

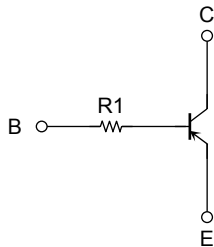
TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process) (Bias Resistor built-in Transistor)

RN2972CT, RN2973CT

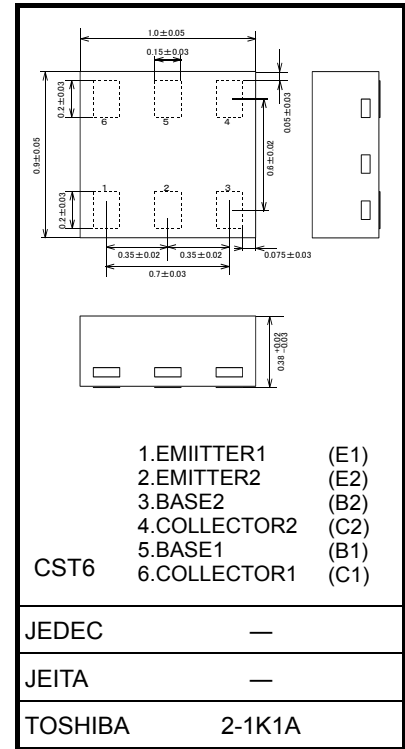
Switching, Inverter Circuit, Interface Circuit and Driver Circuit Applications

- Two devices are incorporated into a fine pitch Small Mold (6pin) package.
- Incorporating a bias resistor into a transistor reduces parts count. Reducing the parts count enable the manufacture of ever more compact equipment and save assembly cost.
- Complementary to RN1972CT and RN1973CT

Equivalent Circuit



Unit: mm

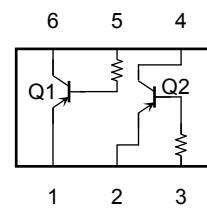


Weight: 1.0 mg (typ.)

Absolute Maximum Ratings (Ta = 25°C) (Q1, Q2 common)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-20	V
Collector-emitter voltage	V_{CEO}	-20	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-50	mA
Collector power dissipation	P_C^*	50	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	-55 to 150	°C

Equivalent Circuit (top view)



