Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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S10040240P

40-1000MHz GaAs PUSH PULL HYBRID

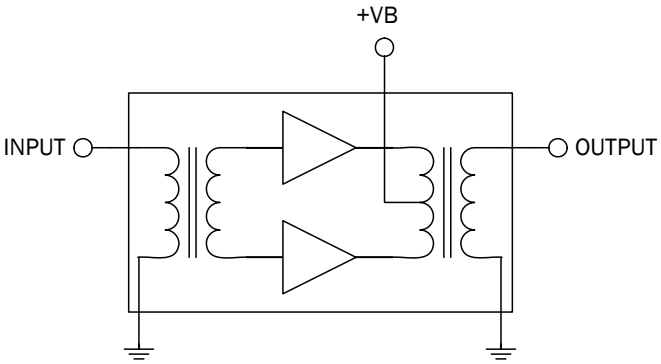
Package: SOT-115J

Product Description

The S10040240P is a Hybrid Push Pull amplifier module. The part employs GaAs die and is operated from 40MHz to 1000MHz. 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
- 24.0dB Min. Gain at 1000MHz
- 255mA Max. at 24VDC

Applications

- 40MHz to 1000MHz 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'	22.5	23.0	23.5	dB	f=50MHz
	24.0		25.5	dB	f=1000MHz
Slope [1]	1.0		2.5	dB	f=40MHz to 1000MHz
Flatness of Frequency Response			±0.5	dB	f=40MHz to 1000MHz (Peak to Valley)
Input Return Loss	20.0			dB	f=40MHz to 160MHz
	18.0			dB	f=160MHz to 1000MHz
Output Return Loss	20.0			dB	f=40MHz to 160MHz
	18.0			dB	f=160MHz to 870MHz
	15.0			dB	f=870MHz to 1000MHz
Noise Figure		2.5	3.5	dB	f=50MHz to 1000MHz
Total Current Consumption (DC)		250.0	255.0	mA	
Distortion data 40MHz to 870MHz					
CTB		-66	-64	dBc	132 ch flat; V_O=40dBmV[2]
XMOD		-59	-57	dBc	132 ch flat; V_O=40dBmV[2]
CSO		-66	-64	dBc	132 ch flat; V_O=40dBmV[2]

1. The slope is defined as the difference between the gain at the start frequency and the gain at the stop frequency.
2. 132 channels, NTSC frequency raster: 55.25MHz to 865.25MHz, +40dBmV 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.

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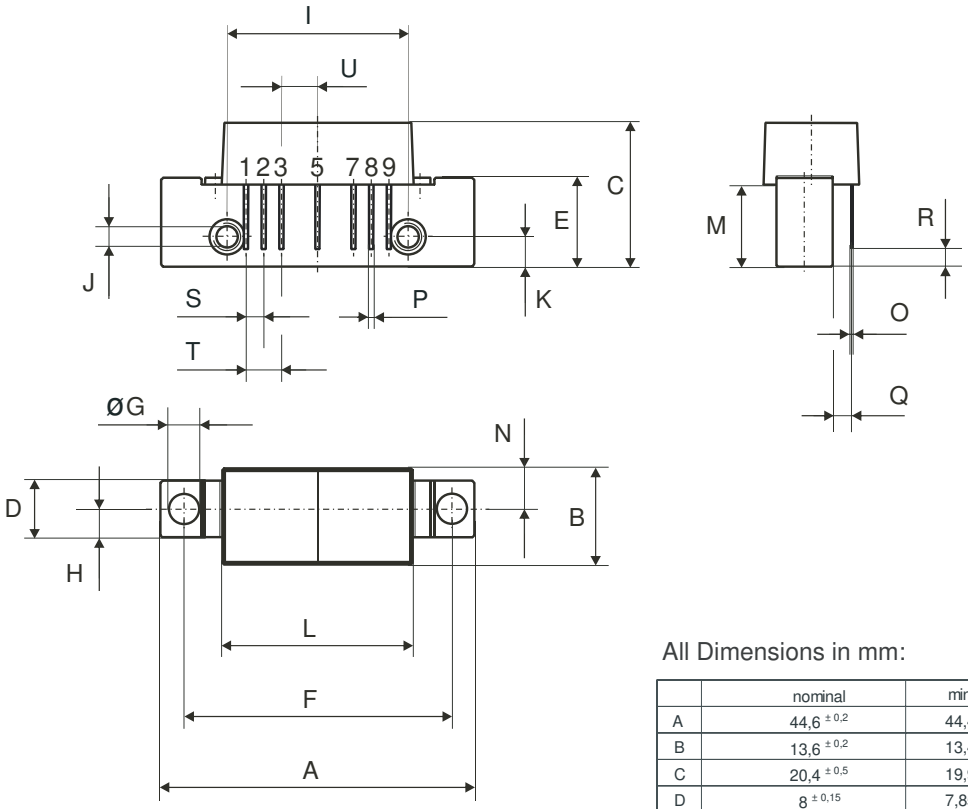
Absolute Maximum Ratings

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 EU Directive 2002/95/EC (at time of this document revision).



0 5 10mm
scale

Pinning:

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

Notes:

European Projection

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

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