

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC2670

HIGH FREQUENCY AMPLIFIER APPLICATIONS.

AM HIGH FREQUENCY AMPLIFIER APPLICATIONS.

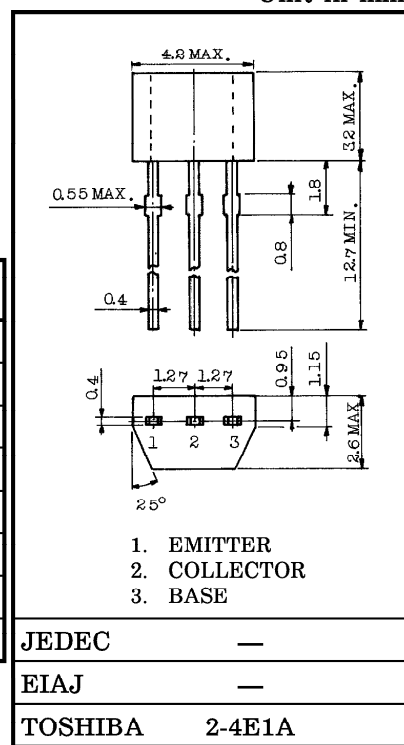
AM FREQUENCY CONVERTER APPLICATIONS.

- Low Noise Figure : NF=3.5dB (Max.) (f=1MHz)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CBO}	35	V
Collector-Emitter Voltage	V _{CEO}	30	V
Emitter-Base Voltage	V _{EBO}	4	V
Collector Current	I _C	100	mA
Base Current	I _B	20	mA
Collector Power Dissipation	P _C	200	mW
Junction Temperature	T _j	125	°C
Storage Temperature Range	T _{stg}	-55~125	°C

Unit in mm



ELECTRICAL CHARACTERISTICS (Ta = 25°C)

Weight : 0.13g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I _{CBO}	V _{CB} =35V, I _E =0	—	—	0.1	μA
Emitter Cut-off Current	I _{EBO}	V _{EB} =4V, I _C =0	—	—	1.0	μA
DC Current Gain	h _{FE} (Note)	V _{CE} =12V, I _C =2mA	40	—	240	—
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C =10mA, I _B =1mA	—	—	0.4	V
Base-Emitter Saturation Voltage	V _{BE(sat)}	I _C =10mA, I _B =1mA	—	—	1.0	V
Transition Frequency	f _T	V _{CE} =10V, I _C =2mA	80	—	—	MHz
Reverse Transfer Capacitance	C _{re}	V _{CE} =10V, f=1MHz	—	2.2	3.0	pF
Collector-Base Time Constant	C _{c·rbb'}	V _{CE} =10V, I _E =-1mA, f=30MHz	—	—	50	ps
Noise Figure	NF	V _{CE} =10V, I _E =-1mA, f=1MHz, R _g =50Ω	—	2.0	3.5	dB

Note : h_{FE} Classification R : 40~80, O : 70~140, Y : 120~240

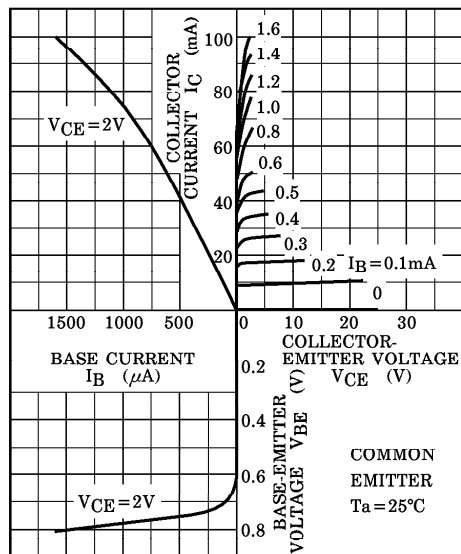
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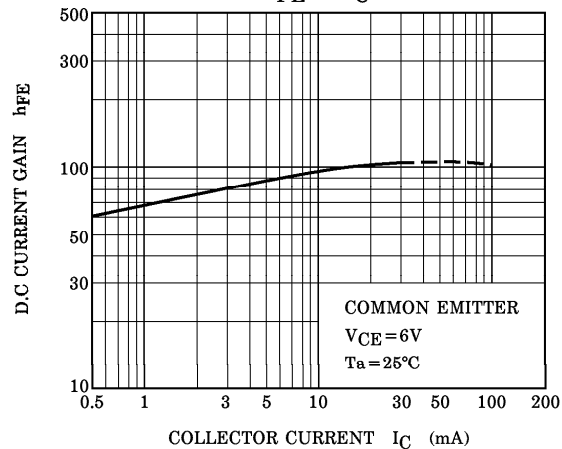
Y PARAMETERS (Typ.) (COMMON EMITTER $V_{CE}=6V$, $I_E=-1mA$, $f=1MHz$)

CHARACTERISTIC	SYMBOL	2SC2670-R	2SC2670-O	2SC2670-Y	UNIT
Input Conductance	g_{ie}	0.5	0.35	0.22	mS
Input Capacitance	C_{ie}	50	48	46	pF
Output Conductance	g_{oe}	4	5	6.5	μS
Output Capacitance	C_{oe}	3.7	3.4	3.2	pF
Forward Transfer Admittance	$ y_{fe} $	36	36	36	mS
Phase Angle of Forward Transfer Admittance	θ_{fe}	-1.6	-1.6	-1.6	°
Reverse Transfer Admittance	$ y_{re} $	14	14	14	μS
Phase Angle of Reverse Transfer Admittance	θ_{re}	-90	-90	-90	°

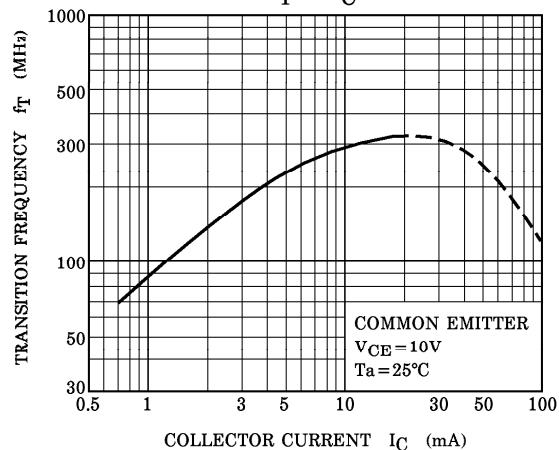
STATIC CHARACTERISTICS



$h_{FE} - I_C$



$f_T - I_C$



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