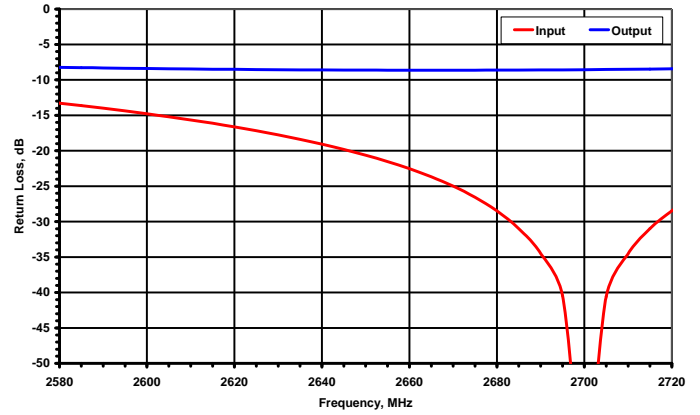


Figure 13

Operation at 2600 - 2700MHz
Output Power and Power Added Efficiency vs Frequency

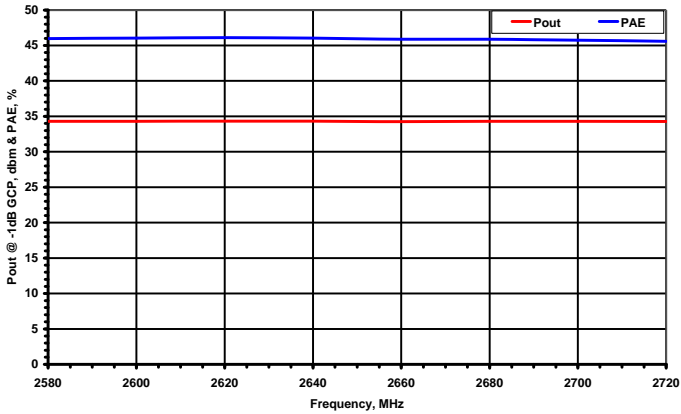


Figure 14

