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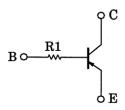
TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process) (Bias Resistor built-in Transistor)

RN2119MFV

Switching Applications Inverter Circuit Applications Interface Circuit Applications Driver Circuit Applications

- Ultra-small package, suited to very high density mounting
- ncorporating a bias resistor into the transistor reduces the number of parts, so enabling the manufacture of ever more compact equipment and lowering assembly cost.
- A wide range of resistor values is available for use in various circuits.
- Complementary to the RN1119MFV

Equivalent Circuit



Absolute Maximum Ratings (Ta = 25°C)

Characterisstic	Symbol	Rating	Unit
Collector-base voltage	V _{CBO}	-50	V
Collector-emitter voltage	V _{CEO}	-50	V
Emitter-base voltage	VEBO	-5	V
Collector current	IC	-100	mA
Collector power dissipation	P _C (Note1)	150	mW
Junction temperature	Tj	150	°C
Storage temperature range	T _{stg}	-55 to 150	°C

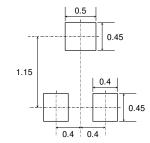
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

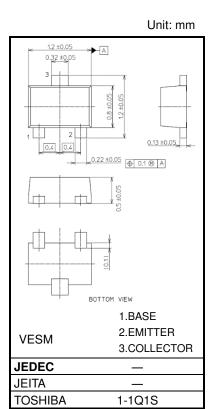
Note1 : Mounted on FR4 board (25.4 mm \times 25.4 mm \times 1.6 mm)

Unit: mm

Land Pattern Dimensions (for reference only)



Start of commercial production 2005-09

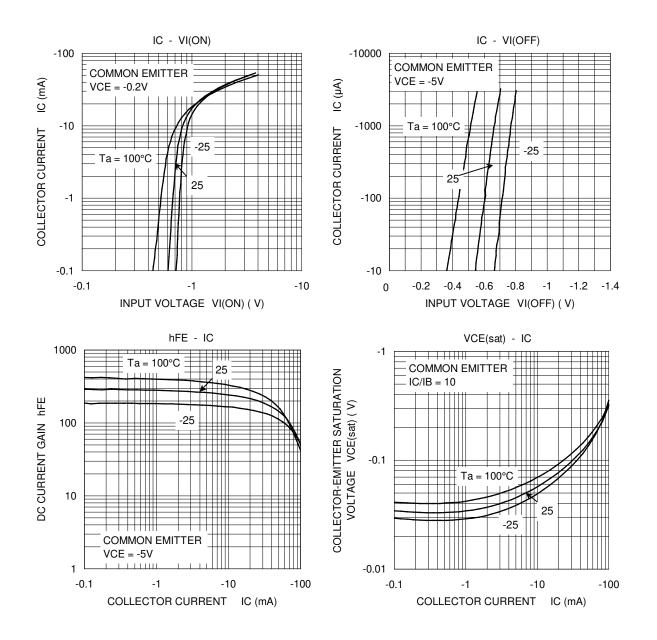


Weight: 1.5 mg (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	ICBO	_	$V_{CB} = -50 \text{ V}, \text{ IE} = 0 \text{ A}$	_	-	-100	nA
Emitter cut-off current	IEBO	_	$V_{EB} = -5 V$, $I_{C} = 0 A$	_	-	-100	nA
DC current gain	hFE	_	$V_{CE} = -5 V, I_{C} = -1 mA$	120	_	400	—
Collector-emitter saturation voltage	VCE (sat)	_	IC = -5 mA, IB = -0.5 mA	_	-0.1	-0.3	V
Collector output capacitance	Cob	_	$V_{CB} = -10 \text{ V}, \text{ I}_{E} = 0 \text{ A}, \text{ f} = 1 \text{ MHz}$	_	0.7	_	pF
Input resistor	R1	—	—	0.7	1.0	1.3	kΩ

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Marking

Type Name	Marking	
RN2119MFV	Type Name YZ	

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