

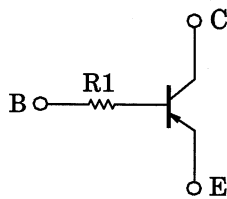
TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process) (Bias Resistor built-in Transistor)

RN2119MFV

Switching, Inverter Circuit, Interface Circuit and Driver Circuit Applications

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- Complementary to RN1119MFV

Equivalent Circuit



Absolute Maximum Ratings (Ta = 25°C)

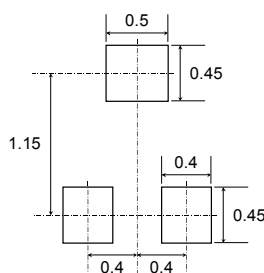
Characteristic	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-50	V
Collector-emitter voltage	V_{CEO}	-50	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-100	mA
Collector power dissipation	P_C (Note1)	150	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	-55 to 150	°C

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.

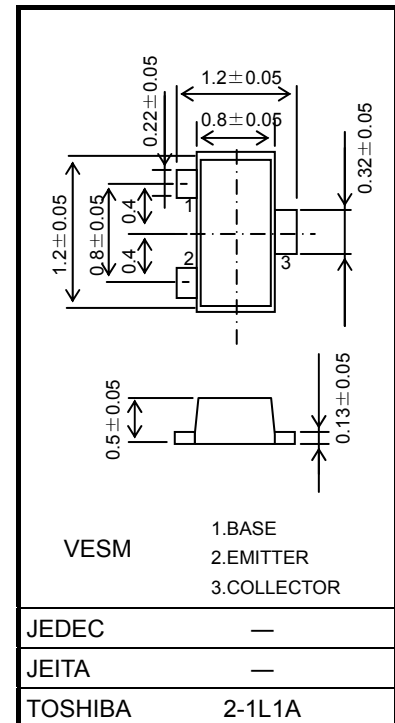
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Note 1: Mounted on FR4 board (25.4 mm × 25.4 mm × 1.6 mm)

Land Pattern Sample (unit: mm)



Unit: mm

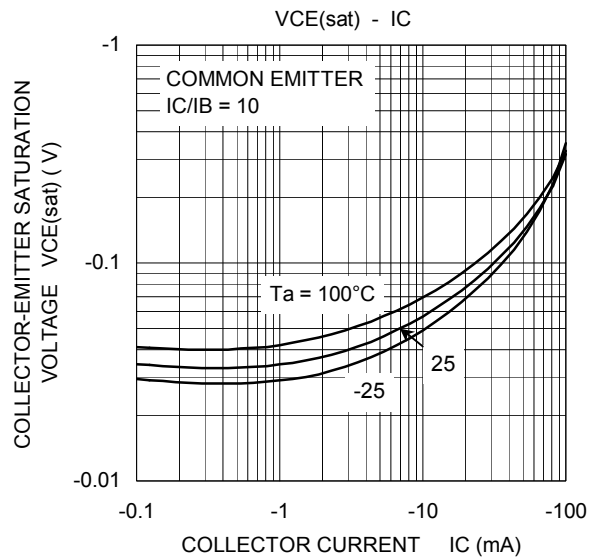
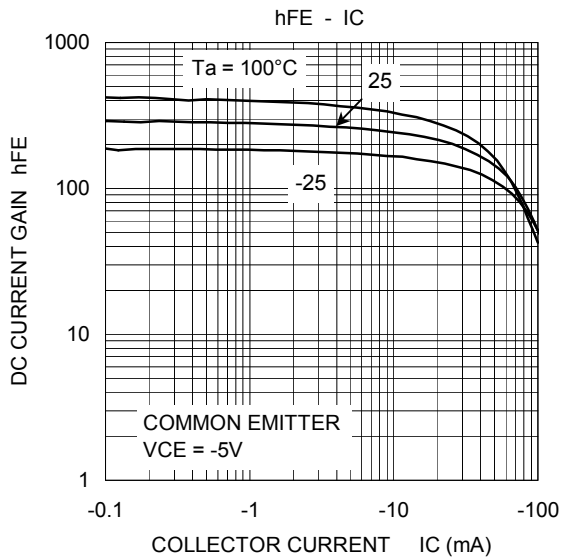
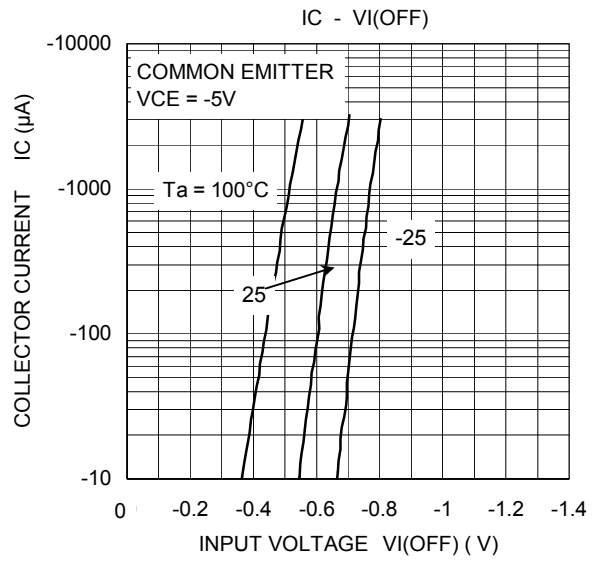
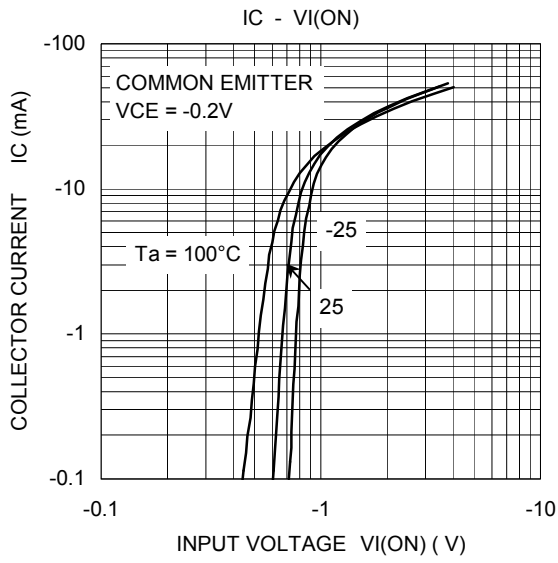


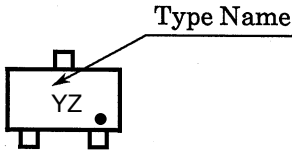
Weight: 1.5 mg (typ.)

Start of commercial production
2005-09

Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	—	$V_{CB} = -50V, I_E = 0$	—	—	-100	nA
Emitter cut-off current	I_{EBO}	—	$V_{EB} = -5V, I_C = 0$	—	—	-100	nA
DC current gain	h_{FE}	—	$V_{CE} = -5V, I_C = -1mA$	120	—	400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	$I_C = -5mA, I_B = -0.5mA$	—	-0.1	-0.3	V
Collector output capacitance	C_{ob}	—	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	0.7	—	pF
Input resistor	R1	—	—	0.7	1.0	1.3	k Ω



Type Name	Marking
RN2119MFV	 <p>The diagram shows a rectangular component with a small square protrusion on top and two small square protrusions on the bottom. The letters 'YZ' are printed on the component. An arrow points from the text 'Type Name' to the 'YZ' marking.</p>

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