

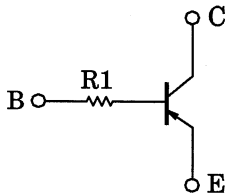
TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

## RN2131MFV, RN2132MFV

Switching Applications  
 Inverter Circuit Applications  
 Interface Circuit Applications  
 Driver Circuit Applications

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- Complementary to RN1131MFV, RN1132MFV

### Equivalent Circuit



### Absolute Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V <sub>CB0</sub>	-50	V
Collector-emitter voltage	V <sub>CEO</sub>	-50	V
Emitter-base voltage	V <sub>EB0</sub>	-5	V
Collector current	I <sub>C</sub>	-100	mA
Collector power dissipation	P <sub>C</sub> (Note1)	150	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature range	T <sub>stg</sub>	-55 to 150	°C

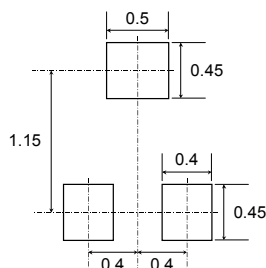
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

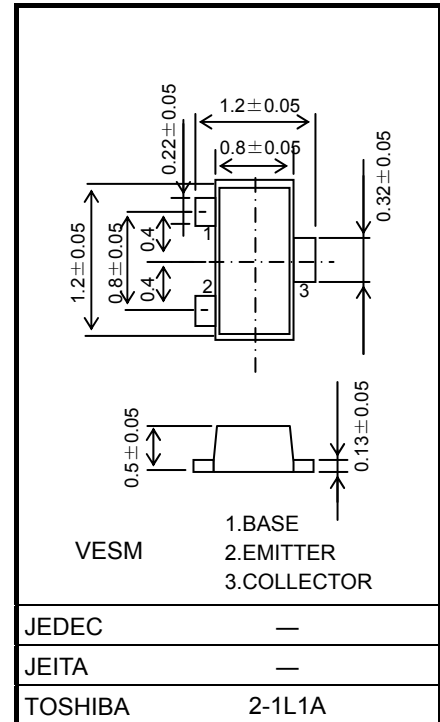
Note1 : Mounted on FR4 board (25.4 mm × 25.4 mm × 1.6 mm)