Operation at 2600 - 2700MHz
OIP3 vs Frequency

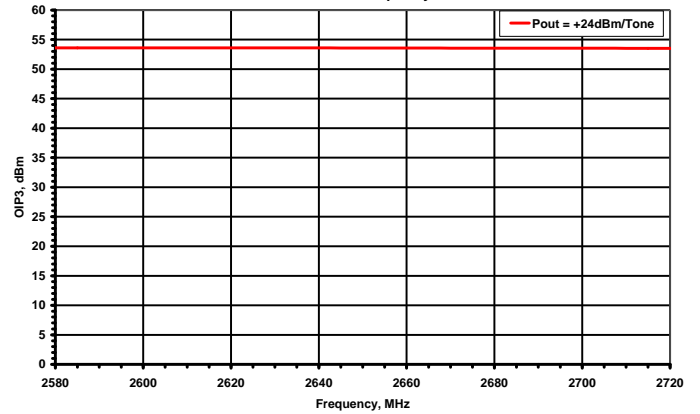
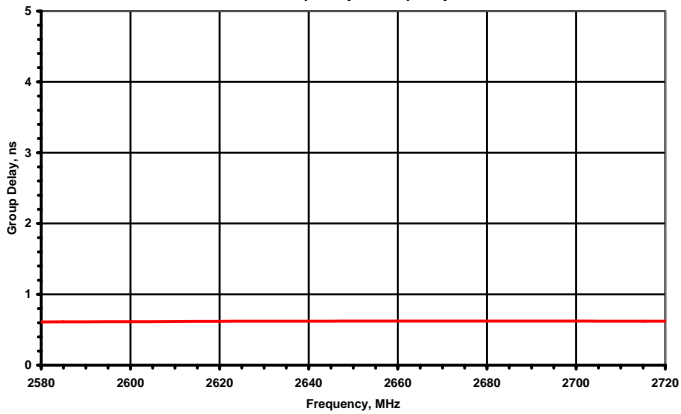
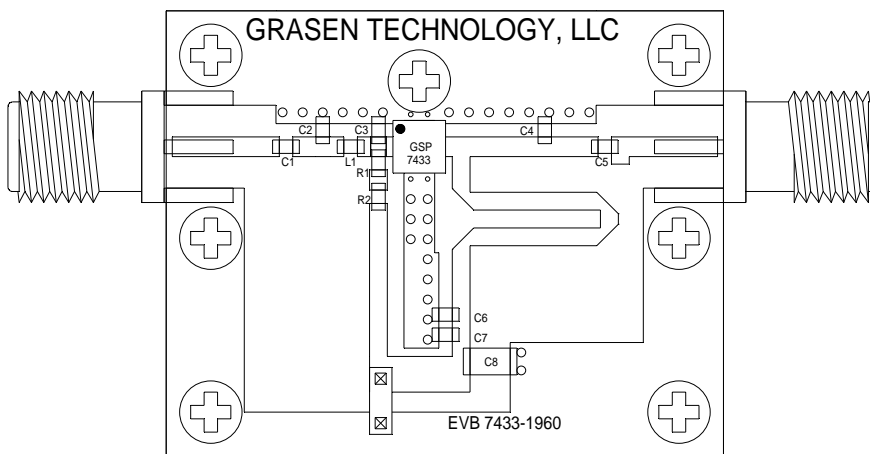
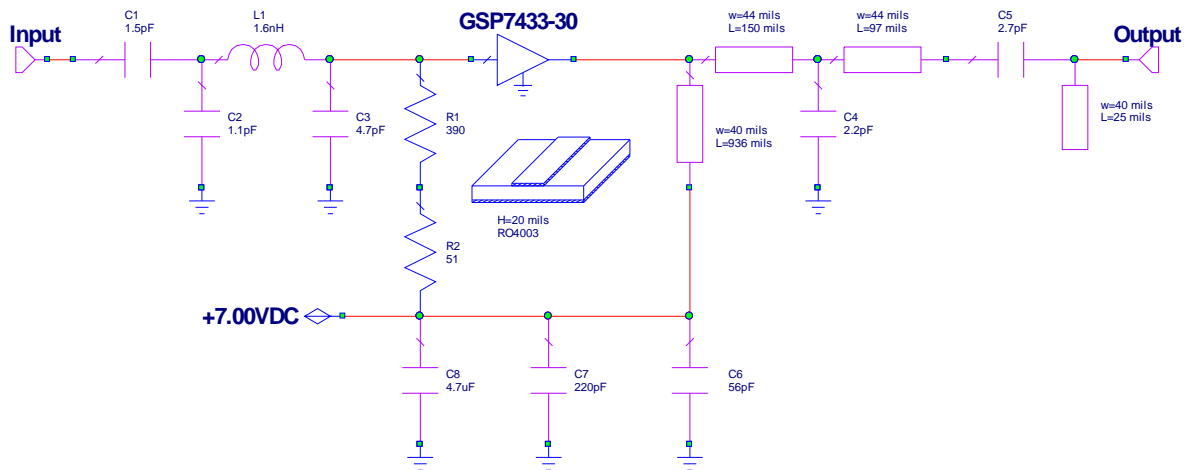


