

ISG56530

5 TO 65 MHz SILICON CATV 30 dB HYBRID AMPLIFIER



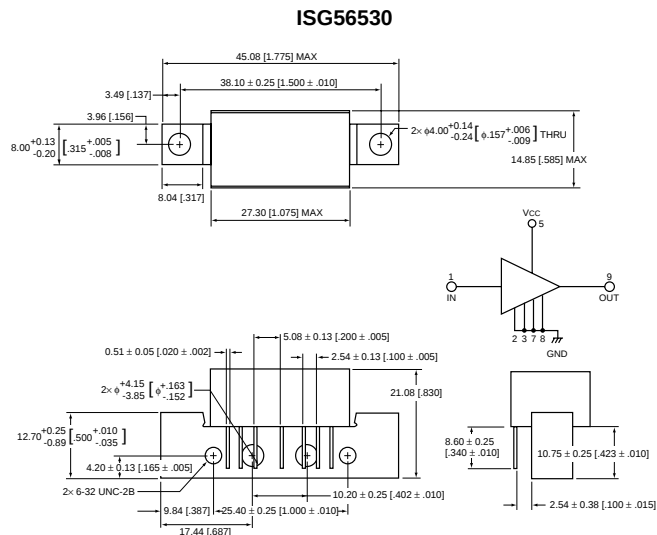
FEATURES

- **FLAT GAIN RESPONSE FROM 5 TO 65 MHz:**
 ± 0.2 dB
- **EXCELLENT RETURN LOSS AND STABILITY OVER TEMPERATURE:**
 $R_L = 20$ dB
- **LOW DISTORTION:**
 $P_{1dB} = 76$ dBmV
- **LOW CURRENT:**
125 mA TYP
- **RUGGED SURFACE MOUNT CONSTRUCTION:**
Fully Automated
- **LOW NOISE:**
4.5 dB

DESCRIPTION

The ISG56530 is a hybrid amplifier module developed for return path applications in (HFC) CATV systems. 100% surface mount components are used in the construction of this amplifier. The active devices used are high performance NEC silicon transistors. The amplifiers are manufactured to ISO9002 standards and exhibit excellent unit to unit uniformity.

OUTLINE DIMENSIONS (Units in mm [inches])



ELECTRICAL CHARACTERISTICS ($V_{CC} = 24$ V, $\pm 10\%$, $T_A = 25^\circ\text{C}$)

PART NUMBER				ISG56530		
SYMBOLS	PARAMETERS	CONDITIONS	UNITS	MIN	TYP	MAX
GA	Gain		dB	29.5	30.2	31
ΔG	Gain Flatness		dB			± 0.2
R_{LIN}	Input Return Loss		dB	18	20	
R_{LOUT}	Output Return Loss		dB	20	23	
NF	Noise Figure		dB		4.2	4.5
CTB	Composite Triple Beat (+50 dBmV/ch)	See Note 1	dBc		-66	
XM	Cross Modulation (+50 dBmV/ch)	See Note 1	dBc		-57	
CSO	Composite 2nd Order Distortion (+50 dBmV/ch)	See Note 1	dBc		-70	
P_{1dB}	Output Power at 1 dB Gain Compression Point		dBmV	75	76	
V_{CC}	Supply Voltage		V		24	
I_{OP}	Operating Current		mA	110	125	135
	Frequency Range		MHz	5		65
Ω	Input & Output Impedance		ohms		75	

Note:

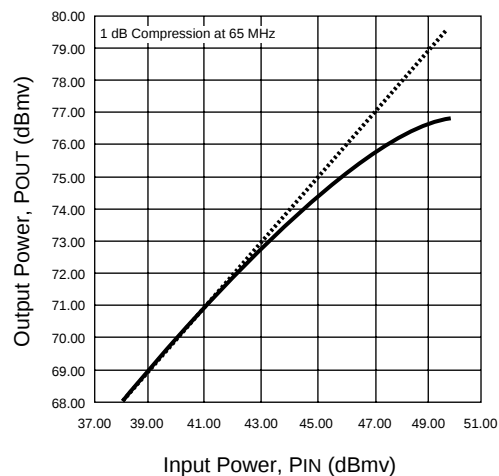
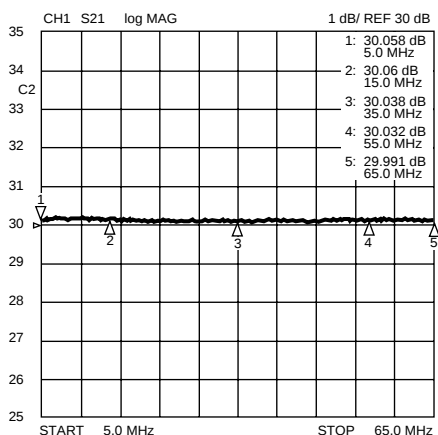
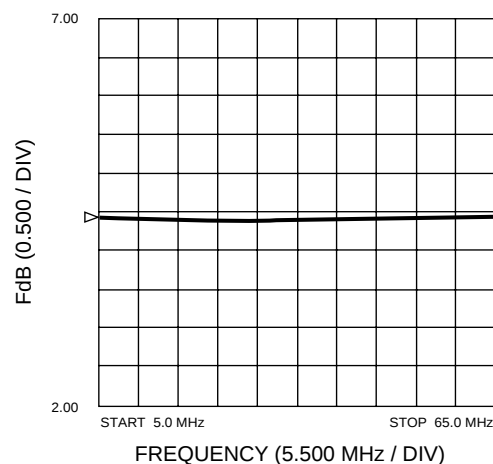
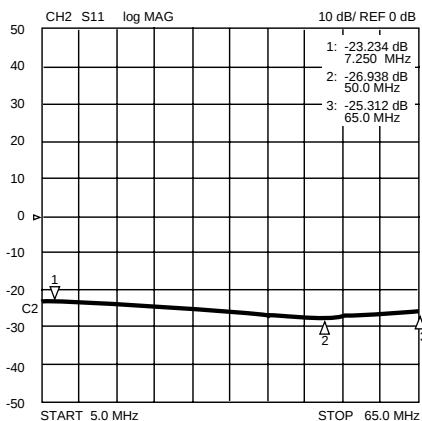
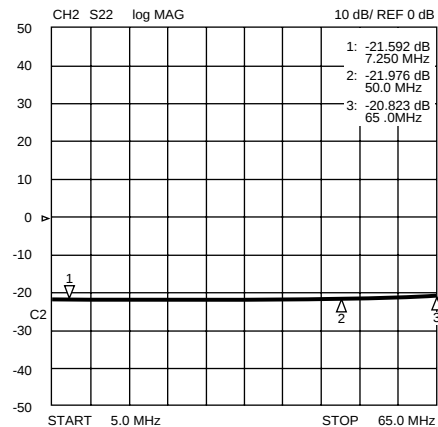
1. Composite Triple Beat, Cross Modulation, 2nd Order Distortion are all measured with 7 channels (T7 through T13).

ABSOLUTE MAXIMUM RATINGS¹(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:

- Operation in excess of any one of these parameters may result in permanent damage.

TYPICAL PERFORMANCE CURVES (T_A = 25°C)**P1dB COMPRESSION AT 65 MHz****GAIN VS. FREQUENCY****NOISE FIGURE****INPUT RETURN LOSS****OUTPUT RETURN LOSS****ISG BROADBAND, Inc.**

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DATA SUBJECT TO CHANGE WITHOUT NOTICE

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