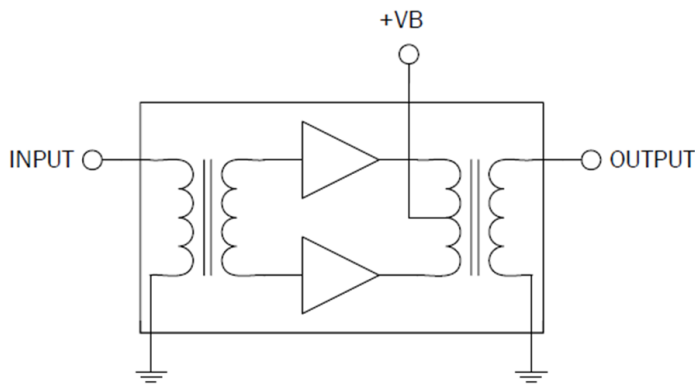


S8740220GT

GaAs Push Pull Hybrid
40MHz to 870MHz

The S8740220GT is a Hybrid Push Pull amplifier module. The part employs GaAs die and is operated from 40MHz to 870MHz. It provides excellent linearity and superior return loss performance with low noise and optimal reliability.



Package: SOT-115J

Features

- Excellent Linearity
- Superior Return Loss Performance
- Extremely Low Distortion
- Optimal Reliability
- Low Noise
- Unconditionally Stable Under All Terminations
- 22.7dB Min. Gain at 870MHz
- 240mA Max. at 24V_{DC}

Applications

- 40MHz to 870MHz CATV Amplifier Systems

Ordering Information

S8740220GT Box with 50 Pieces

Absolute Maximum Ratings

Parameter	Rating	Unit
RF Input Voltage (single tone)	75	dBmV
DC Supply Over-Voltage (5 minutes)	30	V
Storage Temperature	-40 to +100	°C
Operating Mounting Base Temperature	-30 to +100	°C



Caution! ESD sensitive device.



RoHS (Restriction of Hazardous Substances): Compliant per EU Directive 2011/65/EU.

Exceeding any one or a combination of the Absolute Maximum Rating conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may reduce device reliability. Specified typical performance or functional operation of the device under Absolute Maximum Rating conditions is not implied.

Nominal Operating Parameters

Parameter	Specification			Unit	Condition
	Min	Typ	Max		
General Performance					$V_+ = 24V$; $T_{MB} = 30^{\circ}C$; $Z_S = Z_L = 75\Omega$
Power Gain	21.7	22.0	22.3	dB	$f = 50MHz$
	22.7	23.2	23.7	dB	$f = 870MHz$
Slope ^[1]	0.7	1.2	1.7	dB	$f = 40MHz$ to $870MHz$
Flatness of Frequency Response			1.0	dB	$f = 40MHz$ to $870MHz$ (peak to valley)
Input Return Loss	20.0			dB	$f = 40MHz$ to $160MHz$
	18.0			dB	$f = 160MHz$ to $870MHz$
Output Return Loss	18.0			dB	$f = 40MHz$ to $320MHz$
	16.0			dB	$f = 320MHz$ to $870MHz$
Noise Figure		4.6	6.2	dB	$f = 50MHz$ to $870MHz$
Total Current Consumption (DC)		230.0	240.0	mA	
Distortion Data 40MHz to 750MHz					$V_+ = 24V$; $T_{MB} = 30^{\circ}C$; $Z_S = Z_L = 75\Omega$
CTB			-57	dBc	112 ch. flat; $V_o = 44dBmV^{[2]}$
XMOD			-52	dBc	
CSO			-58	dBc	