### Land Pattern Example

Unit : mm



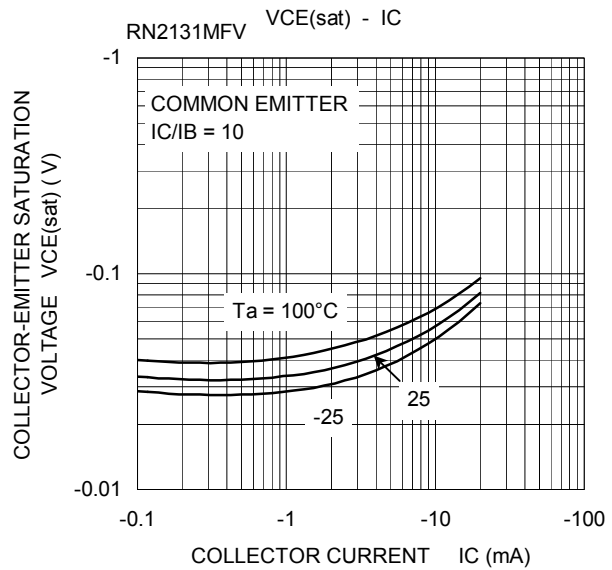
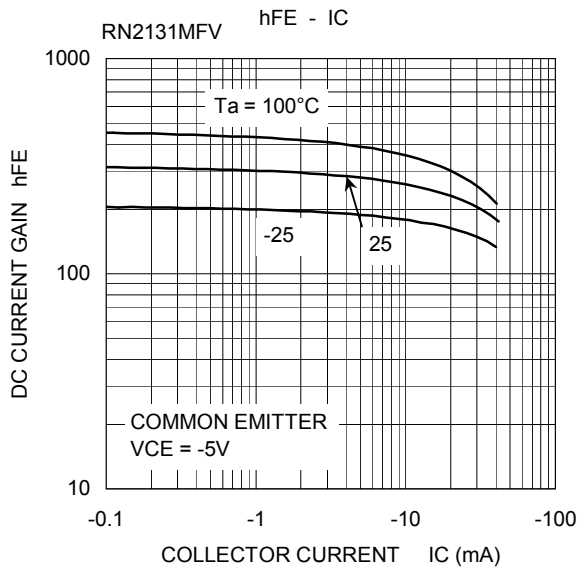
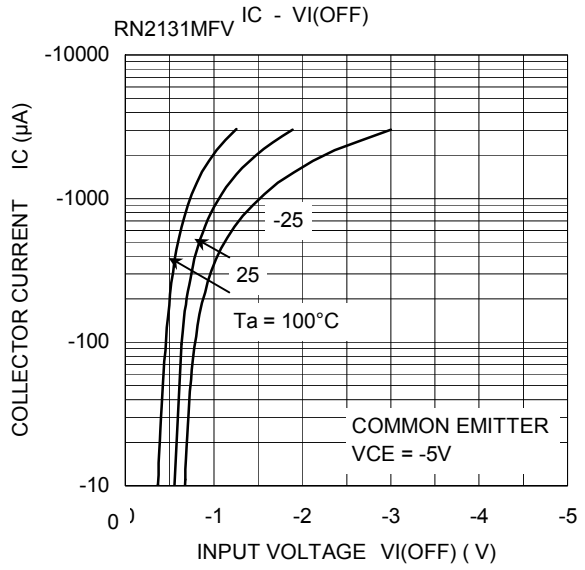
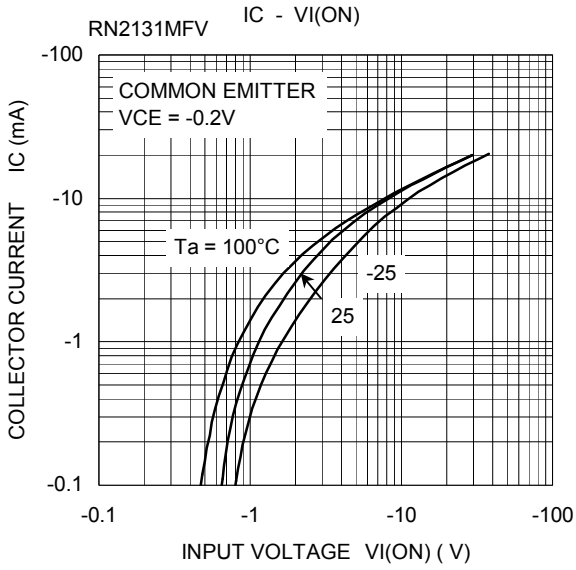
Unit : mm

