ISG52124-L

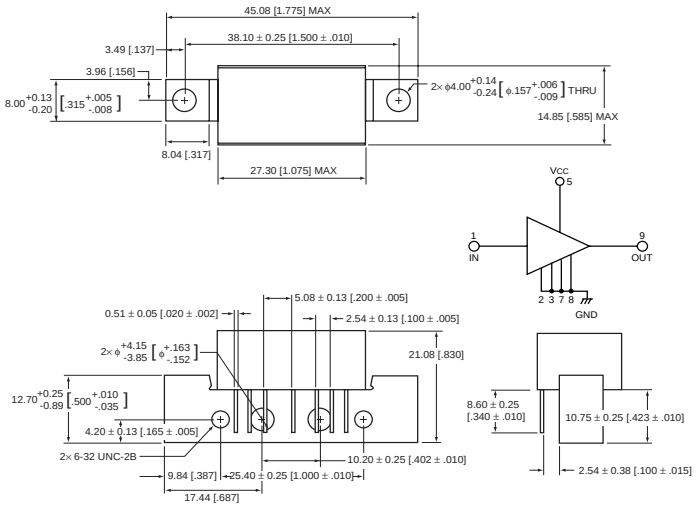
5 TO 210 MHz SILICON CATV
24 dB LOW POWER HYBRID AMPLIFIER

FEATURES

- **FLAT GAIN RESPONSE FROM 5 TO 210 MHz: f = ±0.25 dB**
- **INPUT AND OUTPUT MATCHING TO 75 OHMS: R_L = > 18 dB**
- **LOW VOLTAGE = 12V**
- **LOW CURRENT 90 mA TYP**
- **AUTOMATED SURFACE MOUNT CONSTRUCTION**

OUTLINE DIMENSIONS (Units in mm [inches])

ISG52124-L



DESCRIPTION

The ISG52124-L is a low Power 12V Broadband hybrid amplifier module developed for return path optical and RF applications in (HFC) CATV systems. The ISG52124-L is comprised of 100% surface mount components, including high performance silicon transistors. It features excellent noise, gain, and thermal stability across a wide range of operating conditions and frequencies. The amplifiers are manufactured to ISO9002 standards are very rugged and exhibit excellent unit to unit uniformity.

ELECTRICAL CHARACTERISTICS (V_{CC} = 12 V, ± 10%, T_A = 25°C, 75 Ohm System)

PART NUMBER			ISG52124-L		
SYMBOLS	**PARAMETERS AND CONDITIONS**	**UNITS**	**MIN**	**TYP**	**MAX**
	Supply Voltage	V		12	
	Operating Current	mA	80	90	120
BW	Bandwidth	MHz	5		210
G_A	Gain at f = 42 MHz	dB	23.5	24	24.5
ΔG	Gain Flatness	dB			±0.25
RL_{IN}	Input Return Loss	dB		18	
RL_{OUT}	Output Return Loss	dB		18	
NF	Noise Figure at f = 65 MHz	dB		4.5	5
P_{1dB}	Output Power at 1 dB Gain Compression Point	dBmV	70	72	
CTB	Composite Triple Beat[1] (+50 dBmV/ch)	dBc		-63	-60
XM	Cross Modulation[1] (+50 dBmV/ch)	dBc		-56	-53
CSO	2nd Order Distortion[1] (+50 dBmV/ch)	dBc		-66	-62
	Characteristic Impedance	ohms		75	

Note:
1. Composite Triple Beat, Cross Modulation, 2nd Order Distortion are all measured with 7 channels (T7-T13). at 50 dBmV/ch output and at25°C.

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ABSOLUTE MAXIMUM RATINGS[1]

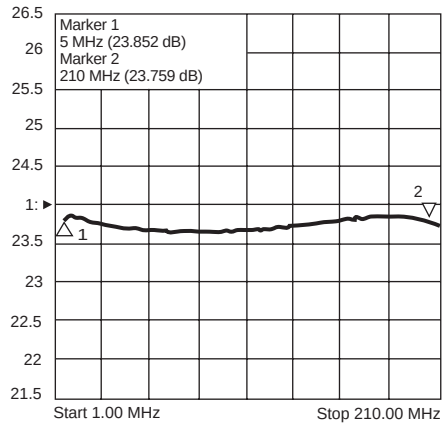
(T_A = 25 °C unless otherwise noted)

SYMBOLS	PARAMETERS	UNITS	RATINGS
V_{CC}	DC Supply	V_{DC}	+28
V_{IN}	RF Input Voltage (Single Tone)	dBmV	+65
T_C	Operating Case Temperature Range	°C	-20 to +100
T_{STG}	Storage Temperature Range	°C	-40 to +100

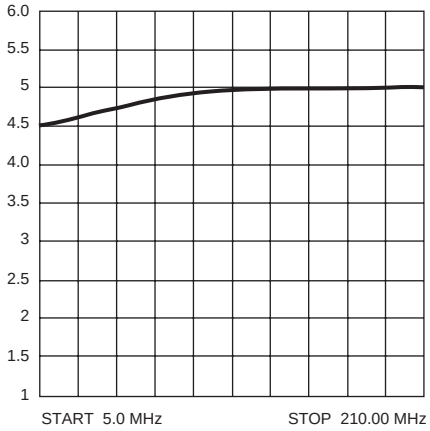
Note:
1. Operation in excess of any one of these parameters may result in permanent damage.

TYPICAL PERFORMANCE CURVES (T_A = 25°C)

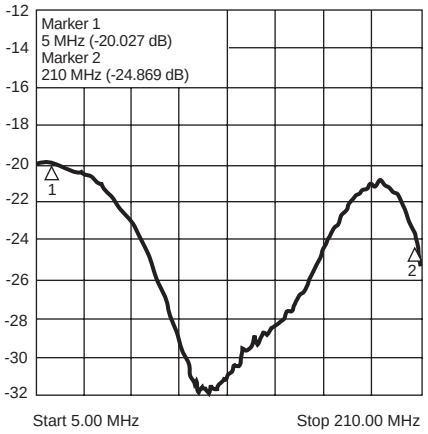
GAIN vs. FREQUENCY



NOISE FIGURE



INPUT RETURN LOSS



OUTPUT RETURN LOSS

