RFMD
rfmd.com

S8740220GT

40MHz to 870MHz GaAs PUSH PULL HYBRID

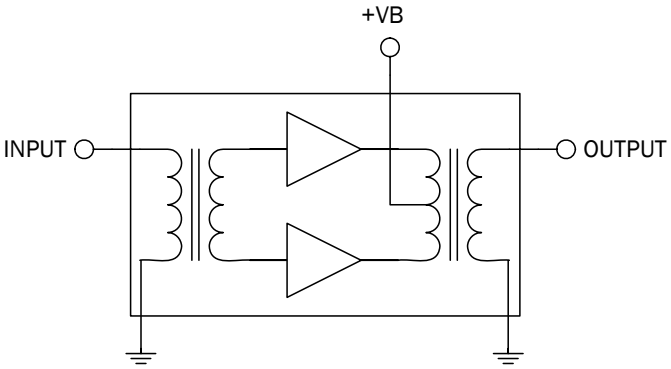
Package: SOT-115J

Product Description

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.

Optimum Technology Matching® Applied

- ☐ GaAs HBT
- ☑ GaAs MESFET
- ☐ InGaP HBT
- ☐ SiGe BiCMOS
- ☐ Si BiCMOS
- ☐ SiGe HBT
- ☐ GaAs pHEMT
- ☐ Si CMOS
- ☐ Si BJT
- ☐ GaN HEMT
- ☐ RF MEMS



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 24VDC

Applications

- 40MHz to 870MHz CATV Amplifier Systems

Parameter	Specification			Unit	Condition
	Min.	Typ.	Max.		
Overall					V_B= 24V; T_{MB}=30°C; Z_S=Z_L=75Ω
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					
CTB			-57	dBc	112 ch flat; V_O=44dBmV[2]
XMOD			-52	dBc	112 ch flat; V_O=44dBmV[2]
CSO			-58	dBc	112 ch flat; V_O=44dBmV[2]

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.

7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or sales-support@rfmd.com.

RFMD
rfmd.com

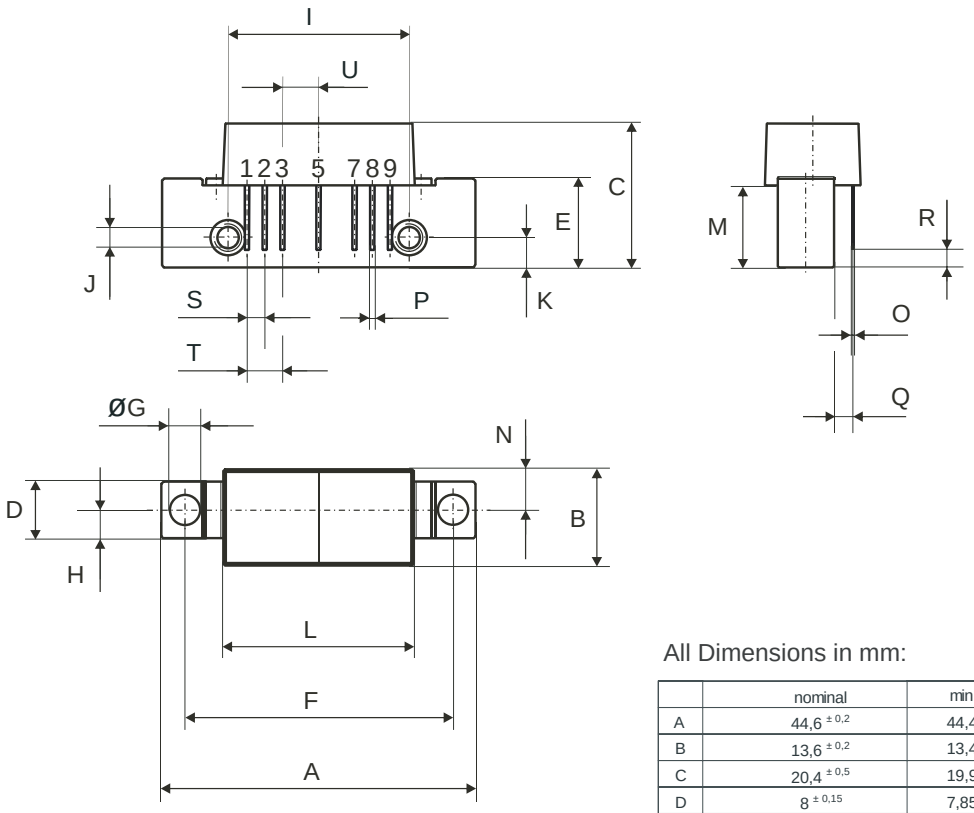
Absolute Maximum Ratings

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.

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.

RoHS status based on EUDirective2002/95/EC (at time of this document revision).



All Dimensions in mm:

	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

Pinning:

1	2	3	4	5	6	7	8	9
INPUT	GND	GND		+VB		GND	GND	OUTPUT

0 5 10mm
scale

Notes:

European Projection

7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or sales-support@rfmd.com