S10040240P

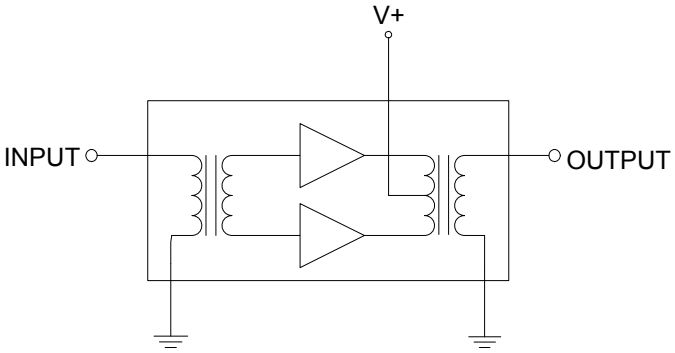
CATV Push Pull Hybrid 1000MHz 24dB

Package: SOT-115J

Product Description

The S10040240P is a Hybrid Push Pull amplifier module. The part employs GaAs/GaN die and is operated from 40 MHz to 1000 MHz. It provides excellent linearity and superior return loss performance with low noise and optimal reliability.

Functional Block Diagram



Product Features

- Excellent Linearity
- Superior Return Loss Performance
- Extremely Low Distortion
- Optimal Reliability
- Extremely Low Noise
- Unconditionally Stable Under all Terminations
- 24.0 dB Min Gain at 1000 MHz
- 255 mA Max. at 24 VDC

Applications

- 40 – 1000 MHz CATV Amplifier Systems

Ordering Information

Part No.	Description
S10040240P	Box with 50 pcs

S10040240P Absolute Maximum Ratings

Parameter	Value / Range
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

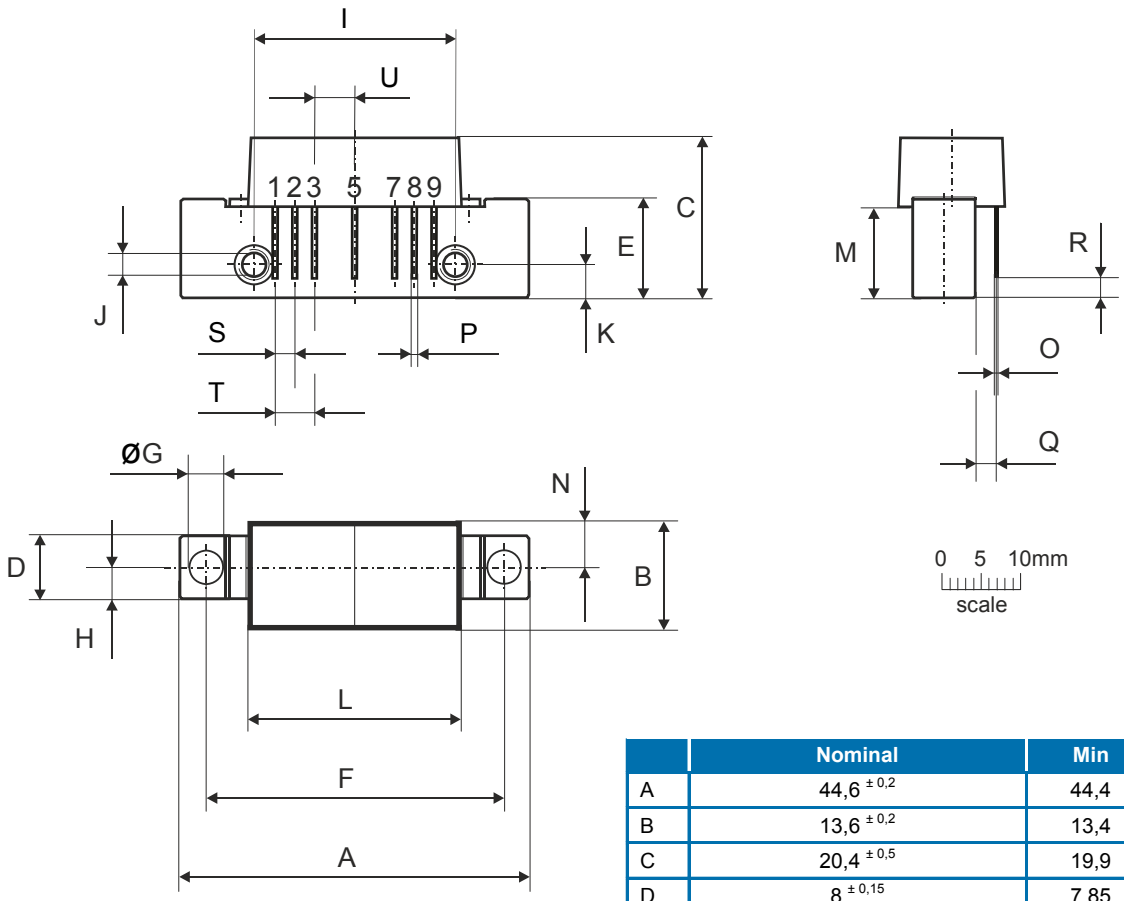
Operation of this device outside the parameter ranges given above may cause permanent damage.

Electrical Specifications

Parameter	Test Conditions: V+=24V, T_{MB}=30°C, Z_S=Z_L=75Ω	Min	Typ	Max	Unit
Operational Frequency Range	–	40	–	1000	MHz
Gain	f_o = 50 MHz	22.5	23.0	23.5	dB
Gain	f_o = 1000 MHz	24.0		25.5	
Gain Slope	40 to 1000 MHz [1]	1.0		2.5	
Gain Flatness	40 to 1000 MHz			±0.5	
Input Return Loss	f_o= 40 to 160 MHz	20.0		–	dB
	f_o= 160 to 1000 MHz	18.0		–	
Output Return Loss	f_o= 40 to 160 MHz	20.0		–	dB
	f_o= 160 to 870 MHz	18.0		–	
	f_o= 870 to 1000 MHz	15.0			
Noise Figure	f_o= 50 to 1000 MHz	–	2.5	3.5	dB
IDC			250	255	mA
CTB	132 analog channels, NTSC frequency raster: 55.25 MHz to 865.25 MHz, +40dBmV flat output level.[2]		-66	-64	dBc
XMOD			-59	-57	dBc
CSO			-66	-64	dBc

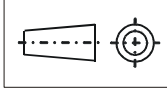
1. The slope is defined as the difference between the gain at the start frequency and the gain at the stop frequency.
2. Composite Triple Beat (CTB) - The CTB parameter is defined by ANSI/SCTE 6.
   Composite Second Order (CSO) - The CSO parameter (both sum and difference products) is defined by ANSI/SCTE 6.
   Cross Modulation (XMOD) - Cross modulation (XMOD) is defined by ANSI/SCTE 58, 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	V+
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