1. The slope is defined as the difference between the gain at the start frequency and the gain at the stop frequency.

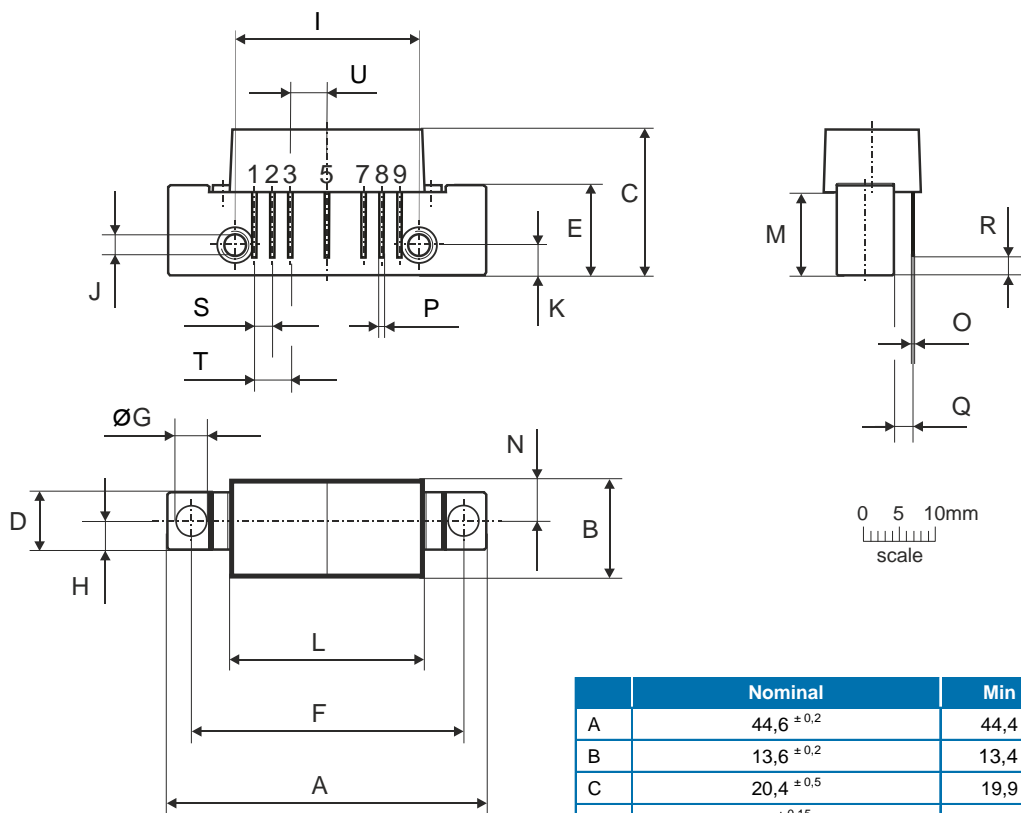
2. 112 channels, NTSC frequency raster: 55.25MHz to 745.25MHz, +44dBmV flat output level.

Composite Second Order (CSO) - The CSO parameter (both sum and difference products) is defined by the NCTA.

Composite Triple Beat (CTB) - The CTB parameter is defined by the NCTA.

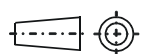
Cross Modulation (XMOD) - Cross modulation (XMOD) is measured at baseband (selective voltmeter method), referenced to 100% modulation of the carrier being tested.

Package Drawing (Dimensions in millimeters)



Notes:

European
Projection



Pinning:

Pin	Name
1	Input
2-3	GND
4	
5	+VB
6	
7-8	GND
9	Output

	Nominal	Min	Max
A	44,6 ± 0,2	44,4	44,8
B	13,6 ± 0,2	13,4	13,8
C	20,4 ± 0,5	19,9	20,9
D	8 ± 0,15	7,85	8,15
E	12,6 ± 0,15	12,45	12,75
F	38,1 ± 0,2	37,9	38,3
G	4 ^{+0,2 / -0,05}	3,95	4,2
H	4 ± 0,2	3,8	4,2
I	25,4 ± 0,2	25,2	25,6
J	UNC 6-32	-	-
K	4,2 ± 0,2	4,0	4,4
L	27,2 ± 0,2	27,0	27,4
M	11,6 ± 0,5	11,1	12,1
N	5,8 ± 0,4	5,4	6,2
O	0,25 ± 0,02	0,23	0,27
P	0,45 ± 0,03	0,42	0,48
Q	2,54 ± 0,3	2,24	2,84
R	2,54 ± 0,5	2,04	3,04
S	2,54 ± 0,25	2,29	2,79
T	5,08 ± 0,25	4,83	5,33
U	5,08 ± 0,25	4,83	5,33

Mouser Electronics

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