

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

2SC3710A

High-Power Switching Applications

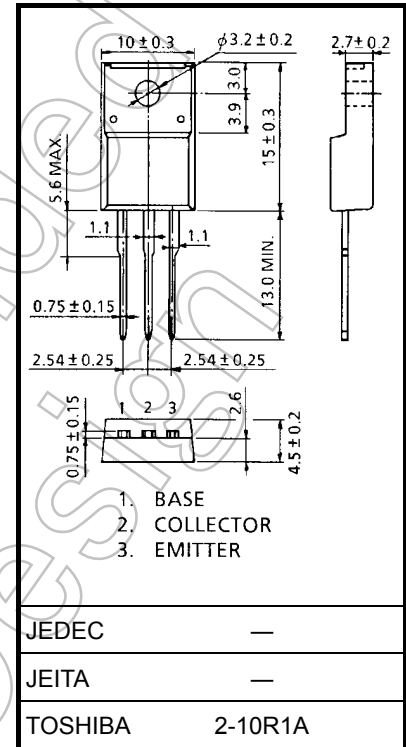
- Low collector saturation voltage: $V_{CE(sat)} = 0.4 \text{ V (max)}$
- High-speed switching: $t_{stg} = 1.0 \mu\text{s (typ.)}$
- Complementary to 2SA1452A

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	80	V
Collector-emitter voltage	V_{CEO}	80	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_C	12	A
Base current	I_B	2	A
Collector power dissipation ($T_c = 25^\circ\text{C}$)	P_C	30	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to 150	$^\circ\text{C}$

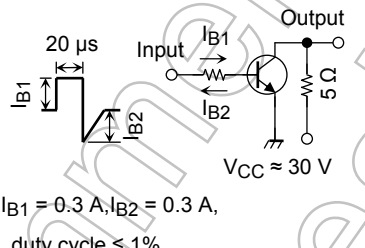
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

Unit: mm



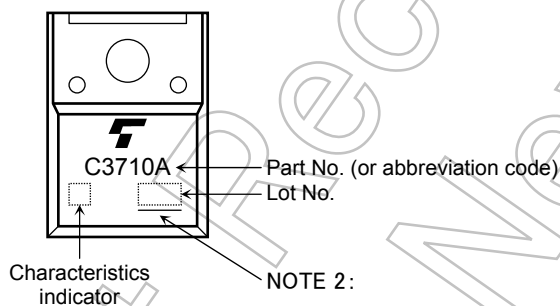
Weight: 1.7 g (typ.)

Electrical Characteristics (T_a = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		I _{CBO}	V _{CB} = 80 V, I _E = 0	—	—	10	μA
Emitter cut-off current		I _{EBO}	V _{EB} = 6 V, I _C = 0	—	—	10	μA
Collector-emitter breakdown voltage		V _{(BR) CEO}	I _C = 50 mA, I _B = 0	80	—	—	V
DC current gain	h _{FE} (1) (Note)	V _{CE} = 1 V, I _C = 1 A		70	—	240	
	h _{FE} (2)			V _{CE} = 1 V, I _C = 6 A	40	—	
Collector-emitter saturation voltage		V _{CE (sat)}	I _C = 6 A, I _B = 0.3 A	—	0.2	0.4	V
Base-emitter saturation voltage		V _{BE (sat)}	I _C = 6 A, I _B = 0.3 A	—	0.9	1.2	V
Transition frequency		f _T	V _{CE} = 5 V, I _C = 1 A	—	80	—	MHz
Collector output capacitance		C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1 MHz	—	220	—	pF
Switching time	Turn-on time	t _{on}	 <p> Input I_{B1}, I_{B2} Output 5 Ω V_{CC} ≈ 30 V I_{B1} = 0.3 A, I_{B2} = 0.3 A, duty cycle ≤ 1% </p>	—	0.2	—	μs
	Storage time	t _{stg}		—	1	—	
	Fall time	t _f		—	—	0.2	

