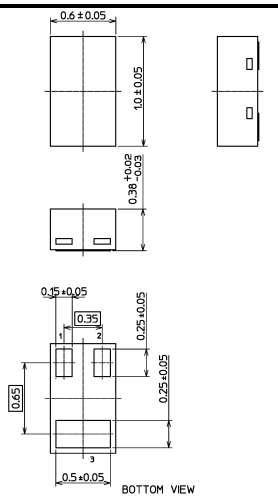
TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

2SA2154CT

General Purpose Amplifier Applications

- High voltage and high current : V_{CEO} = −50V, I_C = −100mA (max)
- Excellent h_{FE} linearity
  : h_{FE} (I_C = −0.1 mA) / h_{FE} (I_C = −2 mA)= 0.95 (typ.)
- High h_{FE} : h_{FE} = 120 to 400
- Complementary to 2SC6026CT

Unit: mm



CST3

1.BASE
2.EMITTER
3.COLLECTOR

JEDEC	—
JEITA	—
TOSHIBA	2-1J1A

Weight: 0.75 mg (typ.)

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	−50	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	100*	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	−55 to 150	°C

* : Mounted on FR4 board (10 mm × 10 mm × 1 mmt)

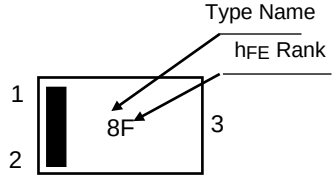
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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).

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = −50 V, I_E = 0 A	—	—	−0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = −5 V, I_C = 0 A	—	—	−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	—	−0.18	−0.3	V
Transition frequency	f_T	V_{CE} = −10 V, I_C = −1 mA	80	—	—	MHz
Collector output capacitance	C_{ob}	V_{CB} = −10 V, I_E = 0 A, f = 1 MHz	—	1.6	—	pF

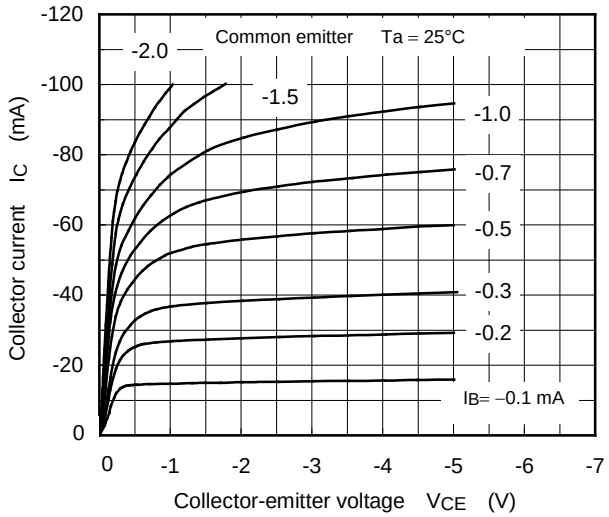
Note: h_{FE} classification Y (F): 120 to 240, GR (H): 200 to 400
( ) marking symbol

