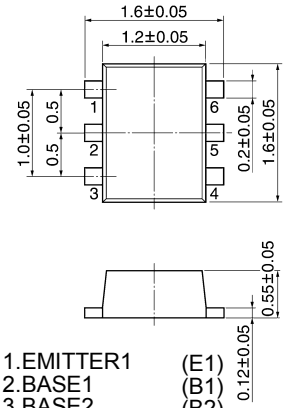
TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

HN3C67FE

Audio Frequency Amplifier Applications
AM Amplifier Applications

- Small package (dual type)
- High voltage and high current : V_{CEO} = 50V, I_C = 150mA (max)
- High h_{FE} : h_{FE} = 120~400
- Excellent h_{FE} linearity : h_{FE} (I_C = 0.1mA) / (I_C = 2mA) = 0.95 (typ.)

Unit: mm



1.EMITTER1 (E1)
2.BASE1 (B1)
3.BASE2 (B2)
4.COLLECTOR2 (C2)
5.EMITTER2 (E2)
6.COLLECTOR1 (C1)

ES6

JEDEC	—
JEITA	—
TOSHIBA	2-2N1H

Weight: 0.003g (typ.)

Maximum Ratings (Ta = 25°C)

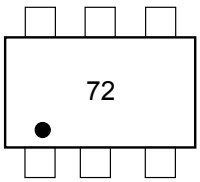
Characteristic	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	150	mA
Base current	I_B	30	mA
Collector power dissipation	P_C*	100	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	−55~150	°C

* Total rating

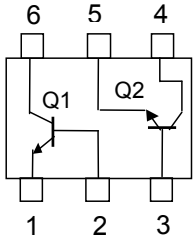
Electrical Characteristics (Ta = 25°C) (Q1, Q2 Common)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	—	V_{CB} = 60V, I_E = 0	—	—	0.1	μA
Emitter cut-off current	I_{EBO}	—	V_{EB} = 5V, I_C = 0	—	—	0.1	μA
DC current gain	h_{FE}	—	V_{CE} = 6V, I_C = 2mA	120	—	400	—
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	—	I_C = 100mA, I_B =10mA	—	0.1	0.25	V
Transition frequency	f_T	—	V_{CE} = 10V, I_C = 1mA	60	—	—	MH_z
Collector output capacitance	C_{ob}	—	V_{CB} = 10V, I_E = 0, f = 1MH_z	—	2	—	pF

Marking

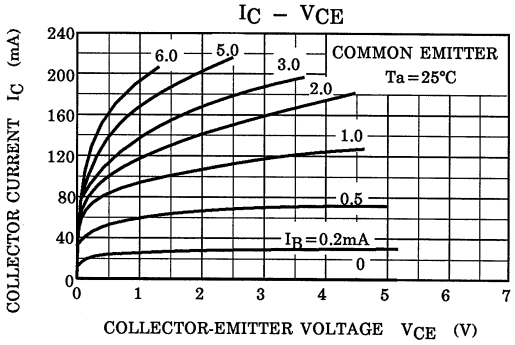


Equivalent Circuit (Top View)

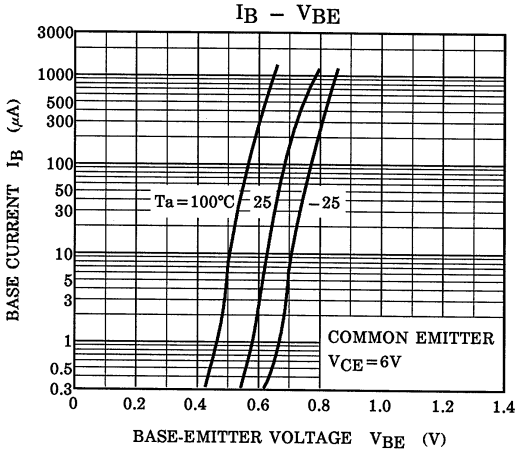


(Q1, Q2 Common)

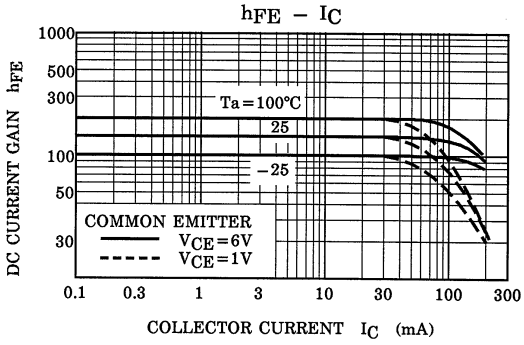
$I_C - V_{CE}$



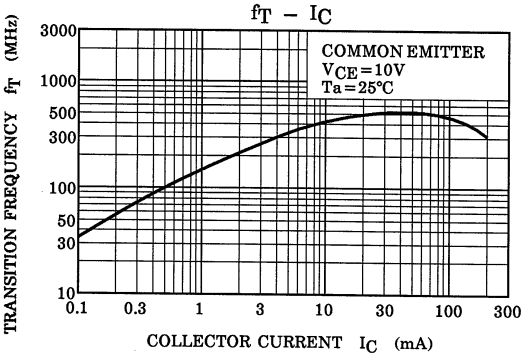
$I_B - V_{BE}$



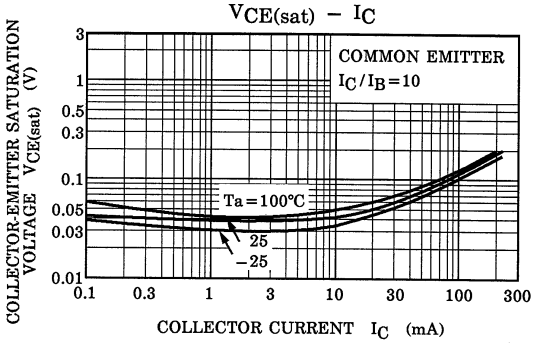
$h_{FE} - I_C$



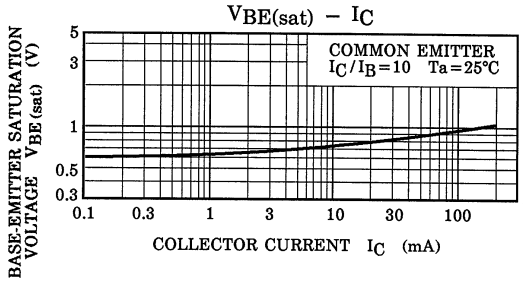
$f_T - I_C$



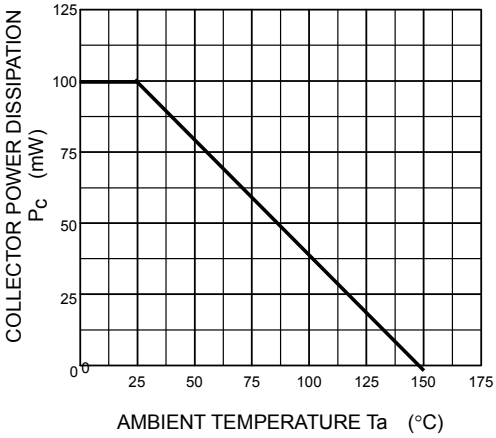
$V_{CE(sat)} - I_C$



$V_{BE(sat)} - I_C$



$P_{C^*} - Ta$



*Total Rating.

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