



InGaP/GaAs RFIC AMPLIFIER

DESCRIPTION

The **CTS6001** is a general purpose buffer amplifier that offers high dynamic range packaged in a hermetically sealed package and screened for high-reliability space applications.

The device consists of a Darlington pair amplifier that only requires DC blocking capacitors, an RF choke, an optional biasing resistor and a single power supply.

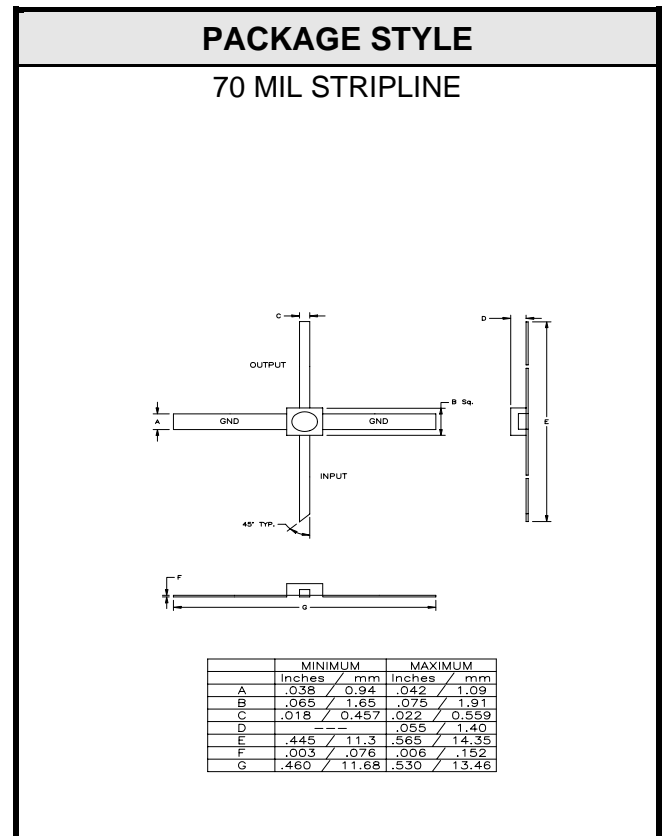
Typical applications include LO buffers and gain blocks for applications from DC to 5.5GHz.

FEATURES

- DC – 5.5GHz
- 15dB Gain @ 1GHz
- +15dBm P1dB & +32dBm OIP3 @ 1GHz
- High Reliability/Space grade screened part available
- Internally matched in a hermetically sealed package
- Single Supply operation

MAXIMUM RATINGS

RATING	LIMITS	UNITS
I_D	100	mA
RF INPUT POWER	+12	dBm
P_D	310	mW
T_{STG}	-55 to +150	°C
T_J	+200	°C



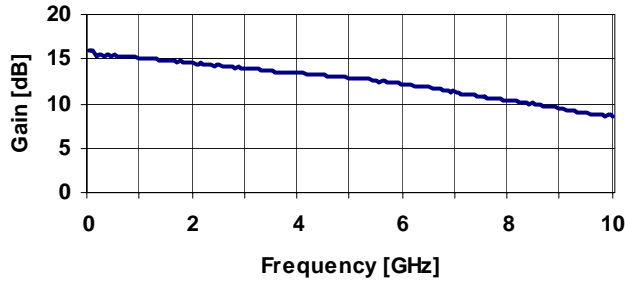
ELECTRICAL CHARACTERISTICS $T_C = 25^\circ\text{C}$ $I_D = 45\text{ mA}$

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
G_p	F = 100 MHz	14.0	15.6	---	dB
	F = 2000 MHz	13.0	14.8	---	dB
	F = 4000 MHz	12	13.8	---	dB
P_{1dB}	F = 4000 MHz	+12.0	+13.5	---	dBm
OIP3	F = 2000 MHz	+30.0	---	---	dBm
NF		---	---	4.0	dB
$V_{SWR} \begin{smallmatrix} IN \\ OUT \end{smallmatrix}$	F = 10 to 5500 MHz	---	---	2.0:1	---
		---	---	2.0:1	---
V_D	$I_D = 45\text{ mA}$	3.5	3.9	4.3	V

