Unit: mm

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process)

2SC2551

Hight Voltage Control Applications
Plasma Display, Nixie Tube Driver Applications
Cathode Ray Tube Brightness Control Applications

- High voltage: VCBO = 300 V, VCEO = 300 V
- Low saturation voltage: $V_{CE (sat)} = 0.5 \text{ V (max)}$
- Small collector output capacitance: $C_{ob} = 3 pF$ (typ.)
- Complementary to 2SA1091.

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V _{CBO}	300	V
Collector-emitter voltage	V _{CEO}	300	V
Emitter-base voltage	V _{EBO}	6	V
Collector current	IC	100	mA
Base current	ΙΒ	20	mA
Collector power dissipation	PC	400	mW
Junction temperature	Tj	150	°C
Storage temperature range	T _{stg}	-55~150	°C

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in

1. EMITTER 2. COLLECTOR 3. BASE

TO-92

SC-43

2-5F1B

Industrial Applications

Weight: 0.21 g (typ.)

JEDEC

JEITA

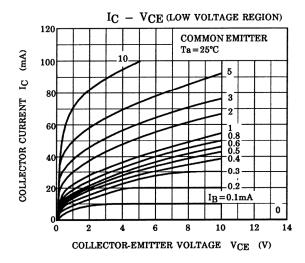
TOSHIBA

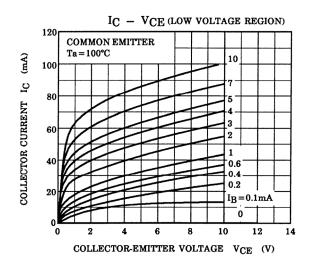
temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings. Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

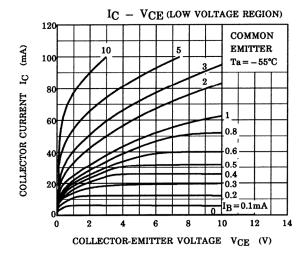
Electrical Characteristics (Ta = 25°C)

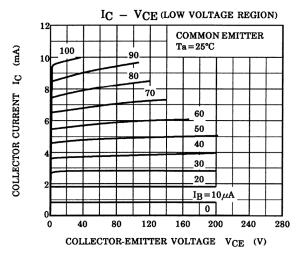
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	$V_{CB} = 300 \text{ V}, I_E = 0$	_	_	0.1	μА
Emitter cut-off current	I _{EBO}	V _{EB} = 6 V, I _C = 0	_	_	0.1	μА
Collector-base breakdown voltage	V (BR) CBO	$I_C = 0.1 \text{ mA}, I_E = 0$	300	_	_	V
Collector-emitter breakdown voltage	V (BR) CEO	$I_C = 1 \text{ mA}, I_B = 0$	300	_	_	V
DC current gain	h _{FE (1)} (Note)	V _{CE} = 10 V, I _C = 20 mA	30	_	150	
	h _{FE (2)}	V _{CE} = 10 V, I _C = 1 mA	20	_	_	
Collector-emitter saturation voltage	V _{CE} (sat)	$I_C = 20 \text{ mA}, I_B = 2 \text{ mA}$	_	_	0.5	V
Base-emitter saturation voltage	V _{BE} (sat)	$I_C = 20 \text{ mA}, I_B = 2 \text{ mA}$	_	_	1.2	V
Transition frequency	f _T	V _{CE} = 10 V, I _C = 20 mA	50	80	_	MHz
Collector output capacitance	C _{ob}	V _{CB} = 20 V, I _E = 0, f = 1 MHz	_	3	4	pF

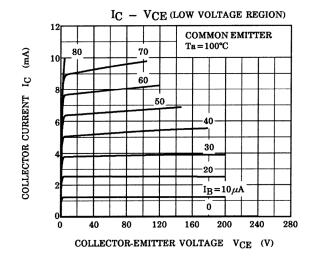
Note: h_{FE (1)} classification R: 30~90, O: 50~150

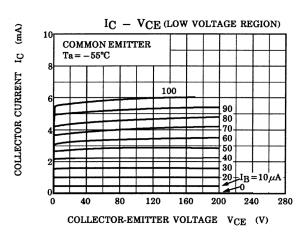


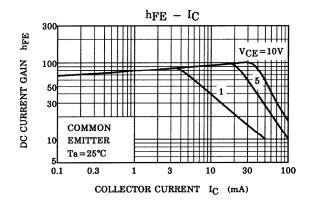


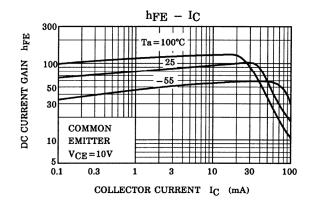


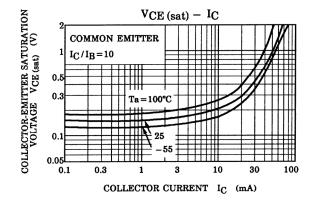


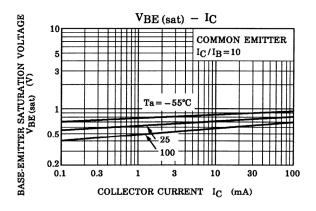


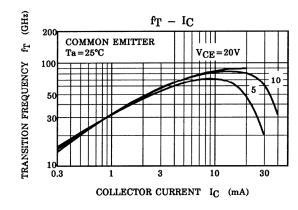


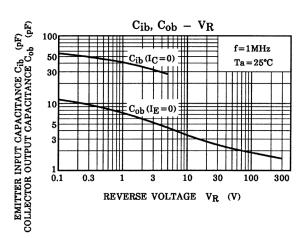


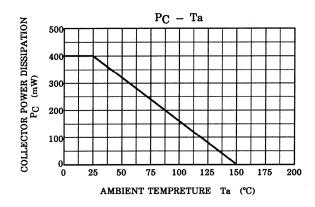












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20070701-EN GENERAL

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