

TOSHIBA Transistor Silicon NPN Epitaxial Planar Type

2SC3268

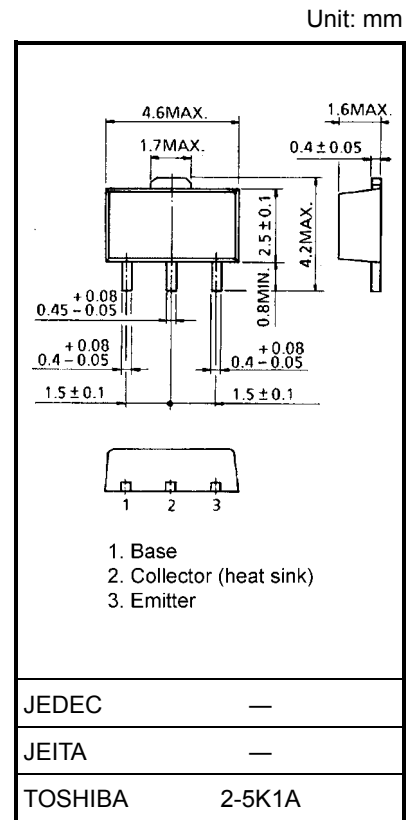
VHF~UHF Band Low Noise Amplifier Applications

- NF = 1.7dB, $|S_{21e}|^2 = 15.0\text{dB}$ (f = 500 MHz)
- NF = 2dB, $|S_{21e}|^2 = 9.5\text{dB}$ (f = 1000 MHz)

Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V _{CBO}	17	V
Collector-emitter voltage	V _{CEO}	12	V
Emitter-base voltage	V _{EBO}	3	V
Base current	I _B	30	mA
Collector current	I _C	70	mA
Collector power dissipation	P _C	300	mW
Collector power dissipation	P _C (Note 1)	800	mW
Junction temperature	T _j	125	°C
Storage temperature range	T _{stg}	-55~150	°C

Note 1: When mounted ceramic substrate of 250 mm² × 0.8 mm^t



Microwave Characteristics (Ta = 25°C)

Weight: 0.052 g (typ.)