Note *: Total rating

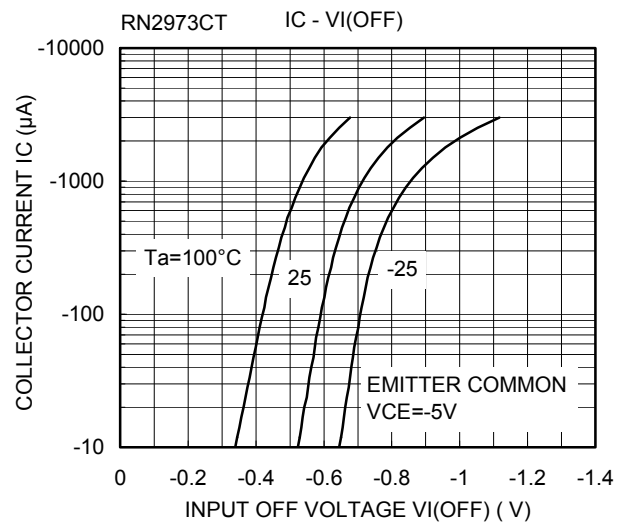
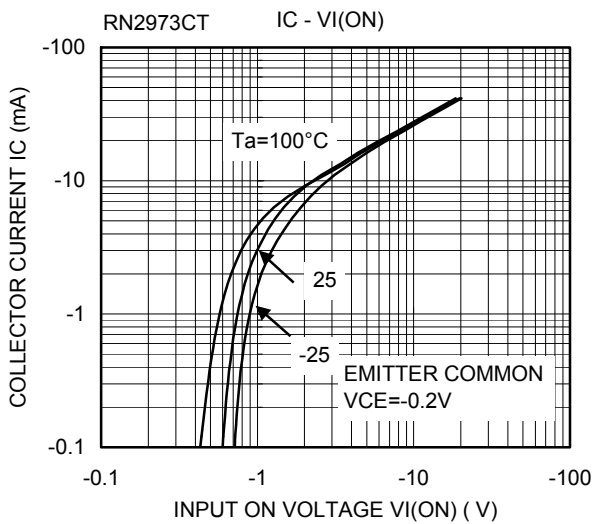
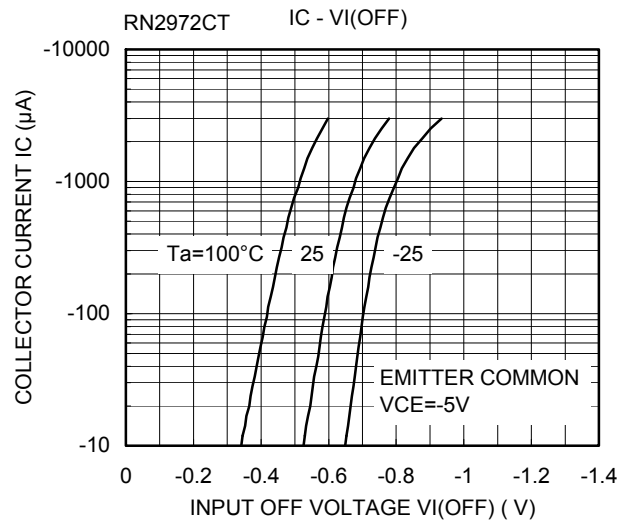
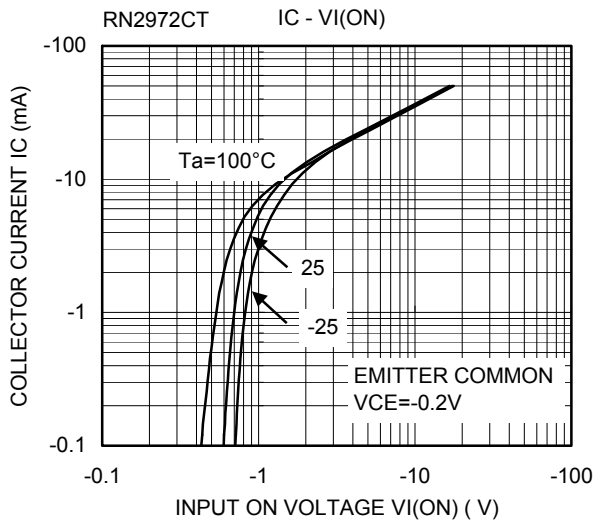
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

