

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

# 2SA2154CT

### General Purpose Amplifier Applications

- High voltage and high current :  $V_{CE0} = -50V$ ,  $I_C = -100mA$  (max)
- Excellent hFE linearity  
:  $h_{FE} (I_C = -0.1 mA) / h_{FE} (I_C = -2 mA) = 0.95$  (typ.)
- High hFE :  $h_{FE} = 120$  to  $400$
- Complementary to 2SC6026CT

### 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 mm)

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).

Unit: mm

JEDEC	—
JEITA	—
TOSHIBA	2-1J1A

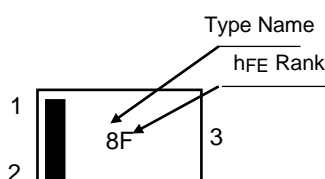
Weight: 0.75 mg (typ.)

### 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	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5 V$ , $I_C = 0 A$	—	—	-0.1	$\mu A$
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

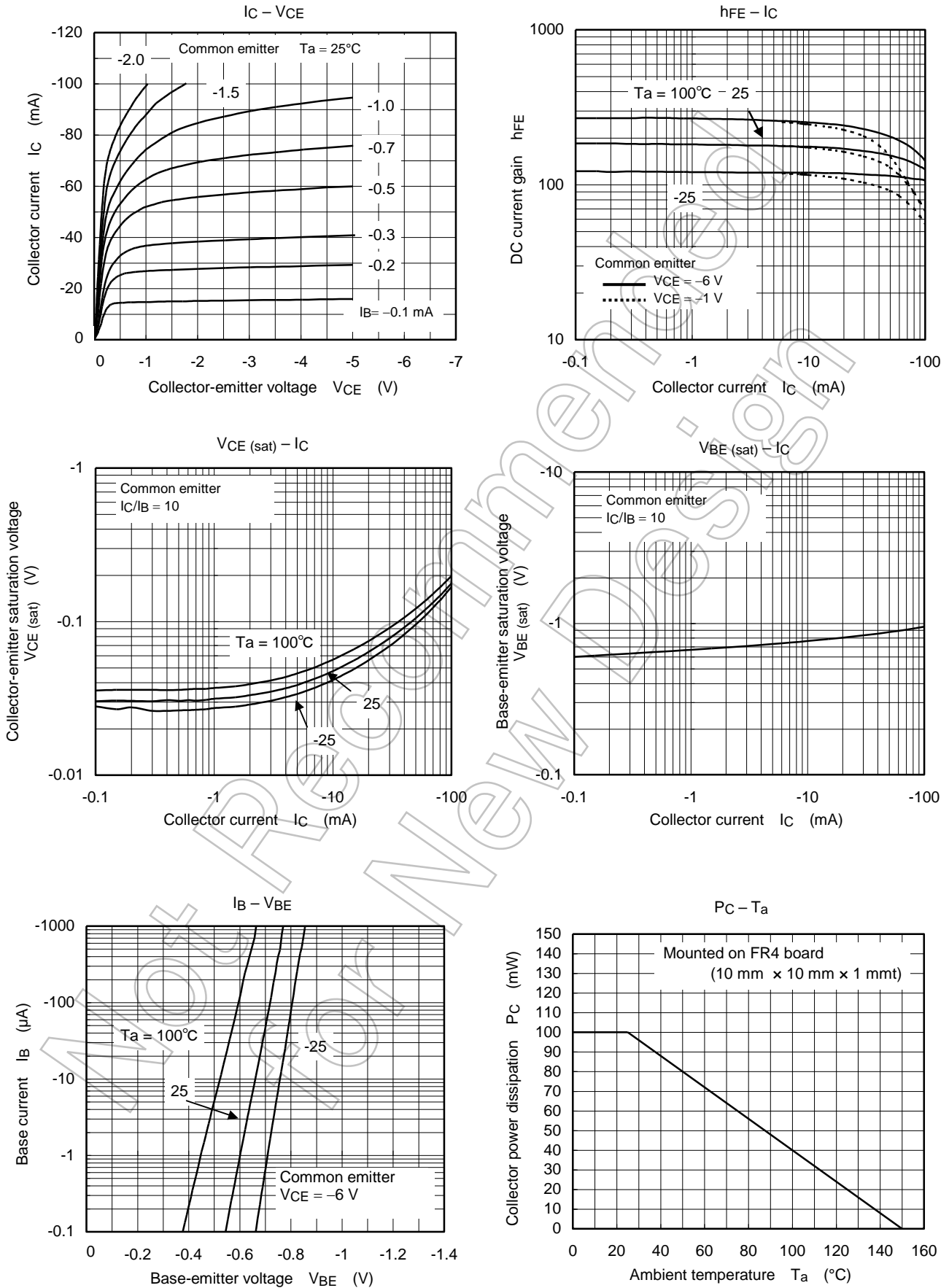
Note:  $h_{FE}$  classification Y (F): 120 to 240, GR (H): 200 to 400  
( ) marking symbol

### Marking



Start of commercial production  
2004-08

### Characteristics Curves



The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

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