Marking

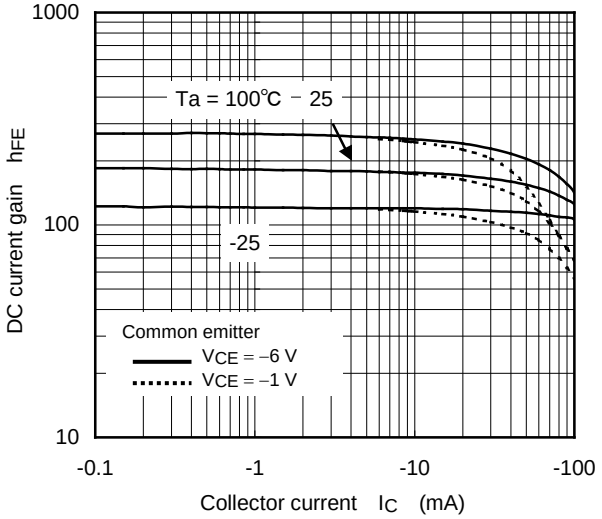


Start of commercial production
2004-08

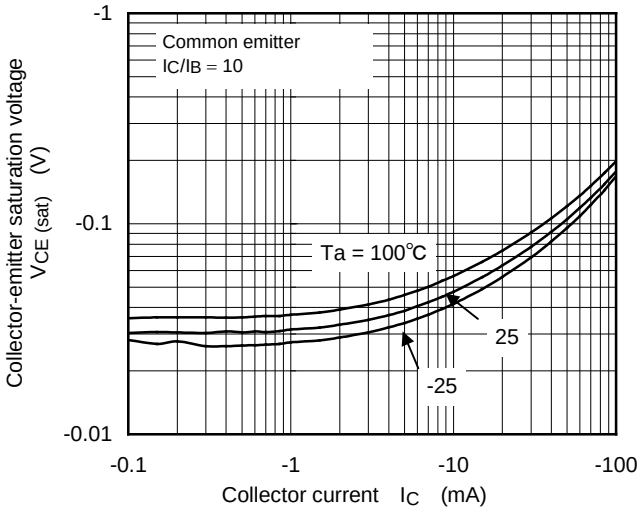
$I_C - V_{CE}$



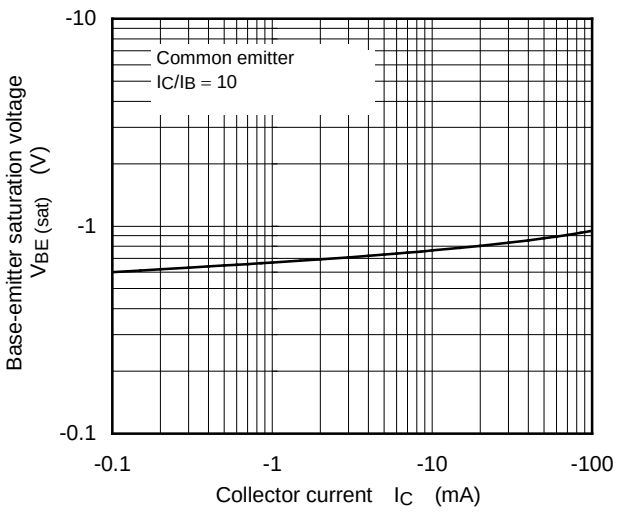
$h_{FE} - I_C$



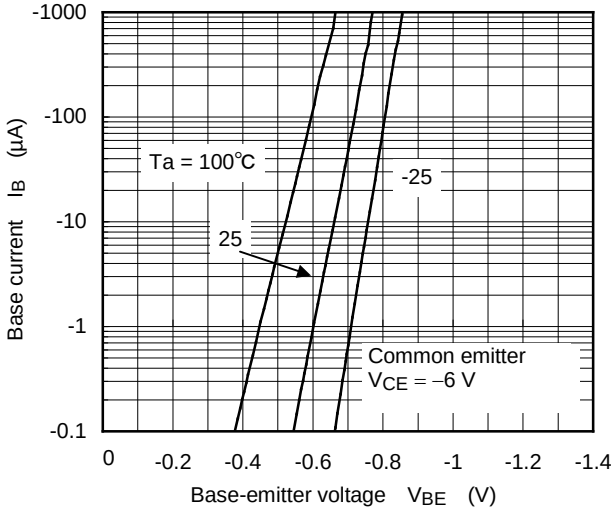
$V_{CE\ (sat)} - I_C$



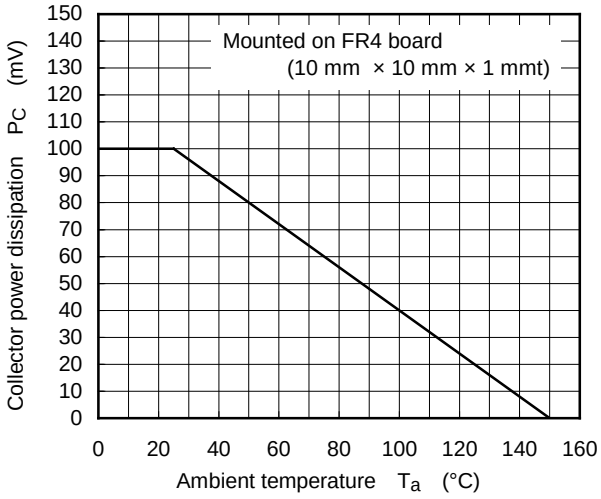
$V_{BE\ (sat)} - I_C$



$I_B - V_{BE}$



$P_C^* - T_a$



* total rating

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