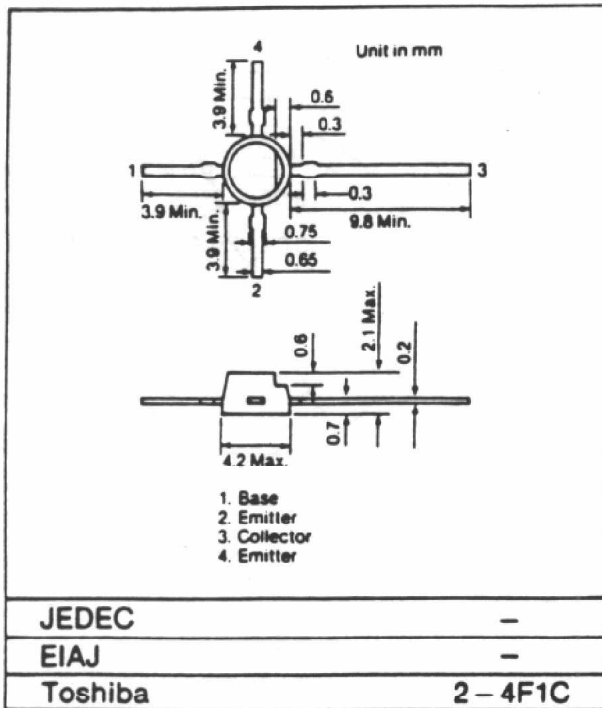


TOSHIBA TRANSISTOR
 SILICON NPN EPITAXIAL PLANAR TYPE
 VHF-UHF BAND LOW NOISE AMPLIFIER APPLICATIONS



Features:

- NF = 1.5 dB, $S_{21e}^2 = 16.5$ dB ($f = 500$ MHz)
- NF = 1.7 dB, $S_{21e}^2 = 11$ dB ($f = 1000$ MHz)

Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V _{CB0}	17	V
Collector-Emitter Voltage	V _{CE0}	12	V
Emitter-Base Voltage	V _{EB0}	3	V
Base Current	I _B	30	mA
Collector Current	I _C	70	mA
Collector Power Dissipation	P _C	200	mW
Junction Temperature	T _J	125	°C
Storage Temperature Range	T _{stg}	-55~125	°C