Figure 15

Operation at 2600 - 2700MHz
Group Delay vs Frequency

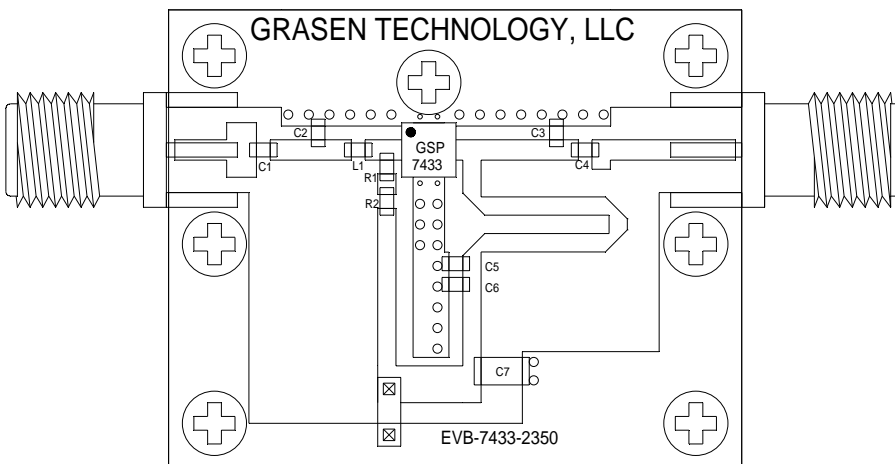
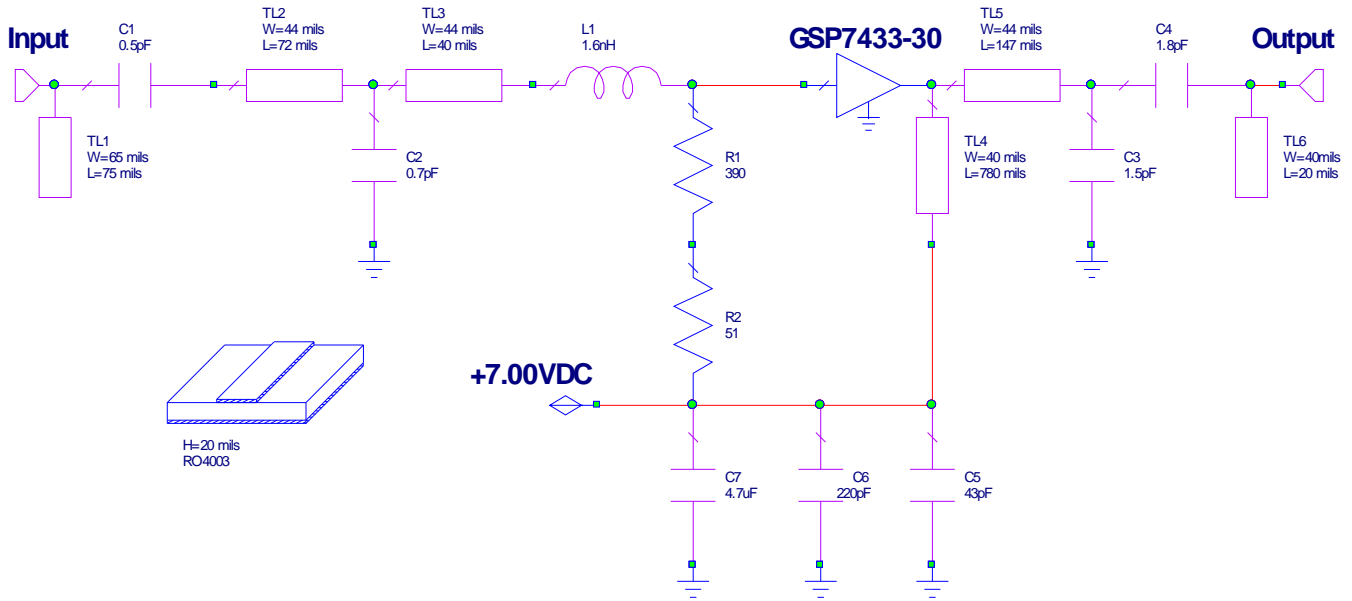