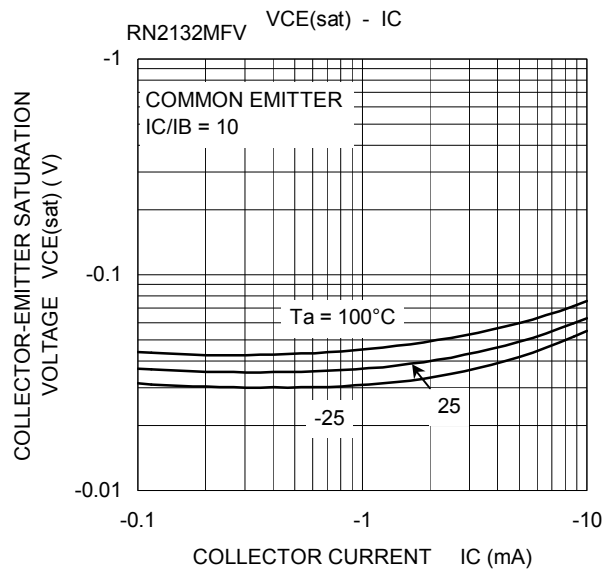
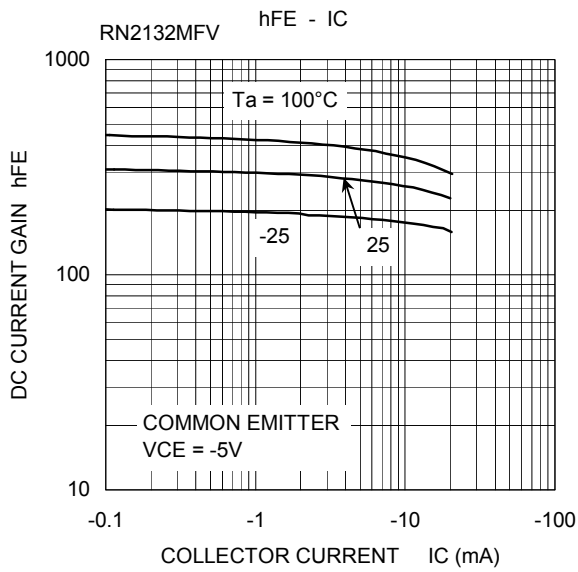
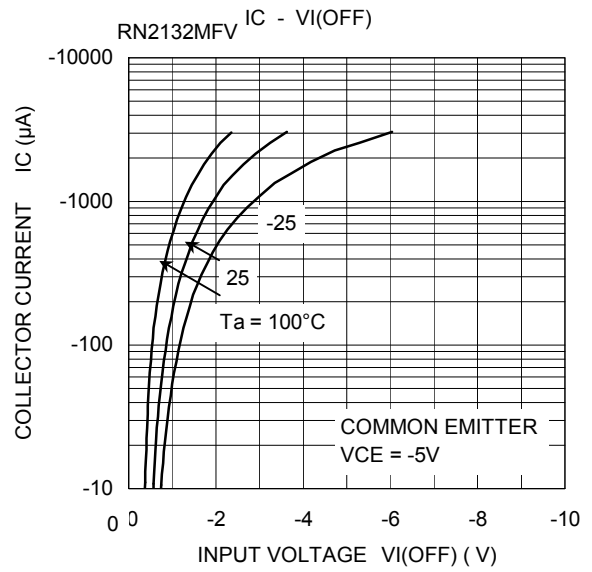
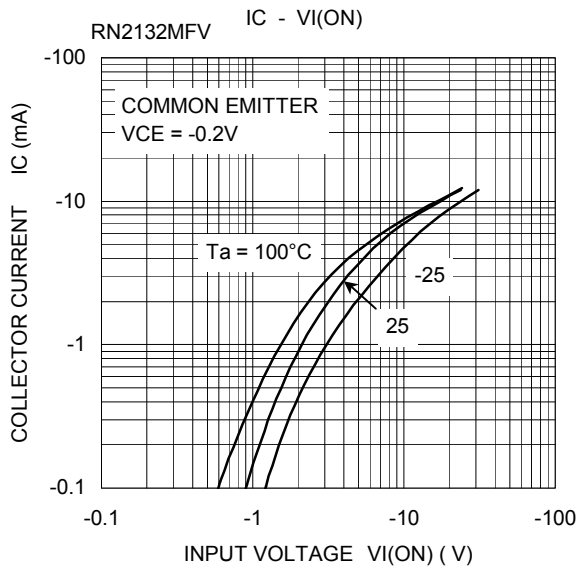


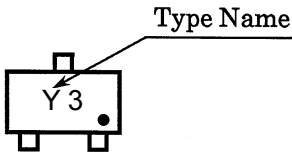
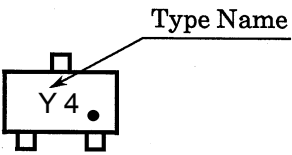
Weight : 1.5 mg (typ.)

### Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	—	$V_{CB} = -50\text{ V}, I_E = 0$	—	—	-100	nA
Emitter cut-off current	$I_{EBO}$	—	$V_{EB} = -5\text{ V}, I_C = 0$	—	—	-100	nA
DC current gain	$h_{FE}$	—	$V_{CE} = -5\text{ V}, I_C = -1\text{ mA}$	120	—	400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	$I_C = -5\text{ mA}, I_B = -0.5\text{ mA}$	—	-0.1	-0.3	V
Collector output capacitance	$C_{ob}$	—	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	0.9	—	pF
Input resistor	RN2131MFV	R1	—	70	100	130	kΩ
	RN2132MFV			140	200	260	





Type Name	Marking
RN2131MFV	 <p>The diagram shows a rectangular component with a small square protrusion at the top center and two small square protrusions at the bottom. Inside the rectangle, the text 'Y 3' is printed. A line with an arrow points from the text 'Type Name' to the 'Y 3' marking.</p>
RN2132MFV	 <p>The diagram shows a rectangular component with a small square protrusion at the top center and two small square protrusions at the bottom. Inside the rectangle, the text 'Y 4' is printed. A line with an arrow points from the text 'Type Name' to the 'Y 4' marking.</p>

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