Note: h_{FE} (1) classification O: 70 to 140, Y: 120 to 240

Marking

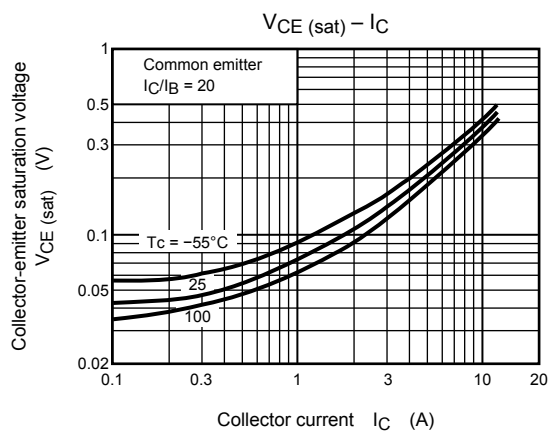
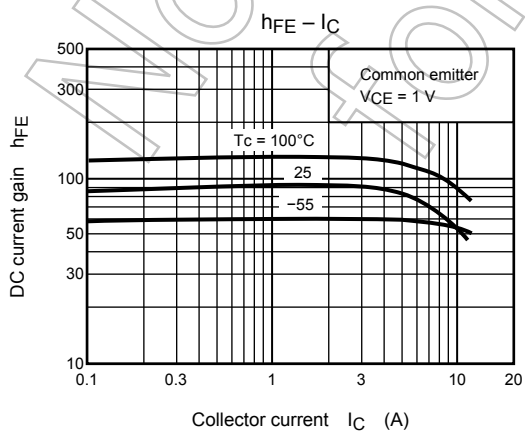
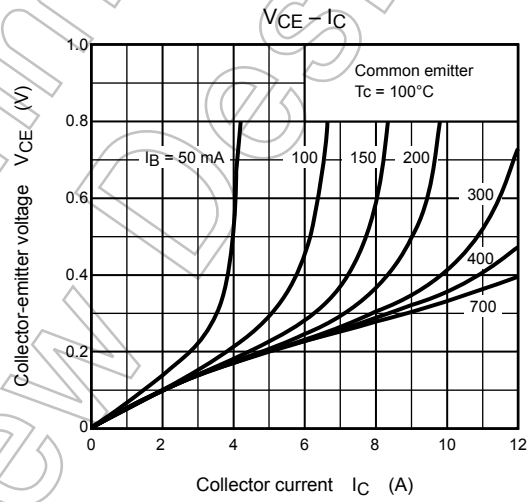
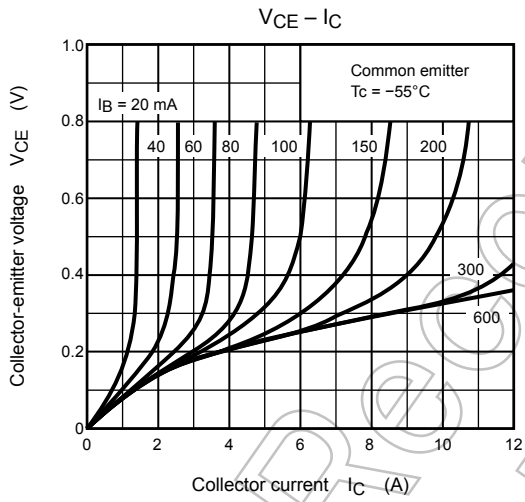
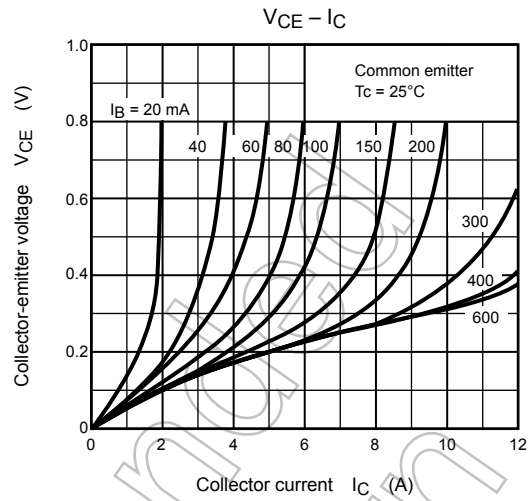
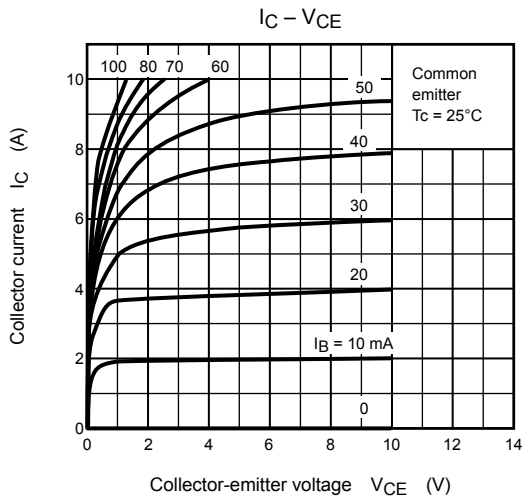