Marking: ME Weight: 0.08 g

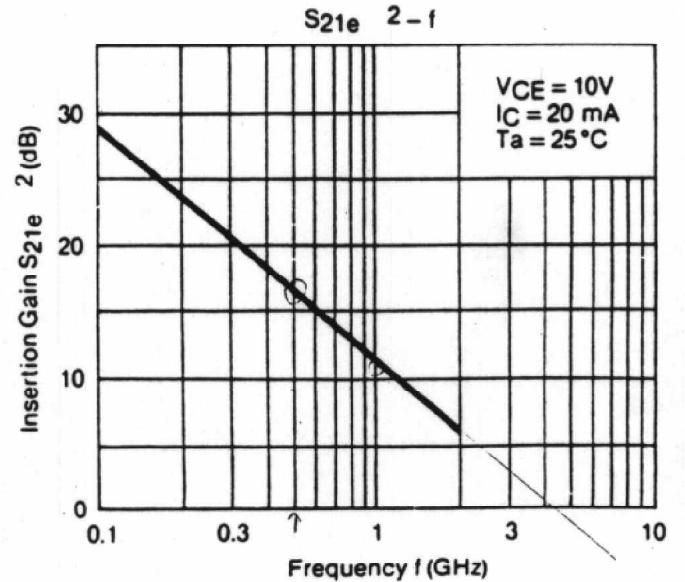
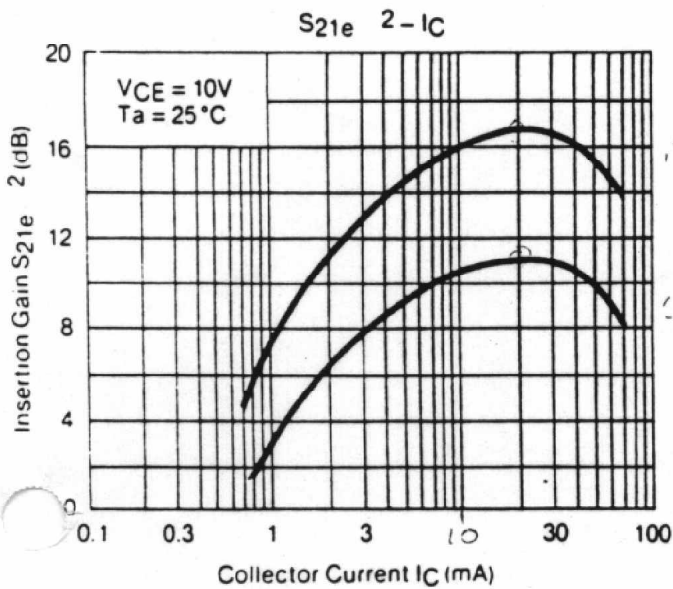
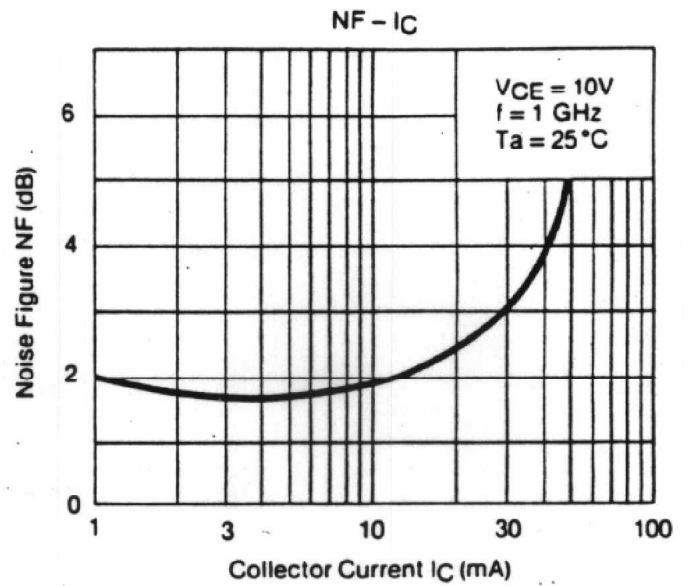
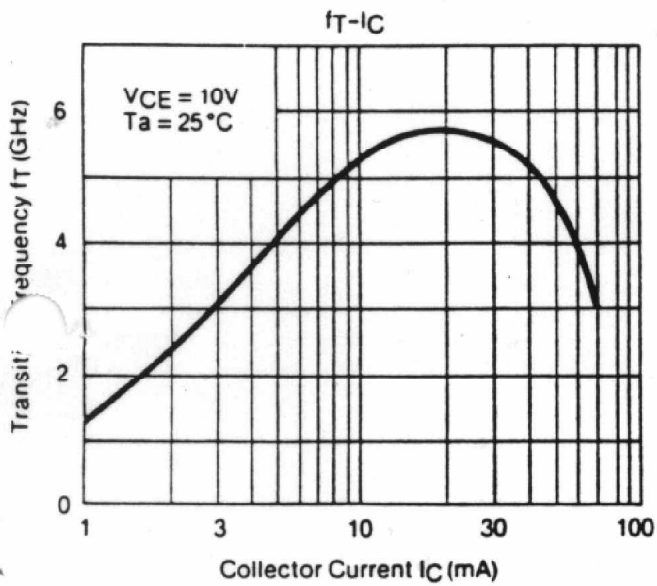
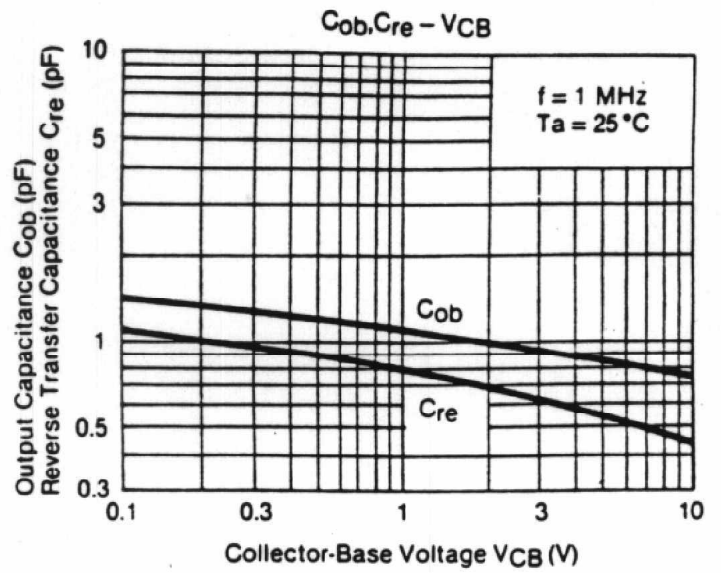
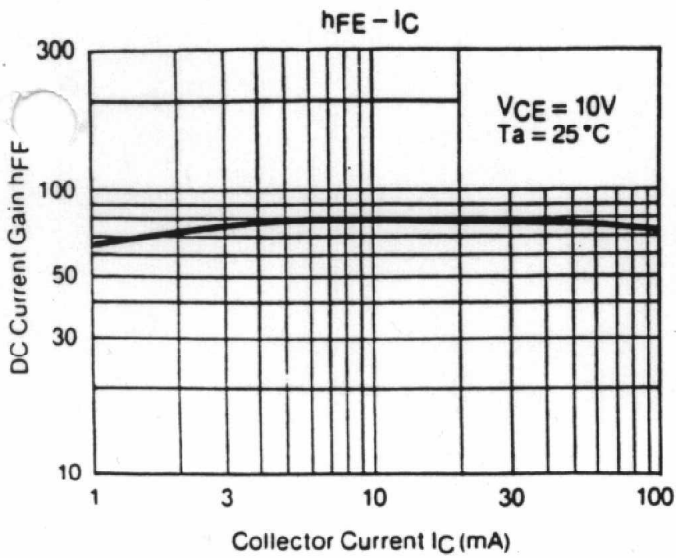
Microwave Characteristics ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Transition Frequency	f _T	V _{CE} = 10V, I _C = 20 mA	-	5	-	GHz
Insertion Gain	$S_{21e}^2(1)$	V _{CE} = 10V, I _C = 20 mA, f = 500 MHz	-	16.5	-	dB
	$S_{21e}^2(2)$	V _{CE} = 10V, I _C = 20 mA, f = 1 GHz	-	11	-	dB
Noise Figure	NF (1)	V _{CE} = 10V, I _C = 5 mA, f = 500 MHz	-	1.5	-	dB
	NF (2)	V _{CE} = 10V, I _C = 5 mA, f = 1 GHz	-	1.7	-	dB

