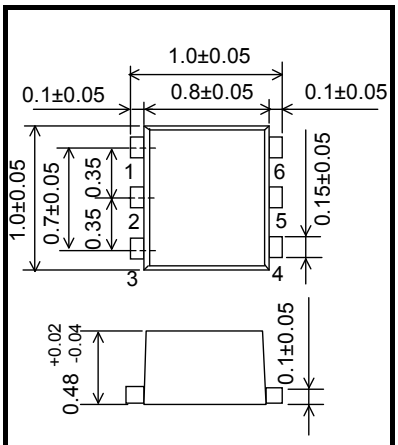
TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

HN1C26FS

Frequency General-Purpose Amplifier Applications

- Two devices are incorporated into a fine-pitch, small-mold (6-pin) package.
- High voltage : V_{CEO} = 50 V
- High current : I_C = 100 mA (max)
- High h_{FE} : h_{FE} = 120 to 400
- Excellent h_{FE} linearity
  : h_{FE} (I_C = 0.1 mA)/h_{FE} (I_C = 2 mA) = 0.95 (typ.)

Unit: mm



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

fS6

JEDEC	—
JEITA	—
TOSHIBA	2-1F1D

Weight: 0.001 g (typ.)

Absolute 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	100	mA
Base current	I_B	30	mA
Collector power dissipation	P_C(Note 1)	50	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	−55 to 150	°C

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook (“Handling Precautions”/“Derating Concept and Methods”) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

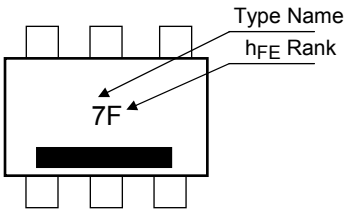
Note 1: Total rating.

Electrical Characteristics (Ta = 25°C)

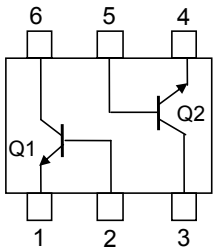
Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 60 V, I_E = 0	—	—	0.1	μA
Emitter cutoff current	I_{EBO}	V_{EB} = 5 V, I_C = 0	—	—	0.1	μA
DC current gain	h_{FE}(Note)	V_{CE} = 6 V, I_C = 2 mA	120	—	400	—
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C = 100 mA, I_B = 10 mA	—	0.1	0.25	V
Transition frequency	f_T	V_{CE} = 10 V, I_C = 1 mA	60	—	—	MHz
Collector output capacitance	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz	—	0.95	—	pF

Note: h_{FE} Classification Y (F): 120 to 240, GR (H): 200 to 400
( ) Marking symbol

Marking

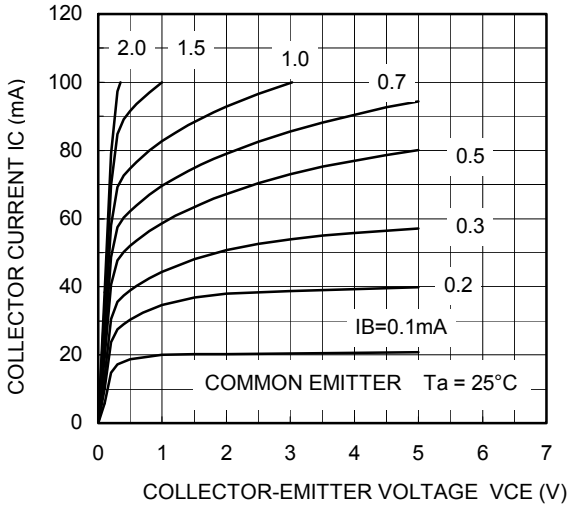


Equivalent Circuit (top view)

