Transistors with Built-in Resistor

DRC2123J0L

# **Panasonic**

## DRC2123J0L

#### Silicon NPN epitaxial planar type

For digital circuits
Complementary to DRA2123J

#### ■ Features

- Low collector-emitter saturation voltage Vce(sat)
- Halogen-free / RoHS compliant (EU RoHS / UL-94 V-0 / MSL:Level 1 compliant)
- Marking Symbol: N4

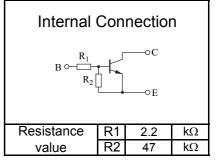
#### ■ Packaging

Embossed type (Thermo-compression sealing): 3 000 pcs / reel (standard)

■ Absolute Maximum Ratings Ta = 25 °C

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	VCBO	50	V
Collector-emitter voltage (Base open)	VCEO	50	V
Collector current	IC	100	mA
Total power dissipation	PT	200	mW
Junction temperature	Tj	150	°C
Operating ambient temperature	Topr	-40 to +85	°C
Storage temperature	Tstg	-55 to +150	°C

### Unit: mm 2.9 0.4 0.16 ┼ 3 (0. 95) (0. 95) 1.9 1. Base 2. Emitter 3. Collector Panasonic Mini3-G3-B JEITA SC-59A TO-236AA/SOT-23 Code



#### ■ Electrical Characteristics Ta = 25 °C ± 3 °C

Established: 2009-10-29

: 2014-03-18

Revised

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage (Emitter open)	VCBO	IC = 10 μA, IE = 0	50			V
Collector-emitter voltage (Base open)	VCEO	IC = 2 mA, IB = 0	50			V
Collector-base cutoff current (Emitter open)	ICBO	VCB = 50 V, IE = 0			0.1	μΑ
Collector-emitter cutoff current (Base open)	ICEO	VCE = 50 V, IB = 0			0.5	μΑ
Emitter-base cutoff current (Collector open)	IEBO	VEB = 6 V, IC = 0			0.2	mA
Forward current transfer ratio	hFE	VCE = 10 V, IC = 5 mA	80			-
Collector-emitter saturation voltage	VCE(sat)	IC = 10 mA, IB = 0.5 mA			0.25	V
Input voltage	Vi(on)	VCE = 0.2 V, IC = 5 mA	1.2			V
	Vi(off)	VCE = 5 V, IC = 100 μA			0.4	V
Input resistance	R1		-30%	2.2	+30%	kΩ
Resistance ratio	R1/R2		0.037	0.047	0.057	•

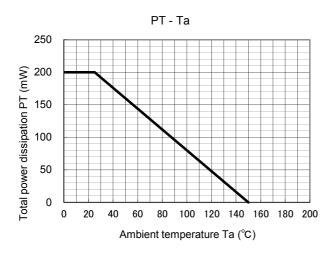
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 Measuring methods for transistors.

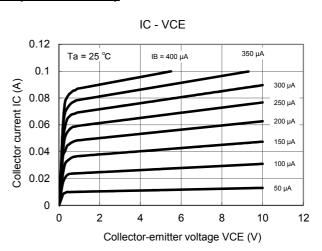
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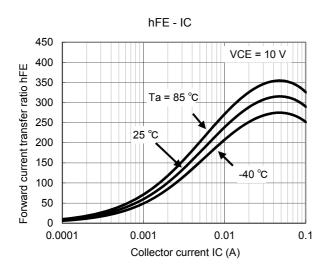
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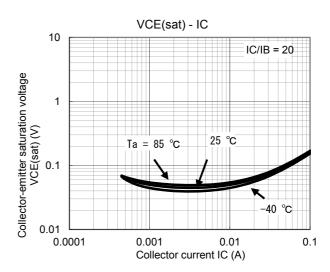
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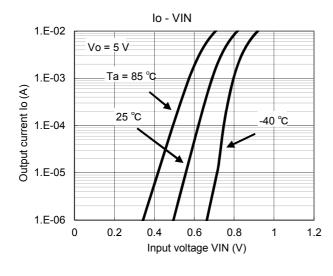
## Technical Data (reference)

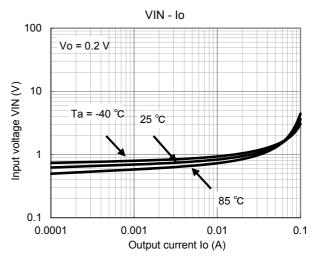












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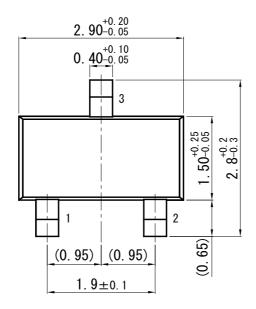
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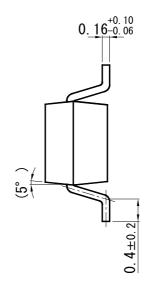
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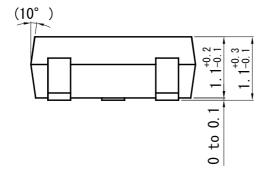
## Mini3-G3-B

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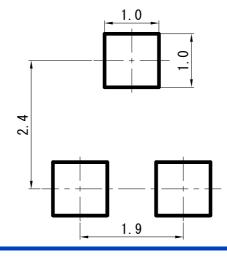
Unit: mm







#### ■ Land Pattern (Reference) (Unit: mm)



Established: 2009-10-29 Revised: 2014-03-18

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