

75 Ohm RF Amplifier 50-1000 MHz

TAT 7472B Advanced Product Information

Overview

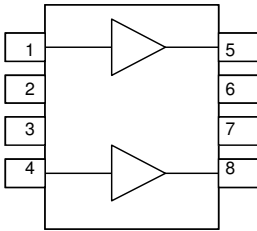
The TAT7472B is a general purpose push pull CATV 75 Ohm RF Amplifier designed for use up to 1000 MHz. It is fabricated using Triquint's® GaAs pHEMT technology to optimize performance and cost. This high linearity, low noise part has exceptional gain and return loss for its class. The TAT7472B is packaged in a standard SOIC-8 form factor for direct cross-referencing of legacy 11-12 dB gain IC's.

Features

- 75 Ohm, 50-1000 MHz Bandwidth
- Low Noise Figure: 5.3 dB to 1000 MHz
- High Gain, High Linearity
- Integrated, single die push-pull design
- SOIC-8 package

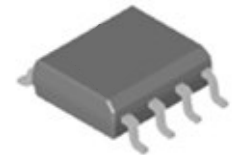
Applications

- Cable Modem
- CATV Headend Equipment
- CATV Line amplifiers



Pin Configuration

Pin No.	Pin Name	Description
1	RF IN	RF Input 1
5	RF OUT	RF Output
4	RF IN	RF Input
8	RF OUT	RF Output
2, 3, 6, 7	GND	Ground
Exposed Slug	GND	Ground



SOIC-8 Package

Electrical Performance Specifications: TAT7472B

Table 1. RF Characteristics in Push Pull Application Circuit						
Characteristic	Typ					Unit
Bandwidth		55	301	547	1000	MHz
RF Gain	13.5	13.5	13.6	13.7	13.5	dB
Gain Flatness	< 0.5					+/- dB
Noise Figure	5.3	-	5.3	5.3	5.0	dB
Input Return Loss	>16	-20	-17	-21	-25	dB
Output Return Loss	>20	-25	-25	-27	-28	dB
CSO (39dBmV/80 channel output)		-77	-76	<-80		dBc
CTB (39dBmV/80 channel output)		-77.5	-73	-72		dBc
I _{dd} (V _{dd} =5V)	340					mA

Ordering Information

Part Number	Description	Package Description	Component Packaging
TAT7472B-EB	Evaluation Board		
TAT7472B-SC8	RFIC, 50-1000MHz , push pull amplifier	RoHS Compliant SOIC-8	1,000 pieces Tape and Reel

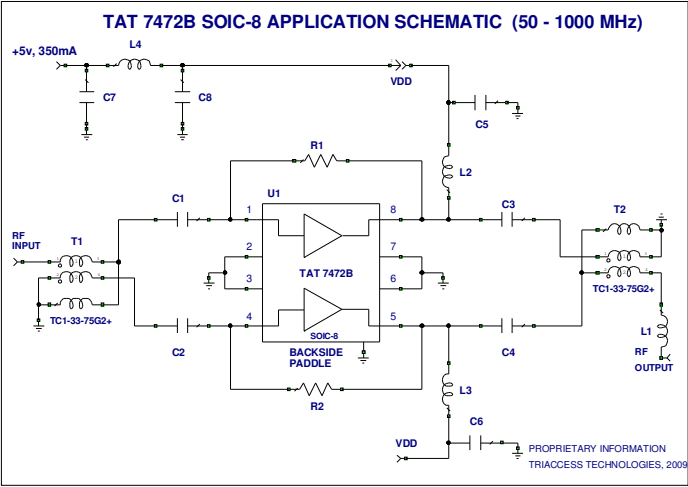
Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	TBD
Voltage	10.0 volts
Operating Temperature	-40°C to +85°C
Storage Temperature	-60°C to +150°C

