

PRELIMINARY DATA SHEET



Integrated Solutions Group

5 TO 200 MHz SILICON CATV 24 dB HYBRID AMPLIFIER

ISG52024

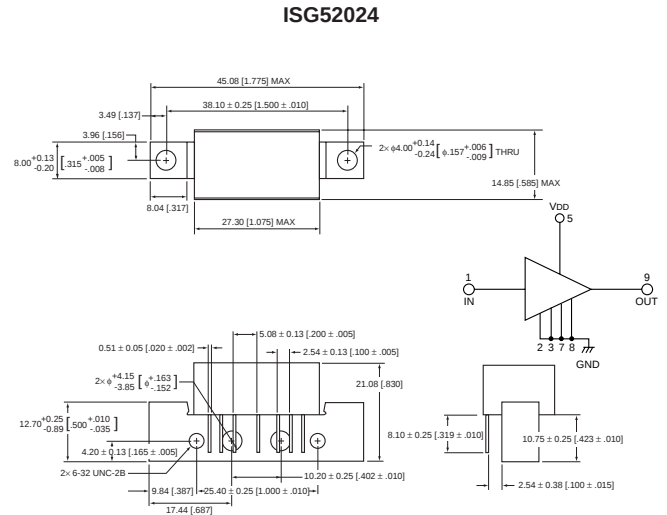
FEATURES

- 5 TO 200 MHz BANDWIDTH
- FLAT RESPONSE: $f = 0.2$ dB
- INPUT AND OUTPUT MATCHING TO 75 OHMS (22 dB RL)
- LOW DISTORTION (78 dBmV)
- LOW CURRENT (215 mA TYP)
- SURFACE MOUNT CONSTRUCTION

DESCRIPTION

The ISG52024 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, $\pm 10\%$, $T_A = 25^\circ\text{C}$, 75 Ohm System)

PART NUMBER			ISG52024		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
	Supply Voltage	V		24	
	Operating Current	mA	200		230
BW	Bandwidth	MHZ	5		200
G _A	Gain at $f = 42$ MHz	dB	23.5	24	24.5
ΔG	Gain Flatness	dB			± 0.2
RL _{IN}	Input Return Loss	dB	20	22	
RL _{OUT}	Output Return Loss	dB	20	22	
NF	Noise Figure at $f = 65$ MHz	dB		4.5	5
P _{1dB}	Output Power at 1 dB Gain Compression Point	dBmV	77	78	
	Composite Triple Beat ¹ (+50 dBmV/ch)	dBc		-70	-67
CM	Cross Modulation ¹ (+50 dBmV/ch)	dBc		-62	-59
IM ₂	2nd Order Distortion ¹ (+50 dBmV/ch)	dBc		-70	-67
	Characteristic Impedance	ohms		75	

Note:

1. Composite Triple Beat, Cross Modulation, 2nd Order Distortion are all measured with 22 channels (T7-T13, 2-6, A-7).

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:

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