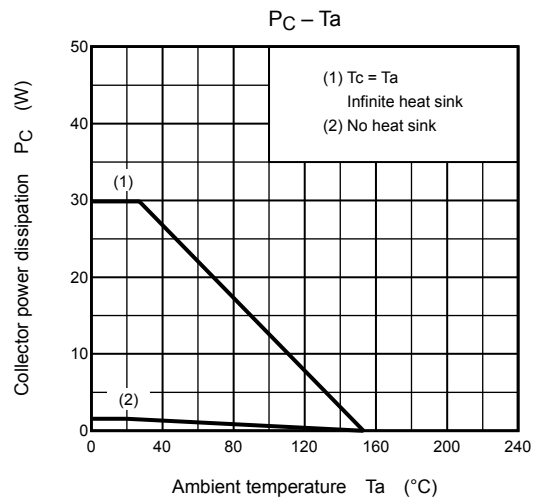
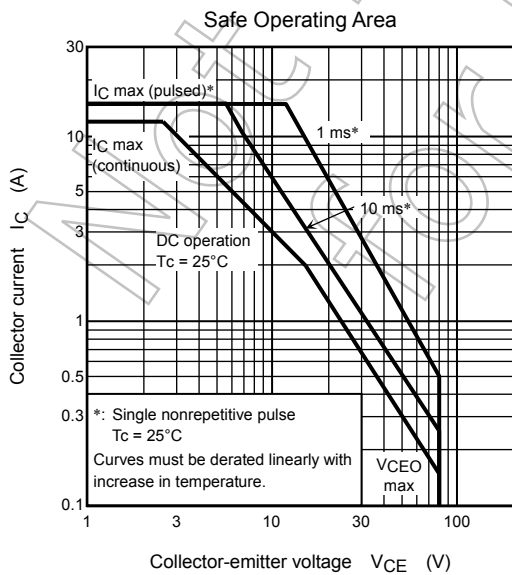
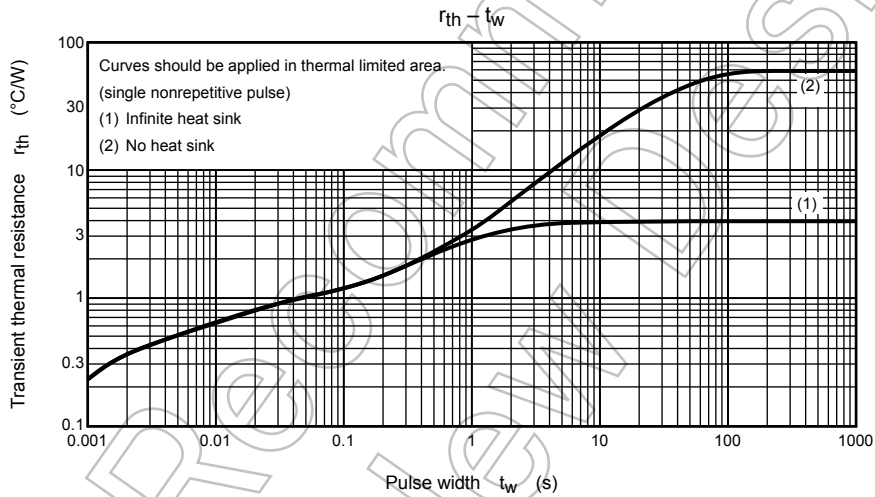
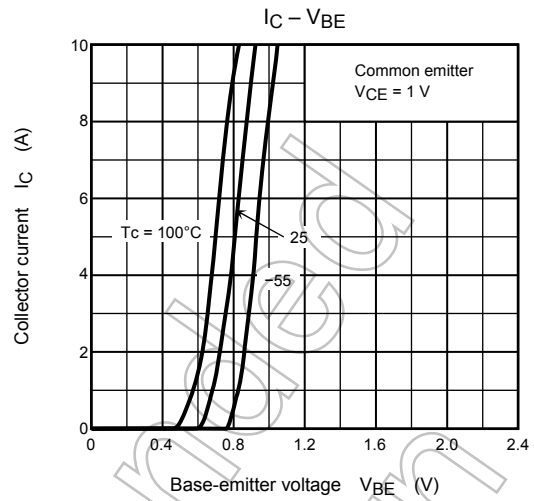
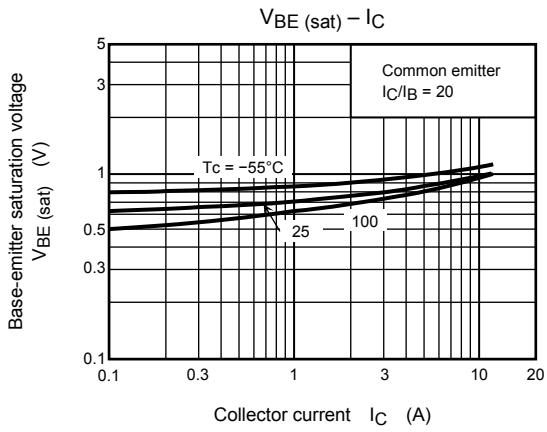
Note 2 : A line under a Lot No. identifies the indication of product Labels.

[[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product.

The RoHS is the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.





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