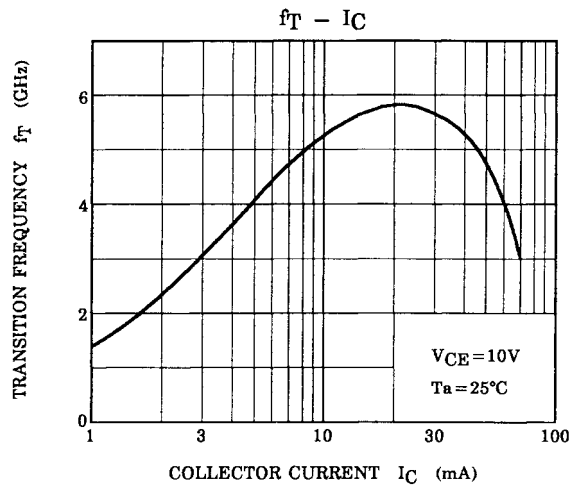
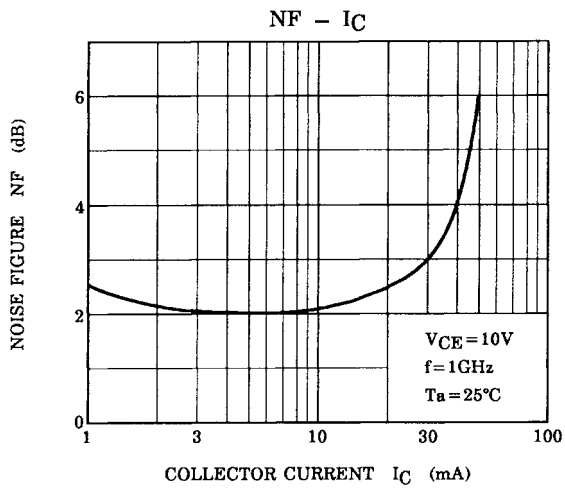
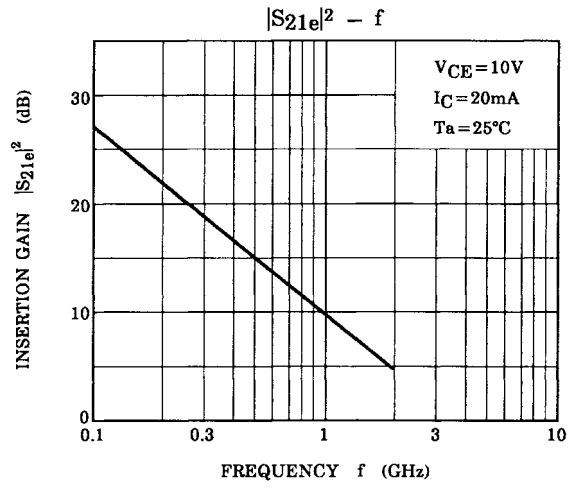
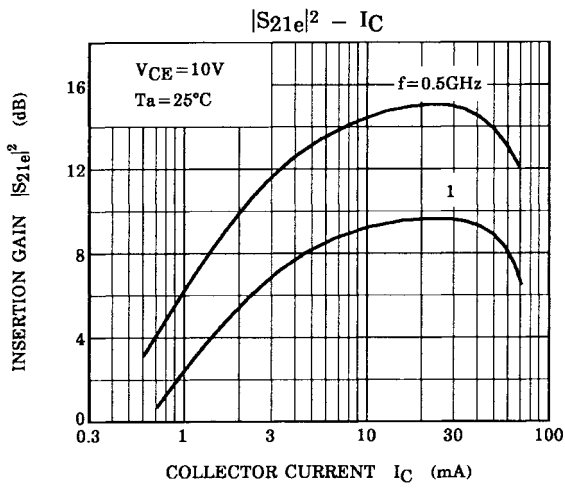
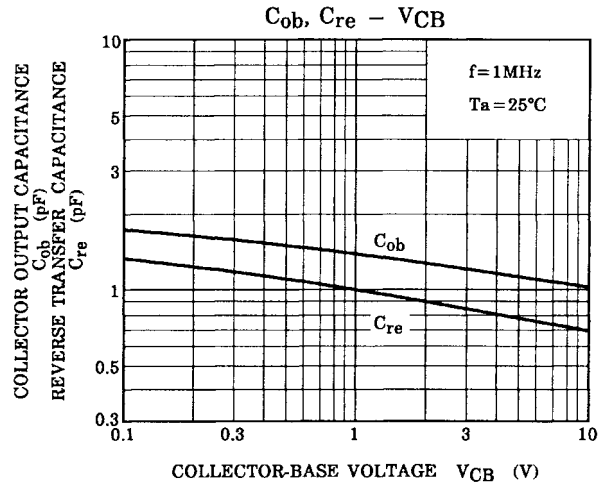
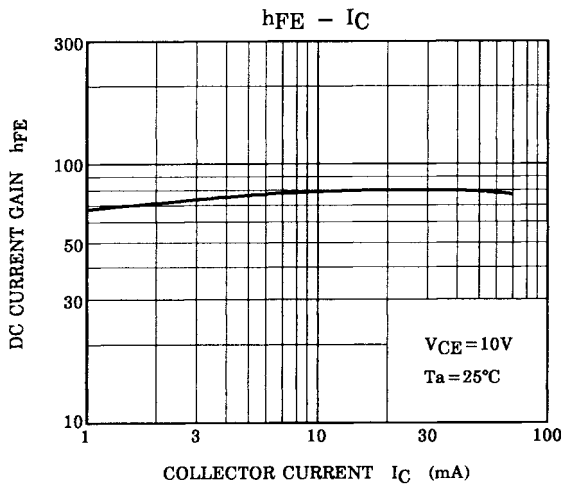
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Transition frequency	f _T	V _{CE} = 10 V, I _C = 20 mA	—	5	—	GHz
Insertion gain	$ S_{21e} ^2$ (1)	V _{CE} = 10 V, I _C = 20 mA, f = 500 MHz	—	15.0	—	dB
	$ S_{21e} ^2$ (2)	V _{CE} = 10 V, I _C = 20 mA, f = 1 GHz	—	9.5	—	
Noise figure	NF (1)	V _{CE} = 10 V, I _C = 5 mA, f = 500 MHz	—	1.7	—	dB
	NF (2)	V _{CE} = 10 V, I _C = 5 mA, f = 1 GHz	—	2.0	—	

