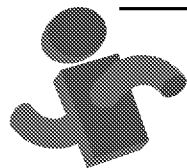


PRELIMINARY DATA SHEET



Integrated Solutions Group

5 TO 65 MHz CATV 25 dB HYBRID AMPLIFIER

ISG56526

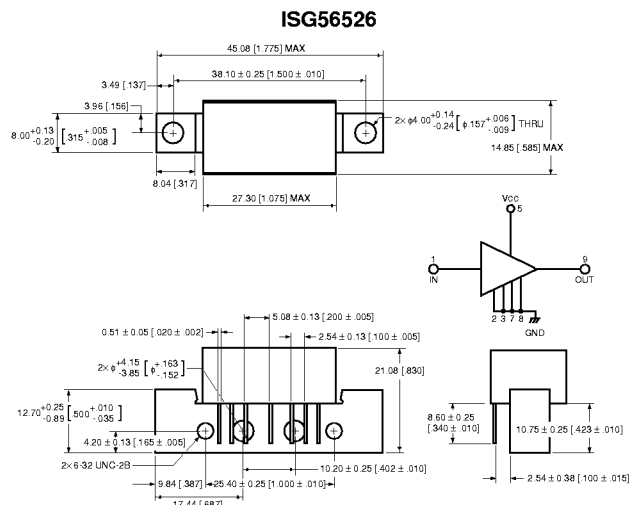
FEATURES

- FLAT RESPONSE FROM 5 TO 65 MHz
- INPUT AND OUTPUT MATCHING TO 75 OHMS (>20 dBRL)
- LOW DISTORTION
- SURFACE MOUNT AUTOMATED CONSTRUCTION

DESCRIPTION

The ISG56526 is a hybrid amplifier module developed for digital 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, ± 10% T_A = 25°C)

PART NUMBER				ISG56526		
SYMBOLS	PARAMETERS	CONDITIONS	UNITS	MIN	TYP	MAX
	Frequency Range	Min (f _L) to Max(f _H)+5%	MHz	5		68
G	Gain (S ₂₁)	F _H = 65 MHz	dB	24.9	25.5	26.4
G _F	Gain Flatness	F _L to F _H	dB		±0.15	
RL _{IN}	Input Return Loss (S ₁₁)	65 MHz	dB	20	25	
RL _{OUT}	Output Return Loss (S ₂₂)	65 MHz	dB	20	25	
NF	Noise Figure	5-65 MHz	dB		3.0	
	Reverse Isolation (S ₁₂)	R _{FOUT} to R _{FIN} , over F _H to F _L	dB		29	
CTB	Composite Triple Beat	See Note 1	dBc			-70
XM	Cross Modulation	See Note 1	dBc			-60
CSO	Composite 2nd Order Distortion	See Note 1	dBc			-72
		R _{FIN} to DC and DC to R _{FOUT}	dB			-10
P _{1dB}	Output Level at 1 dB Gain Compression	Single tone at any channel frequency	dBmV		78	
	Supply Voltage		V		24	
	Operating Current		mA	180		200
Ω	Input & Output Impedance		ohms		75	

Note:

1. Composite Triple Beat, Cross Modulation, 2nd Order Distortion are all measured with 6 channels (T7 through T12) at 50 dBmV/ch output and at 25°C.

ABSOLUTE MAXIMUM RATINGS¹

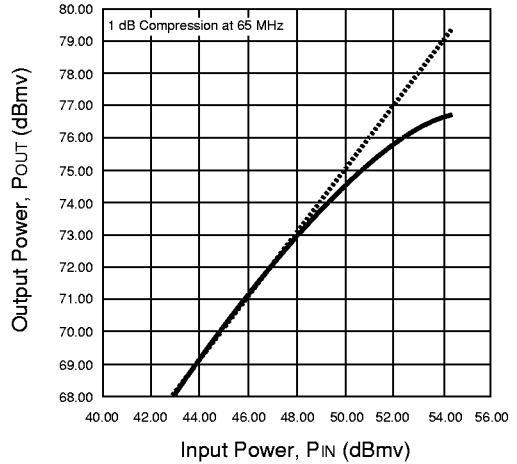
(Tc = 25 °C unless otherwise noted)

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:

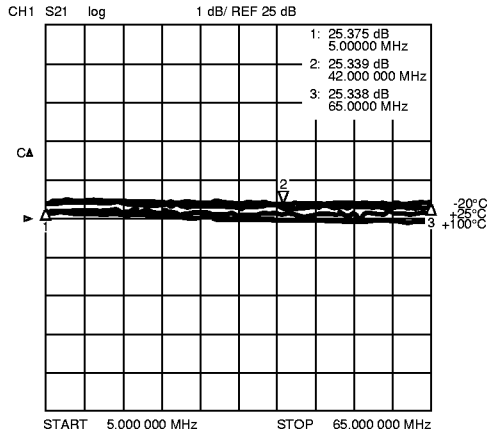
1. Operation in excess of any one of these parameters may result in permanent damage.

P1dB COMPRESSION AT 65 MHz

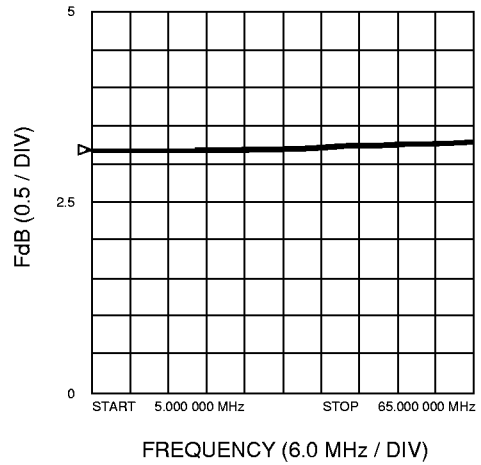


TYPICAL PERFORMANCE CURVES (TA = 25°C)

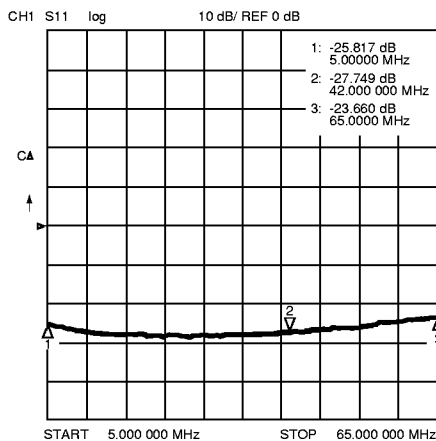
GAIN VS. FREQUENCY



NOISE FIGURE



INPUT RETURN LOSS



OUTPUT RETURN LOSS