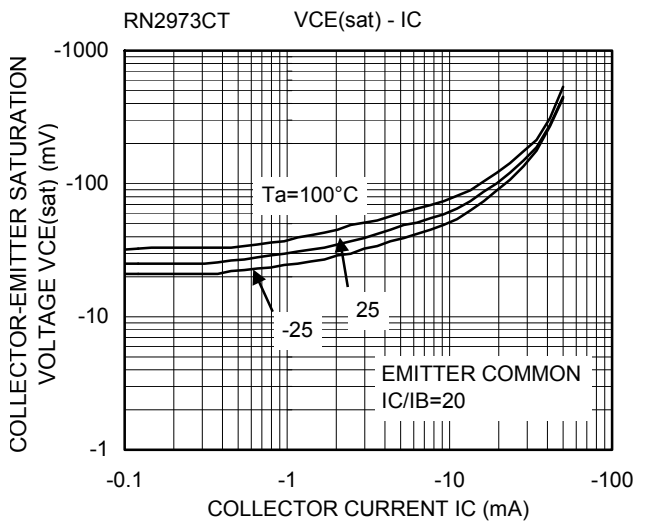
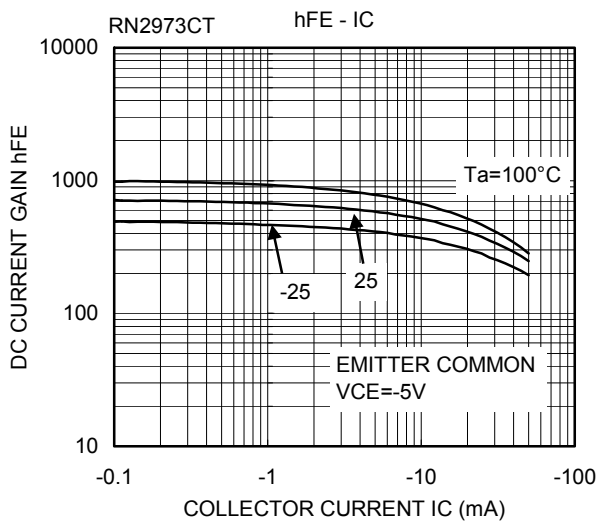
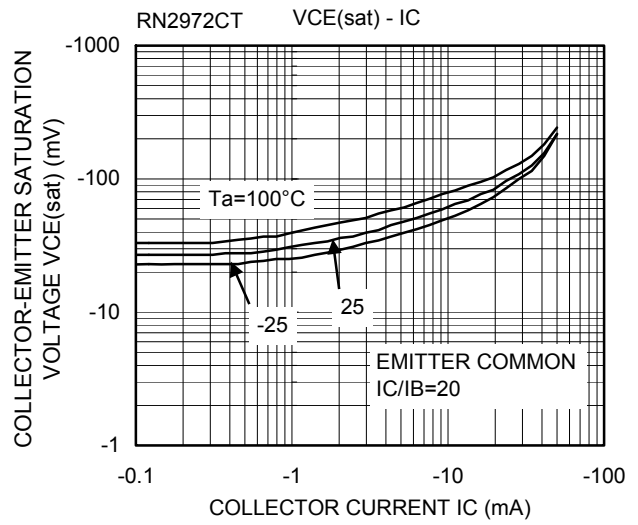
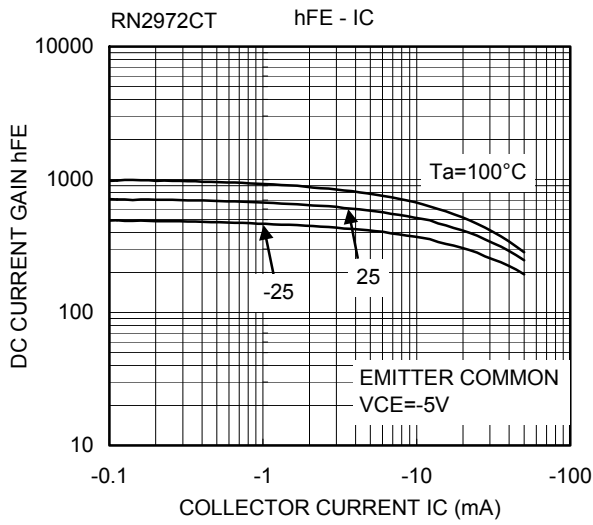
Electrical Characteristics (Ta = 25°C) (Q1, Q2 common)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		I_{CBO}	$V_{CB} = -20\text{ V}, I_E = 0$	—	—	-100	nA
Emitter cut-off current		I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$	—	—	-100	nA
DC current gain		h_{FE}	$V_{CE} = -5\text{ V}, I_C = -1\text{ mA}$	300	—	—	—
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = -5\text{ mA}, I_B = -0.25\text{ mA}$	—	—	-0.15	V
Collector output capacitance		C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	1.2	—	pF
Input resistor	RN2972CT	R1	—	17.6	22	26.4	kΩ
	RN2973CT			37.6	47	56.4	

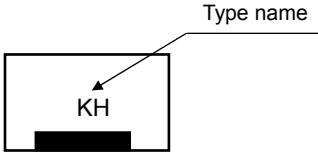
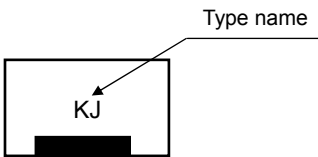
(Q1, Q2 common)



(Q1, Q2 common)



Marking

Type Name	Marking
RN2972CT	 A diagram showing a rectangular marking area. Inside the rectangle, the letters "KH" are printed above a solid black horizontal bar. An arrow labeled "Type name" points from the text "Type name" to the "KH" marking.
RN2973CT	 A diagram showing a rectangular marking area. Inside the rectangle, the letters "KJ" are printed above a solid black horizontal bar. An arrow labeled "Type name" points from the text "Type name" to the "KJ" marking.

Handling Precaution

When handling individual devices (which are not yet mounted on a circuit board), be sure that the environment is protected against electrostatic electricity. Operators should wear anti-static clothing, and containers and other objects that come into direct contact with devices should be made of anti-static materials.

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