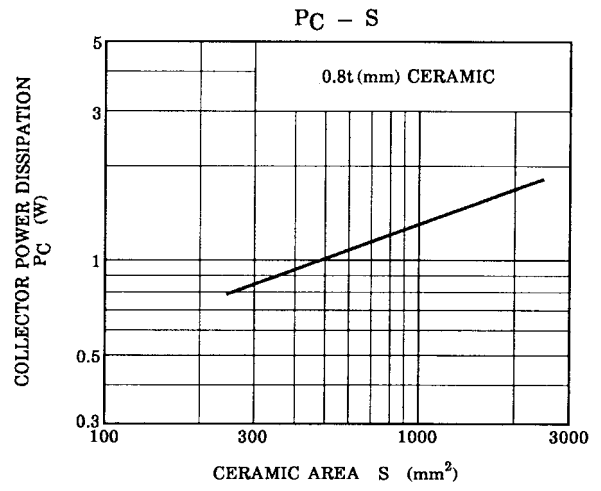
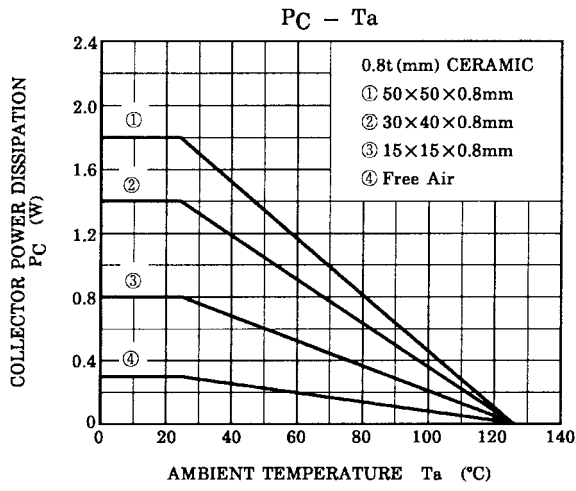
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I _{CBO}	V _{CB} = 10 V, I _E = 0	—	—	1	μA
Emitter cut-off current	I _{EBO}	V _{EB} = 1 V, I _C = 0	—	—	1	μA
DC current gain	h _{FE}	V _{CE} = 10 V, I _C = 20 mA	25	—	—	
Collector output capacitance	C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1 MHz (Note 2)	—	1.05	—	pF
Reverse transfer capacitance	C _{re}		—	0.7	—	pF

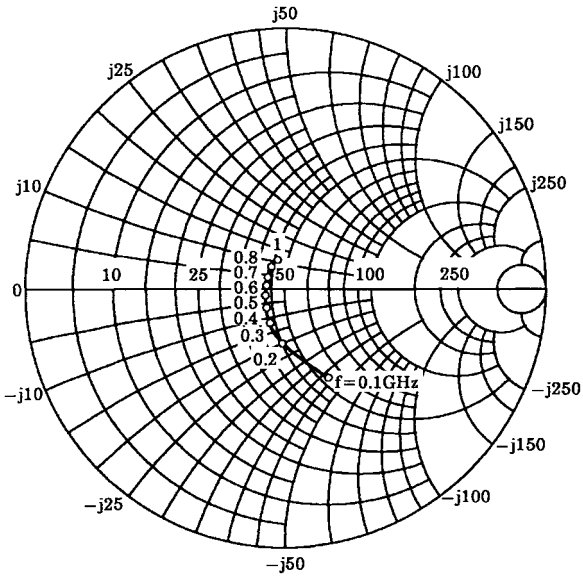
Note 2: C_{re} is measured by 3 terminal method with capacitance bridge.

