Product Specification

S8740340PT

GaAs Push Pull, 40 – 870MHz, 34.5dB min. Gain @ 870MHz, 300mA max. @ 24VDC

FEATURES

- Excellent linearity
- Superior return loss performance
- Extremely low distortion
- Optimal reliability
- Extremely low noise
- Unconditionally stable under all terminations

APPLICATION

- 40 to 870 MHz CATV amplifier systems

DESCRIPTION

- Hybrid Push Pull amplifier module employing GaAs dice

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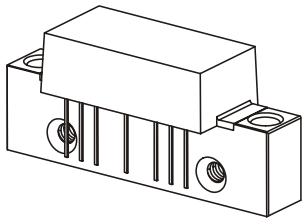


GaAs Push Pull Hybrid
40 – 870MHz
34.5dB min. Gain @ 870MHz
300mA max. @ 24VDC

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134)

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V_i	RF input voltage (single tone)	-	75	dBmV
V_{ov}	DC supply over-voltage (5 minutes)	-	30	V
T_{stg}	storage temperature	- 40	+ 100	°C
T_{mb}	operating mounting base temperature	- 30	+ 100	°C

CHARACTERISTICS

Table 1: S-Parameter, Noise Figure, DC Current; V_B = 24V; T_{mb} = 30°C; $Z_S = Z_L$ = 75 Ω

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
G_p	power gain	f = 50 MHz		34.0		dB
		f = 870 MHz	34.5	35.5	36.5	dB
SL	slope [1)]	f = 40 to 870 MHz	0.5	1.5	2.5	dB
FL	flatness of frequency response	f = 40 to 870 MHz (Peak to Valley)	-		1.0	dB
S_{11}	input return loss	f = 40 to 160 MHz	20.0		-	dB
		f = 160 to 870 MHz	17.0		-	dB
S_{22}	output return loss	f = 40 to 160 MHz	20.0		-	dB
		f = 160 to 870 MHz	17.0		-	dB
F	noise figure	f = 50 to 870 MHz	-	2.5	4.0	dB
I_{tot}	total current consumption (DC)			280.0	300.0	mA

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

CHARACTERISTICS

Table 2: Distortion data 40 – 750 MHz; V_B = 24V; T_{mb} = 30°C; Z_S = Z_L = 75 Ω

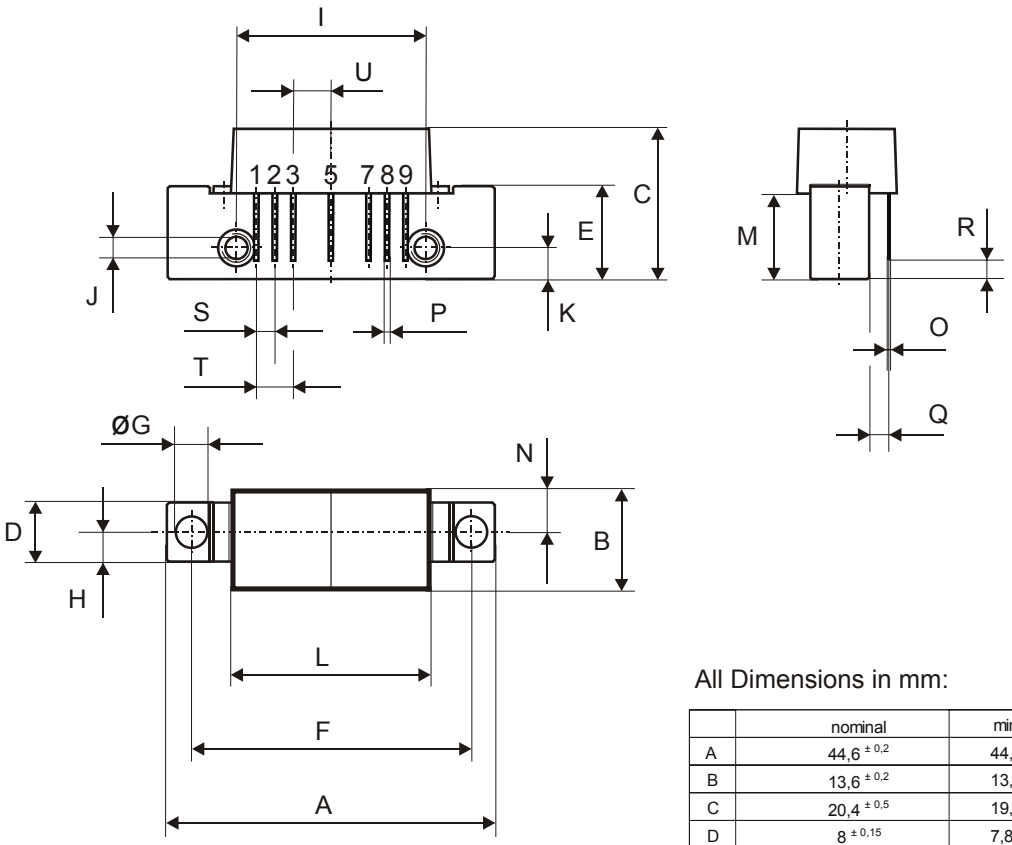
SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNIT
CTB	112 ch. flat; Vo = 44 dBmV [1)]	-	-66	- 64	dBc
XMOD	112 ch. flat; Vo = 44 dBmV [1)]	-	-58	- 56	dBc
CSO	112 ch. flat; Vo = 44 dBmV [1)]	-	-65	- 63	dBc

Notes:
1) 112 channels, NTSC frequency raster: 55.25 MHz to 745.25 MHz, +44 dBmV 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.



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

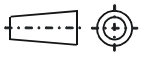
0 5 10mm
scale

Pinning:

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

Notes:

European Projection



DEFINITIONS

Data Sheet Status	
Objective Product Specification	This data sheet contains target or goal specifications for product development.
Preliminary Product Specification	This data sheet contains preliminary data; supplementary data may be published later.
Product Specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

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