ESD Classification and Moisture Sensitivity Level

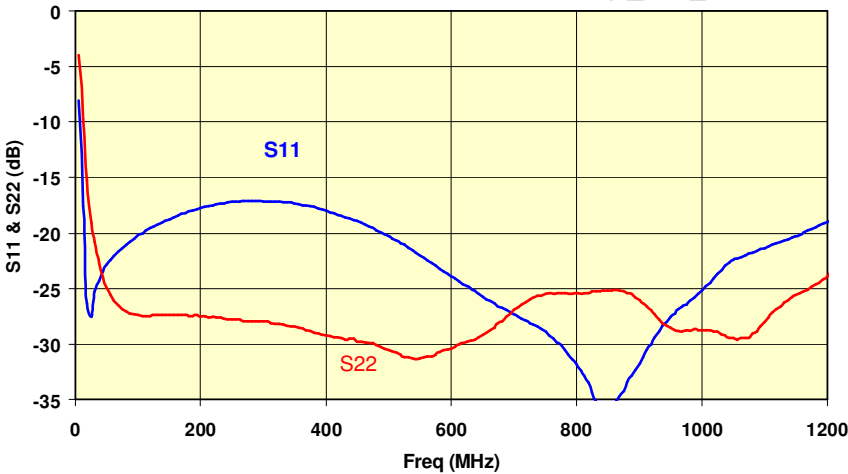
Parameter	Targets
ESD Classification	
- Human Body Model	Class 1B, 500V
- Machine Model	Class IV, 2000V
Moisture Sensitivity Level	Level 3
RoHS	RoHS compliant per EU directive

Performance Data (5V, push-pull amplifier with 1:1 Balun)

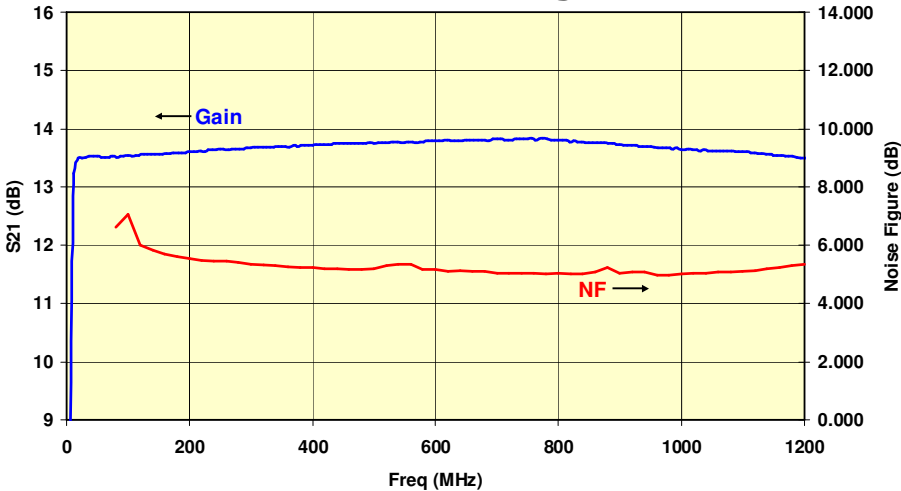


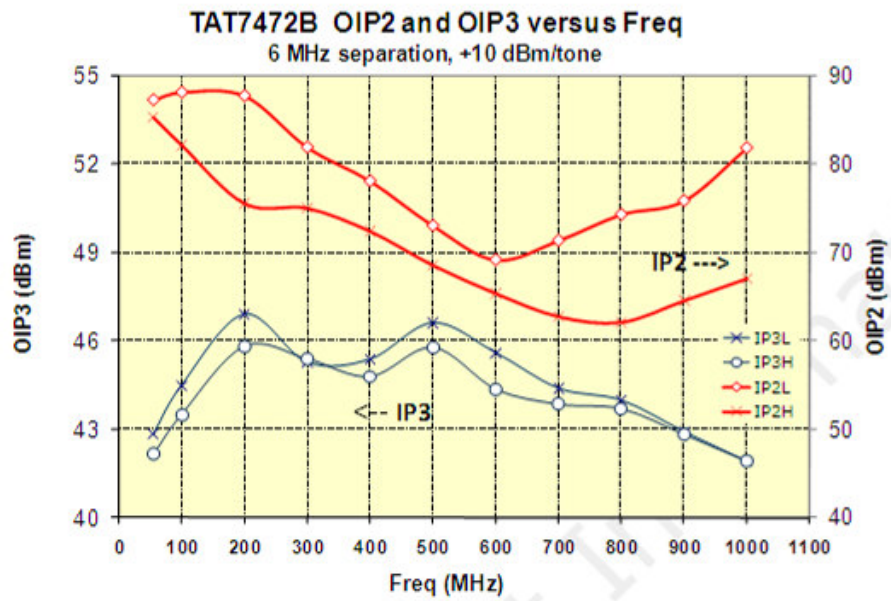
Reference Designator	Value	size	MFG	MFG P/N
L1	3.6 nH	402	CoilCraft	0402CS-3N6XJLW
L2,3	500 nH		Murata	LQH31HNR50K
L4	0.9 uH	1008	CoilCraft	1008AF-901XKLC
C1,2,5,6	0.01 uF	402	AVX	0402YC103KAT
C3,4	470 pF	402	AVX	04025C471KAT2A
C7,8	0.01 uF	603	AVX	0603YC103KAT
R1,2	750 Ohm	402	Dale	CRCW0402750RFKED
T1,2	1:1 Balun		MiniCircuits	TC1-33-75G2+
U1		SOIC-8	TriAccess	TAT7472B
J1,2	F-connector	Edge Mount	Amphenol	531-40039

