

# HITACHI

## Application

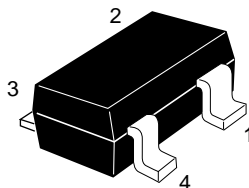
VHF / UHF wide band amplifier

## Features

- High gain bandwidth product  
 $f_T = 13.5 \text{ GHz Typ}$
- High gain, low noise figure  
 $PG = 18 \text{ dB Typ}$ ,  $NF = 1.1 \text{ dB Typ}$  at  $f = 900 \text{ MHz}$

## Outline

MPAK-4

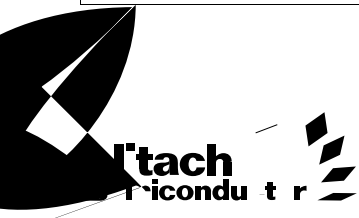


1. Collector
2. Emitter
3. Base
4. Emitter

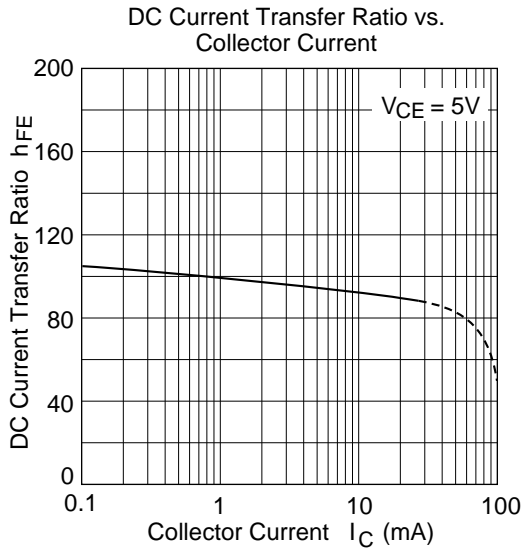
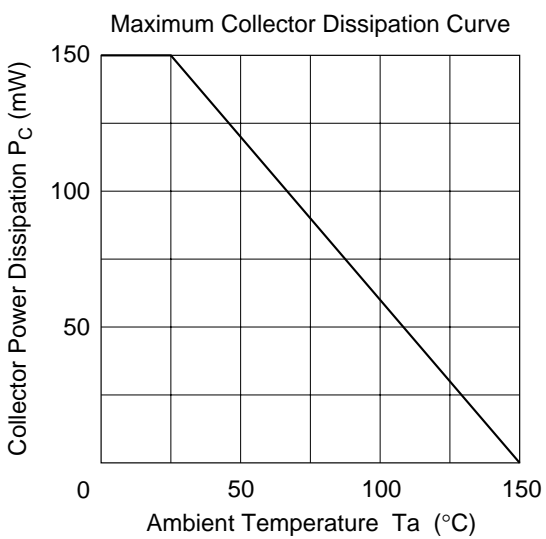
Note: Marking is "ZD-".

Attention: This device is very sensitive to electro static discharge.

It is recommended to adopt appropriate cautions when handling this transistor.