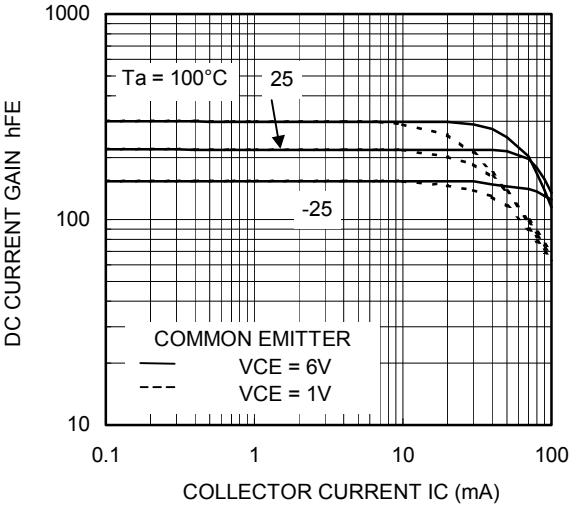


Q1, Q2 Common

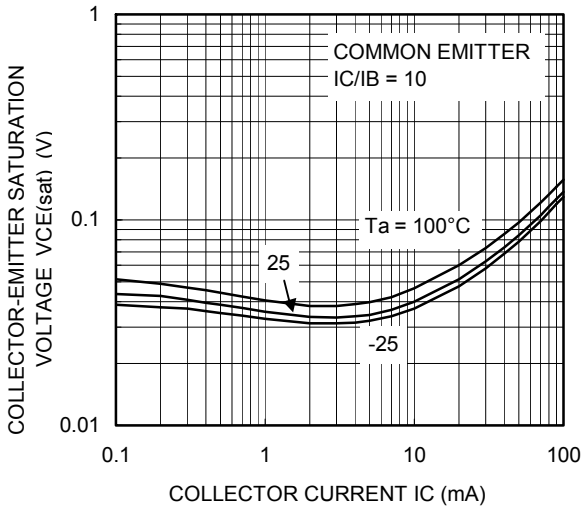
IC - VCE



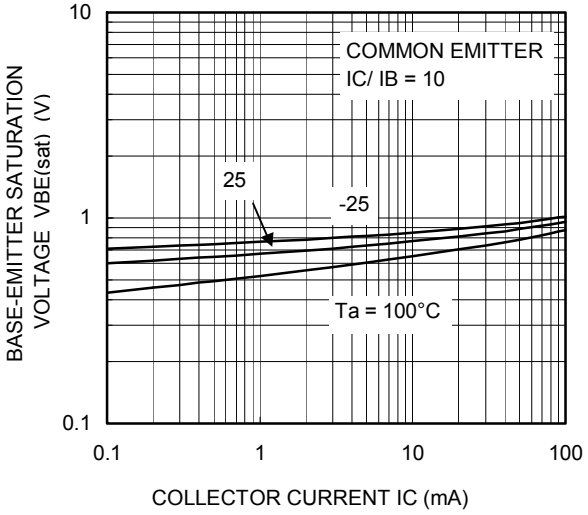
hFE - IC



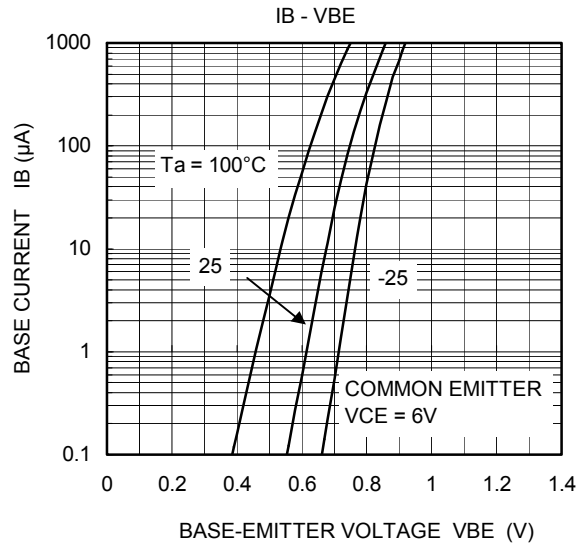
VCE(sat) - IC



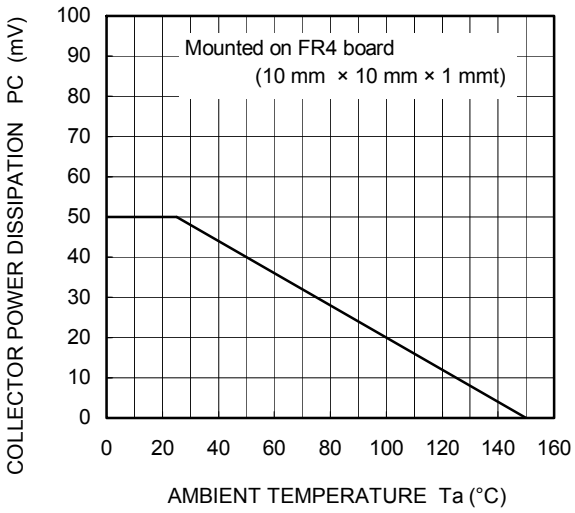
VBE(sat) - IC



IB - VBE



PC - Ta



*:Total rating.

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