Application Schematic Diagram, 1930 - 1990MHz



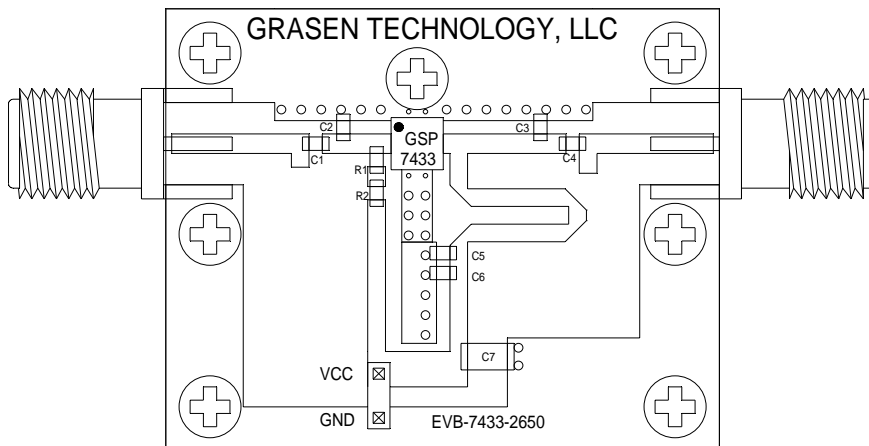
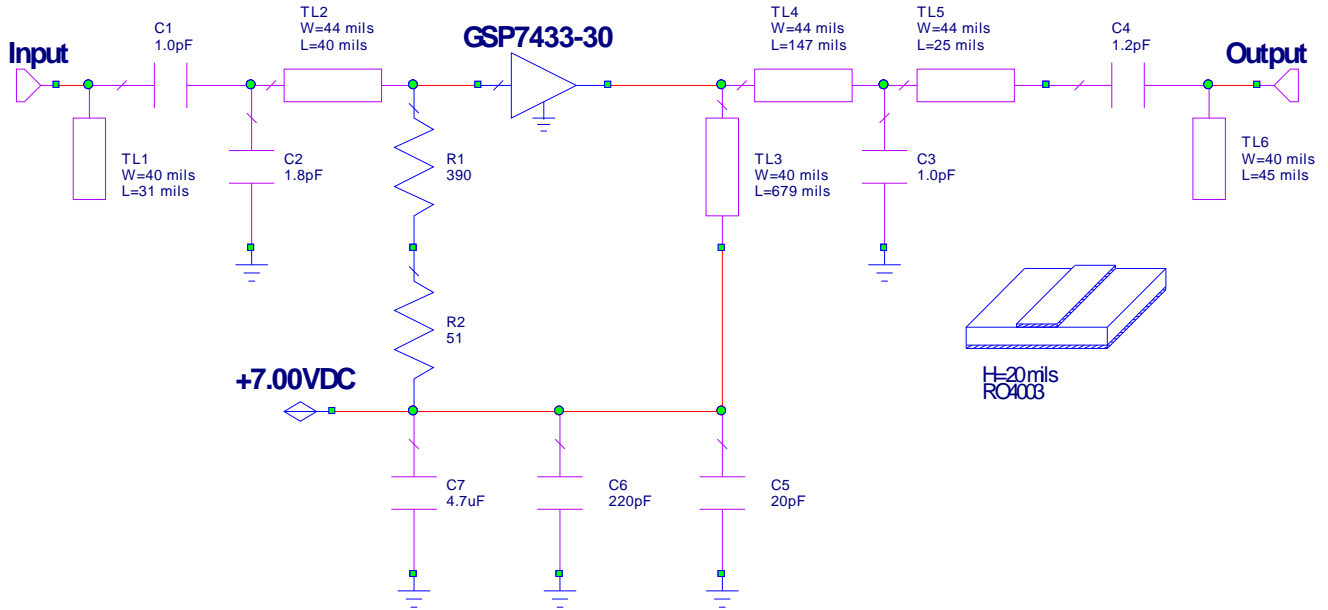
ID	Value	PN
C1	1.5pF	ATC600S
C2	1.1pF	ATC600S
C3	4.7pF	ATC600S
C4	2.2pF	ATC600S
C5	2.7pF	ATC600S
C6	56pF	ATC600S
C7	220pF	0603 size
C8	4.7uF	1206 size
L1	1.6nH	0603CS Coilcraft
R1	390 Ω	0603 size
R2	51 Ω	0603 size

