

TOSHIBA TRANSISTOR SILICON-GERMANIUM NPN EPITAXIAL PLANER TYPE

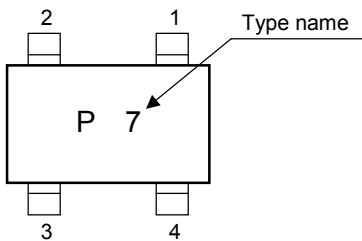
MT4S101U

UHF LOW NOISE AMPLIFIER APPLICATION

FEATURES

- Low Noise Figure :NF=0.8dB (@f=2GHz)
- High Gain:|S21e|^2=16.0dB (@f=2GHz)

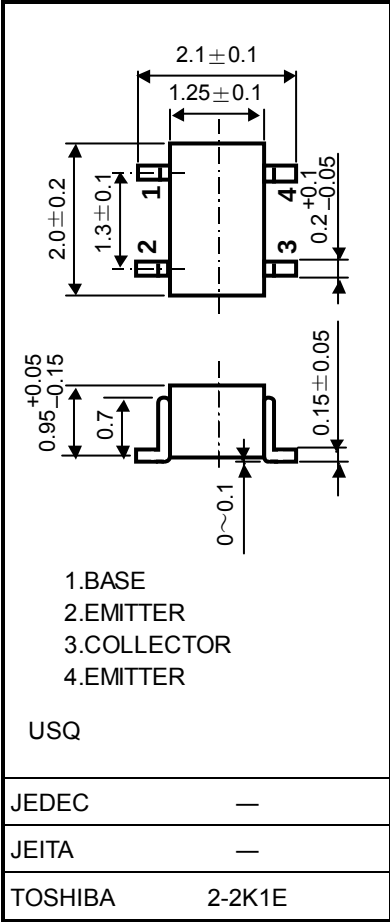
Marking



Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-Base voltage	V _{CBO}	6	V
Collector-Emitter voltage	V _{CEO}	3	V
Emitter-Base voltage	V _{EBO}	1.2	V
Collector-Current	I _C	10	mA
Base-Current	I _B	5	mA
Collector Power dissipation	P _C	30	mW
Junction temperature	T _j	150	°C
Storage temperature Range	T _{stg}	-55~150	°C

Unit: mm



Weight: 0.006 g (typ.)

Microwave Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Transition Frequency	f _T	V _{CE} =2V, I _C =7mA, f=2GHz	17	21	-	GHz
Insertion Gain	S _{21e} ²	V _{CE} =2V, I _C =7mA, f=2GHz	13.5	16	-	dB
Noise Figure	NF	V _{CE} =2V, I _C =5mA, f=2GHz	-	0.8	1.05	dB