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

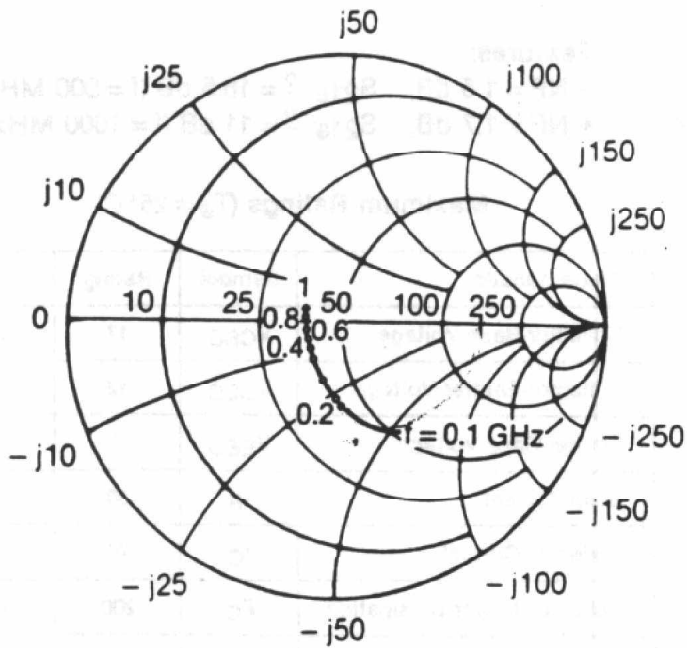
Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cut-off Current	I _{CB0}	V _{CB} = 10V, I _E = 0	-	-	1	μA
Emitter Cut-off Current	I _{EB0}	V _{EB} = 1V, I _C = 0	-	-	1	μA
DC Current Gain	h _{FE}	V _{CE} = 10V, I _C = 20mA	25	-	-	
Output Capacitance	C _{ob}	V _{CB} = 10V, I _C = 0, f = 1 MHz $C_{ex} + C_{cB} + C_{cE}$	-	0.8	-	pF
Reverse Transfer Capacitance	C _{re}	(Note) C_{μ}	-	0.45	-	pF

Note: C_{re} is measured by 3 terminal method with Capacitance Bridge.