Marking: ME

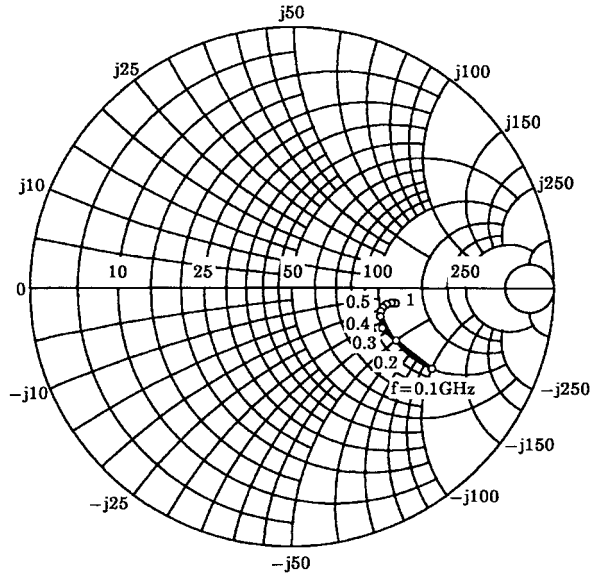




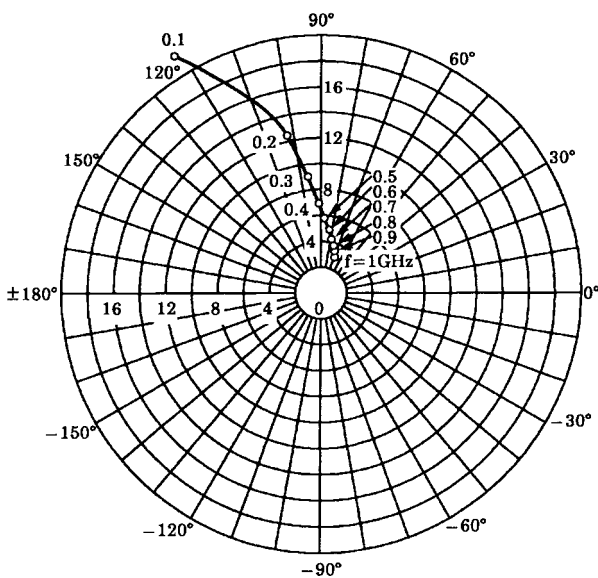
S11e
 VCE=10V
 IC=20mA
 Ta=25°C
 (UNIT : Ω)



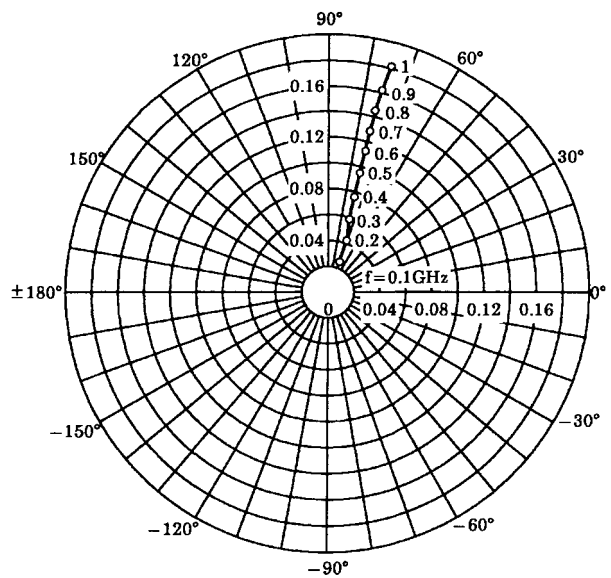
S22e
 VCE=10V
 IC=20mA
 Ta=25°C
 (UNIT : Ω)



S21e
 VCE=10V
 IC=20mA
 Ta=25°C



S12e
 VCE=10V
 IC=20mA
 Ta=25°C



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