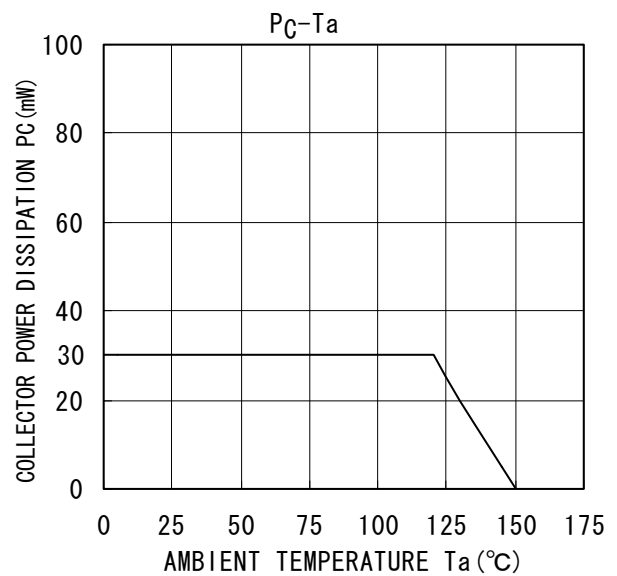
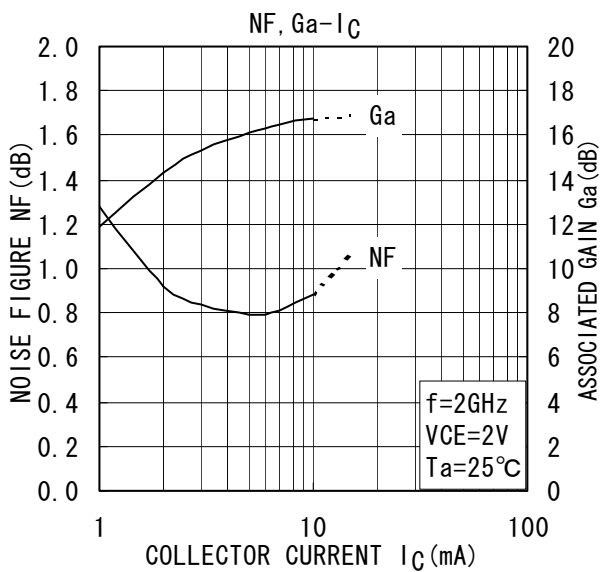
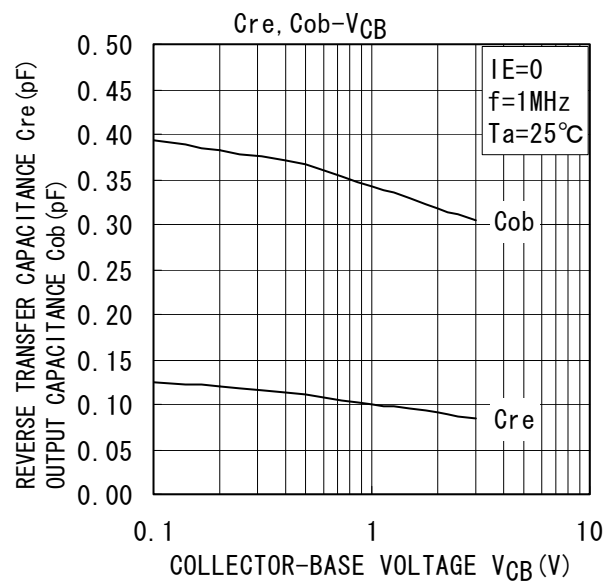
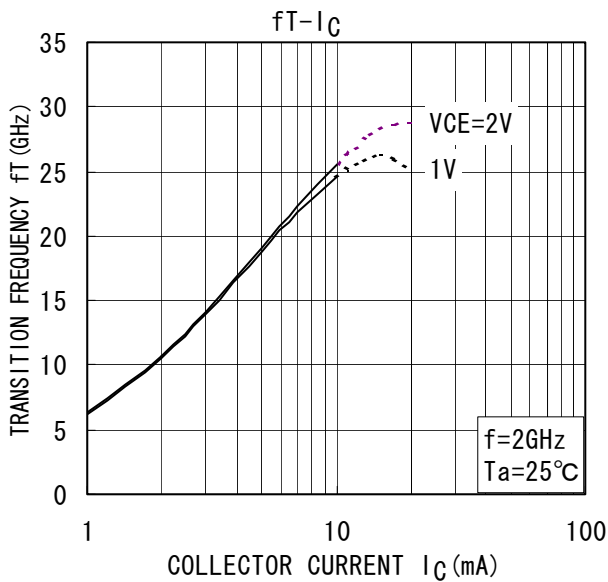
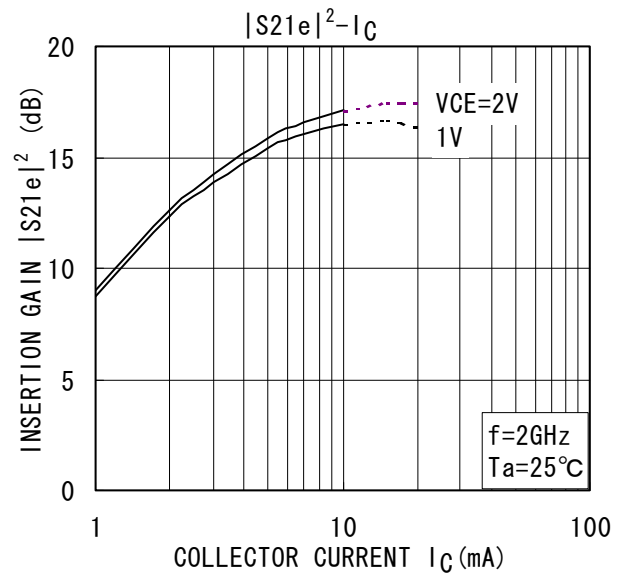
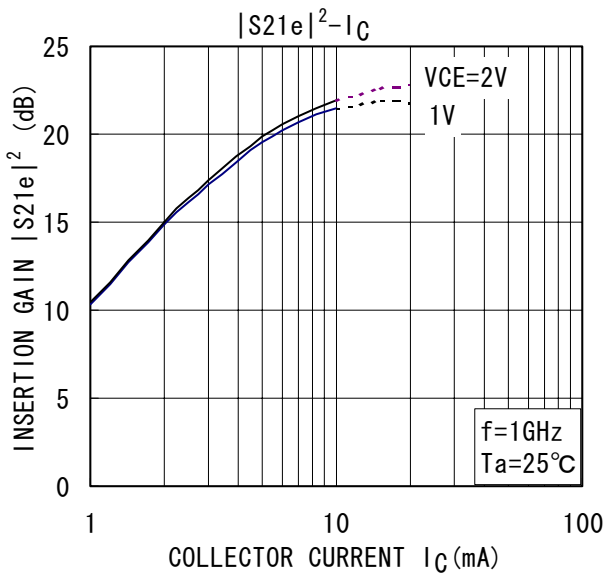
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector Cut-off Current	I _{CBO}	V _{CB} =6V, I _E =0	-	-	1	μA
Emitter Cut-off Current	I _{EBO}	V _{EB} =1V, I _C =0	-	-	1	μA
DC Current Gain	hFE	V _{CE} =2V, I _C =7mA	200	-	400	-
Output Capacitance	C _{ob}	V _{CB} =2V, I _E =0, f=1MHz	-	0.34	0.6	pF
Reverse Transistor Capacitance	C _{re}	V _{CB} =2V, I _E =0, f=1MHz (Note 1)	-	0.1	0.2	pF

Note 1: C_{re} is measured by 3 terminal method with capacitance bridge.

Caution: This device is sensitive to electrostatic discharge.

Please make enough tool and equipment earthed when you handle.



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