Application Schematic Diagram, 2300 - 2400MHz

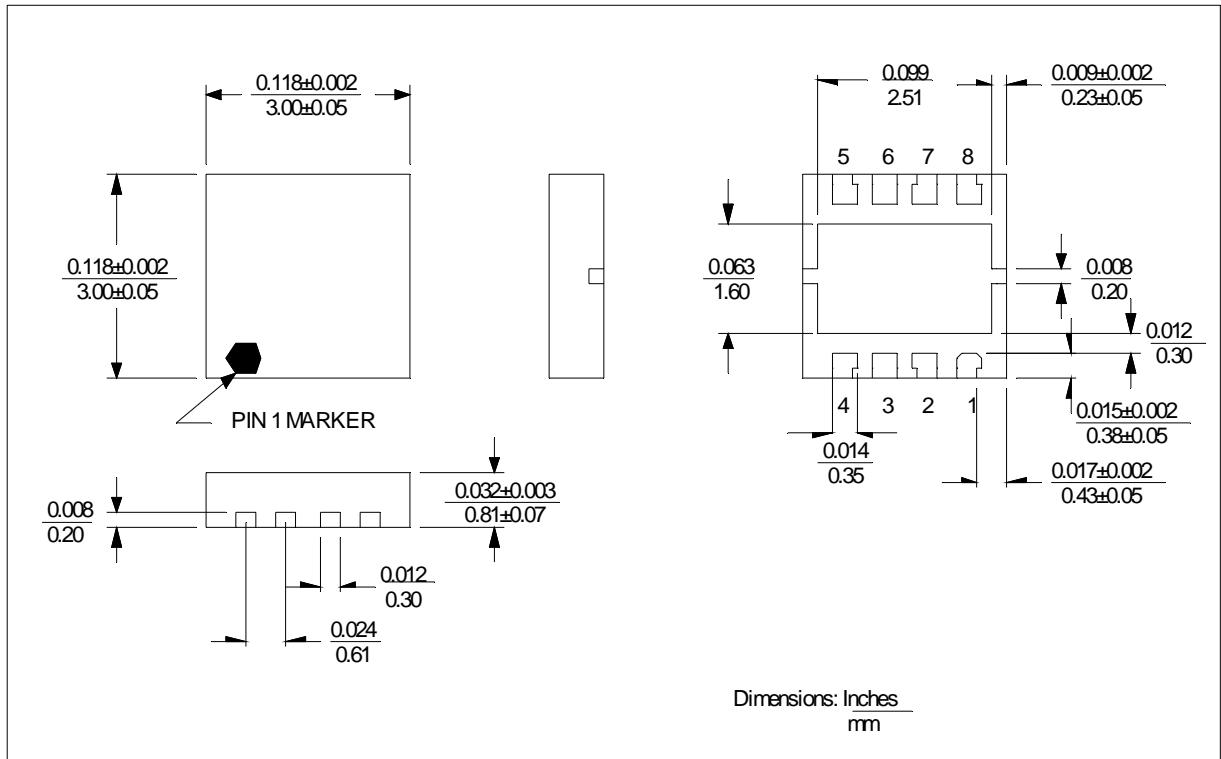


ID	Value	PN
C1	0.5pF	ATC 600S
C2	0.7pF	ATC 600S
C3	1.5pF	ATC 600S
C4	1.8pF	ATC 600S
C5	43pF	ATC 600S
C6	220pF	0603 size
C7	4.7uF	1206 size
R1	390 Ω	0603 size
R2	51 Ω	0603 size

Application Schematic Diagram, 2600 - 2700MHz



ID	Value	PN
C1	1.0pF	ATC 600S
C2	1.8pF	ATC 600S
C3	1.0pF	ATC 600S
C4	1.2pF	ATC 600S
C5	20pF	ATC 600S
C6	220pF	0603 size
C7	4.7uF	1206 size
R1	390 Ω	0603 size
R2	51 Ω	0603 size



-30 Package Outline

Absolute Maximum Ratings

Parameter	Rating
Case Temperature, Operating	-40 to +85 °C
Storage Temperature	-55 to +150 °C
Device Current	150mA
RF Input Power, continuous	+20 dBm
Junction Temperature	250 °C

Operation of this device above any of these parameters will cause permanent damage.

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