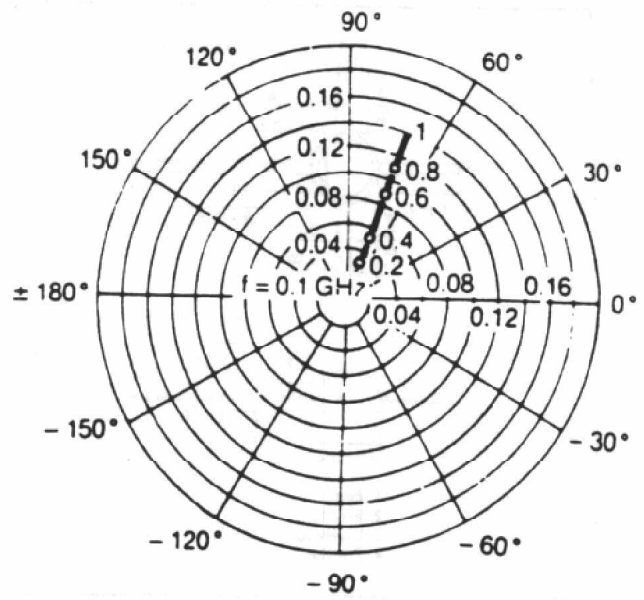


VCE = 10V
 IC = 20 mA
 Ta = 25°C

VCE = 10V
 IC = 20 mA
 Ta = 25°C



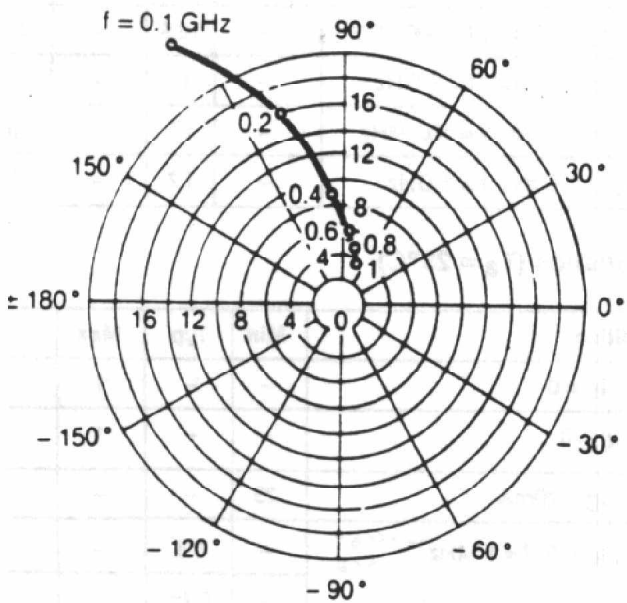
S11e
 (Unit: Ω)



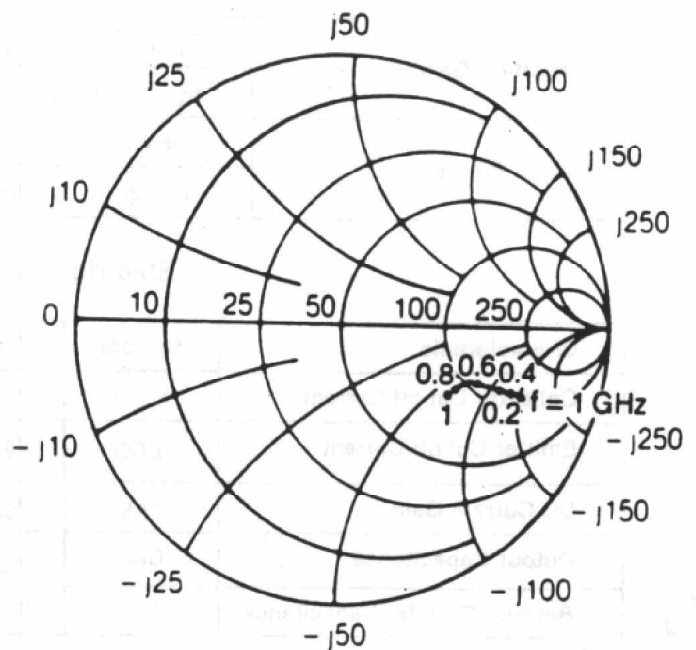
S12e

VCE = 10V
 IC = 20 mA
 Ta = 25°C

VCE = 10V
 IC = 20 mA
 Ta = 25°C



S21e



S22e
 (Unit: Ω)

This datasheet has been downloaded from:

www.DatasheetCatalog.com

Datasheets for electronic components.