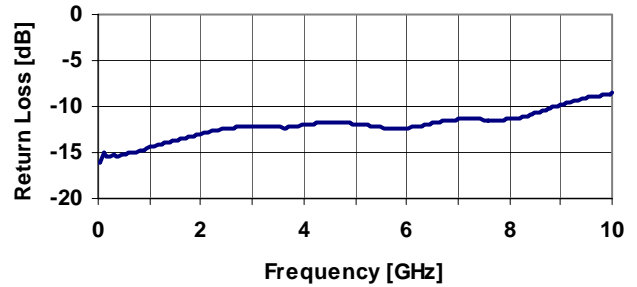


TYPICAL PERFORMANCE $I_D = 40\text{mA}$ $T_C = 25^\circ\text{C}$

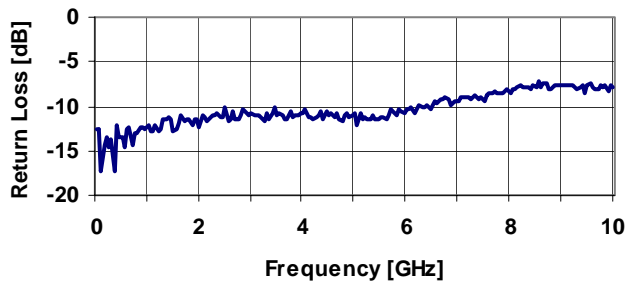
Gain vs. Frequency



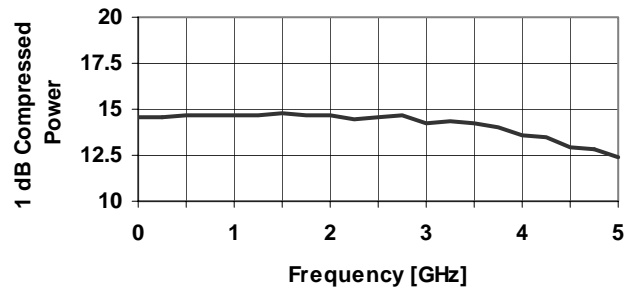
Input Return Loss vs. Frequency



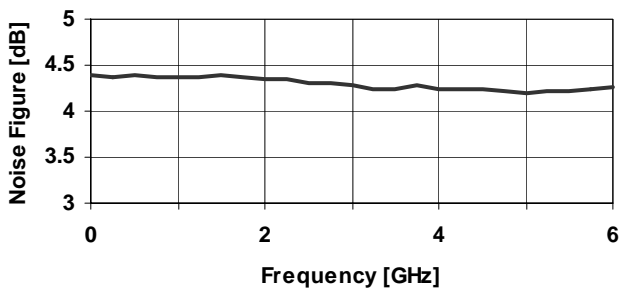
Output Return Loss vs. Frequency



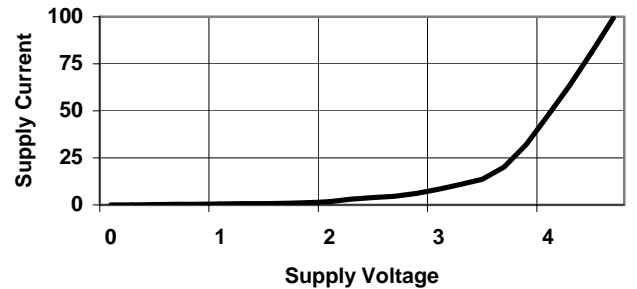
1 dB Compressed Power vs. Frequency



Noise Figure vs. Frequency

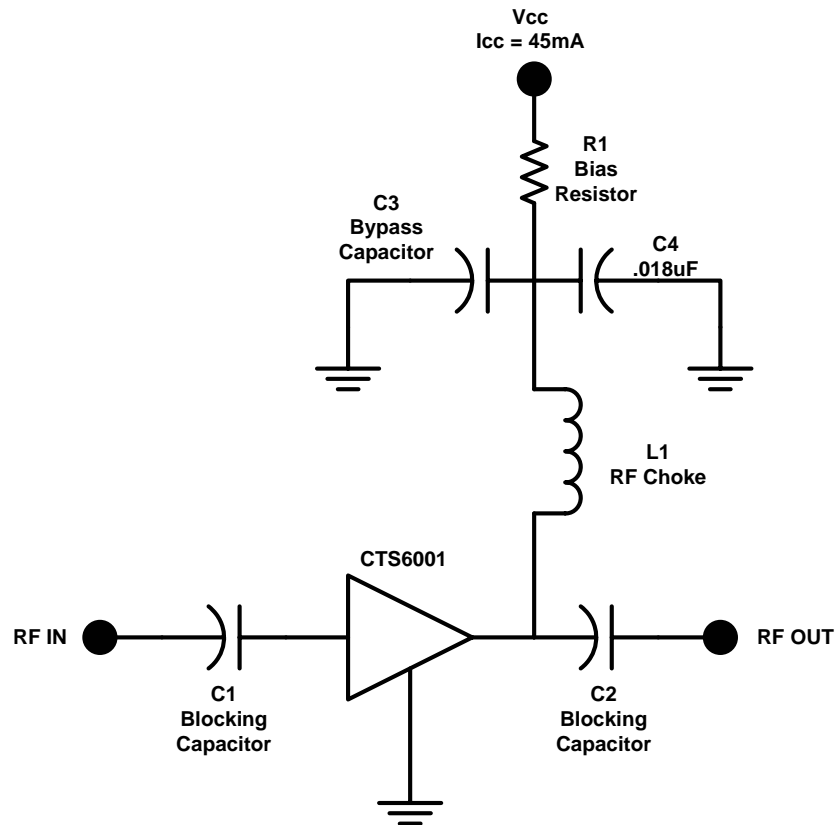


Supply Current vs. Supply Voltage





RECOMMENDED APPLICATION CIRCUIT



Contact Teledyne Microwave Solutions:
650-691-9800
650-962-6845 fax

Check for updates:
www.teledynemicrowave.com