Return Loss

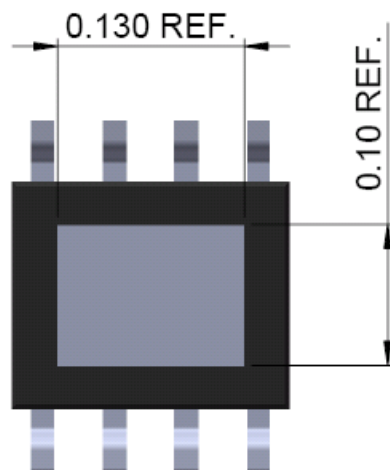
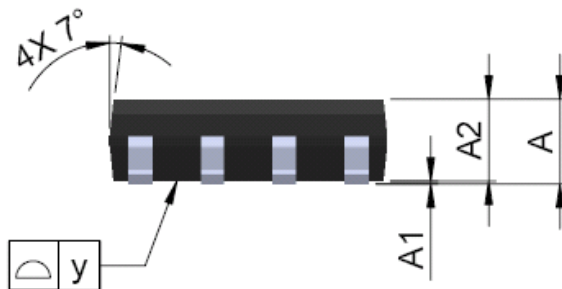
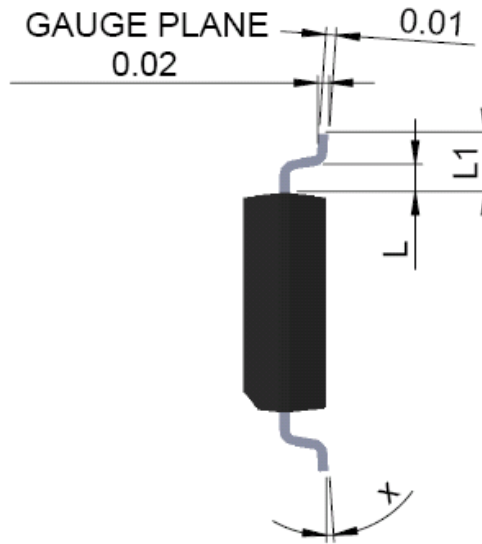
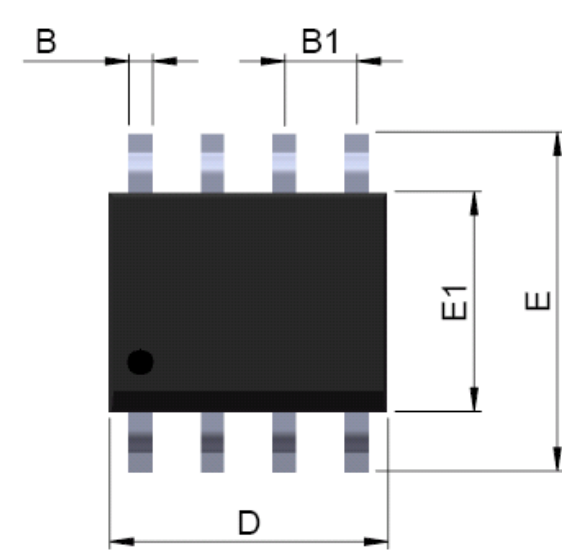


Gain and Noise Figure





Mechanical Dimensions



BOTTOM VIEW

EXPOSED PADDLE

SYMBOL	MIN	NOM	MAX
A	0.054	0.059	0.068
A1	0.00		0.004
A2		0.057	
B	0.013		0.020
B1		0.050	
C	0.007		0.010
D	0.189		0.197
E	0.228	0.236	0.244
E1	0.150	0.153	0.157
L	0.016		0.050
L1	0.037	0.041	0.045
x	0		8
y			0.004

DIMENSIONS ARE IN INCHES