TOSHIBA Transistor Silicon NPN Epitaxial Planar Type

2SC5322FT

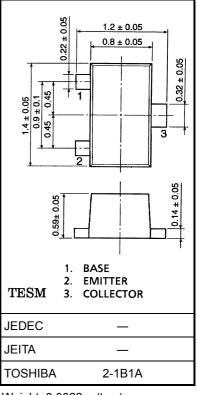
VHF~UHF Band Low Noise Amplifier Applications

Unit: mm

Low noise figure: NF = 1.4dB (f = 2 GHz)
 High gain: |S_{21e}|² = 10dB (f = 2 GHz)

Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	8	V
Collector-emitter voltage	V _{CEO}	5	V
Emitter-base voltage	V _{EBO}	1.5	V
Collector current	I _C	10	mA
Base current	Ι _Β	5	mA
Collector power dissipation	P _C	100	mW
Junction temperature	Tj	125	°C
Storage temperature range	T _{stg}	−55~125	°C



Weight: 0.0022 g (typ.)

Microwave Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Transition frequency	f _T	$V_{CE} = 3 \text{ V}, I_{C} = 7 \text{ mA}$	9	_	_	GHz
Insertion gain	S _{21e} ² (1)	$V_{CE} = 3 \text{ V}, I_{C} = 7 \text{ mA}, f = 1 \text{ GHz}$	12.5	15.5	_	- dB
	S _{21e} ² (2)	$V_{CE} = 3 \text{ V}, I_{C} = 7 \text{ mA}, f = 2 \text{ GHz}$	7	10	_	
Noise figure -	NF (1)	$V_{CE} = 3 \text{ V}, I_{C} = 3 \text{ mA}, f = 1 \text{ GHz}$	_	0.9	1.8	- dB
	NF (2)	$V_{CE} = 3 \text{ V}, I_{C} = 3 \text{ mA}, f = 2 \text{ GHz}$		1.4	2.2	

Electrical Characteristics (Ta = 25°C)

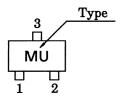
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	$V_{CB} = 8 \text{ V}, I_{E} = 0$	_	_	1	μА
Emitter cut-off current	I _{EBO}	V _{EB} = 1 V, I _C = 0	_	_	1	μΑ
DC current gain	h _{FE}	$V_{CE} = 3 \text{ V}, I_{C} = 7 \text{ mA}$	50	_	250	
Output capacitance	C _{ob}	V _{CB} = 2.5 V, I _E = 0, f = 1 MHz (Note)	_	0.4	_	pF
Reverse transfer capacitance	C _{re}	VCB - 2.5 V, IE - 0, I = 1 INITZ (Note)	_	0.3	0.7	pF

Note: C_{re} is measured by 3 terminal method with capacitance bridge.

Caution

This device electrostatic sensitivity. Please handle with caution.

Marking



2003-07-31

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