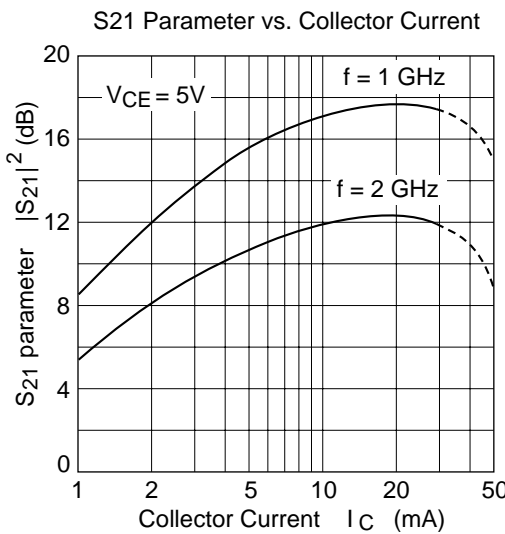
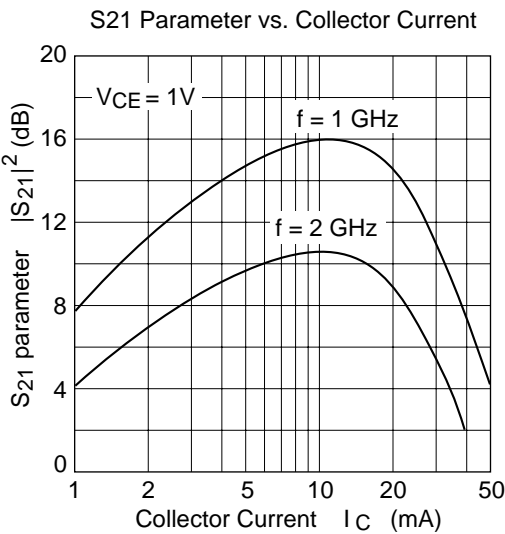
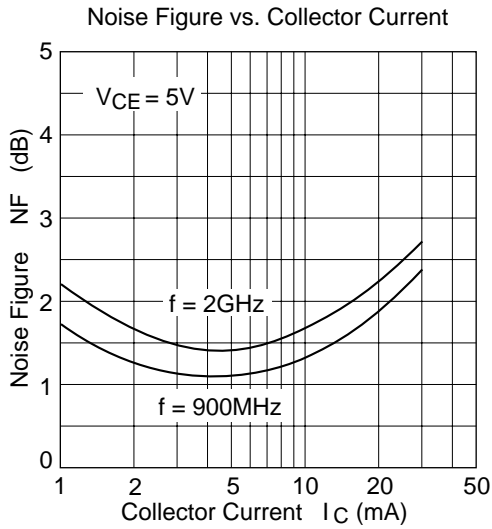
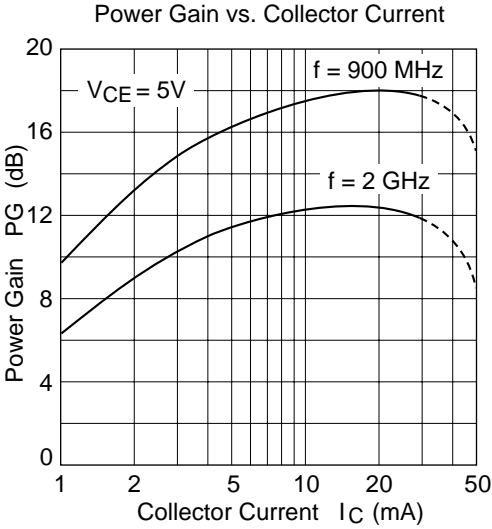


**Absolute Maximum Ratings**



20

16



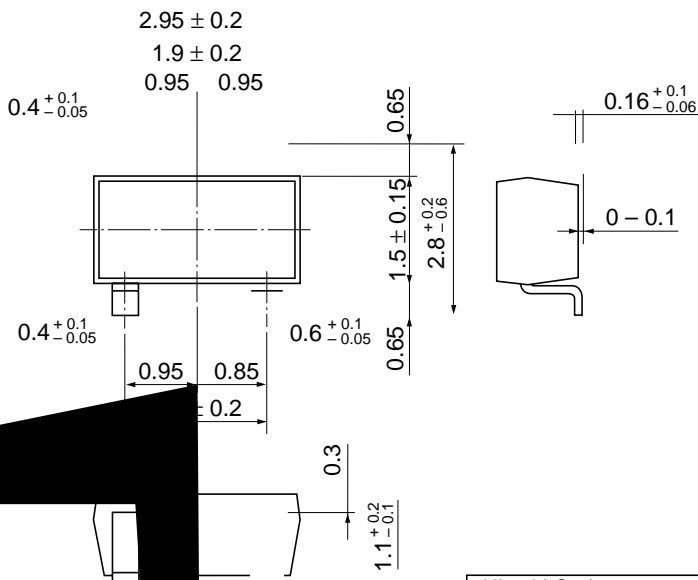


S Parameters (V<sub>CE</sub> = 5 V, I<sub>C</sub> = 5 mA, Z<sub>O</sub> = 50 Ω)

Freq. (MHz)	S11		S21		S12		S22	
	MAG.	ANG.	MAG.	ANG.	MAG.	ANG.	MAG.	ANG.
200	0.798	−30.8	11.47	157.3	0.0329	73.0	0.936	−20.0
400	0.699	−60.8	9.88	139.6	0.0570	60.8	0.820	−35.1
600	0.592	−83.0	8.35	126.1	0.0718	53.0	0.703	−46.0
800	0.532	−99.9	7.03	115.7	0.0817	48.0	0.607	−54.0
1000	0.465	−114.5	6.02	107.6	0.0891	45.4	0.532	−59.8
1200	0.432	−128.2	5.23	101.0	0.0939	44.6	0.478	−64.3
1400	0.401	−139.6	4.58	95.2	0.0993	44.1	0.440	−67.7
1600	0.390	−150.2	4.14	90.7	0.103	44.8	0.405	−71.6
1800	0.373	−160.5	3.76	86.4	0.108	45.1	0.382	−74.7
2000	0.373	−168.3	3.42	82.6	0.112	46.5	0.362	−77.9

S Parameterf4V

Package Dimensions



Hitachi Code	MPAK-4
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.013 g

## Cautions

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