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Revision. 3

Transistors with Built-in Resistor

DRA2114E0L

## **Panasonic**

## DRA2114E0L

## Silicon PNP epitaxial planar type

For digital circuits
Complementary to DRC2114E

#### ■ Features

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

■ Marking Symbol: LB

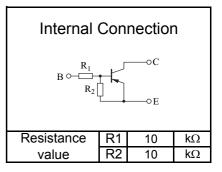
#### ■ Packaging

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

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			-0.5	mA
Forward current transfer ratio	hFE	VCE = -10 V, IC = -5 mA	35			-
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	-2.1			V
	Vi(off)	VCE = -5 V, IC = -100 μA			-0.8	V
Input resistance	R1		-30%	10	+30%	kΩ
Resistance ratio	R1/R2		0.8	1.0	1.2	-

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

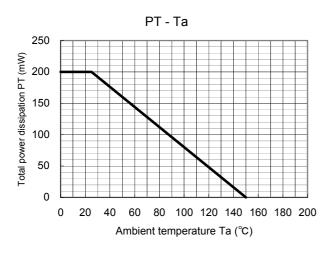
Established: 2009-10-29 Revised: 2014-01-20

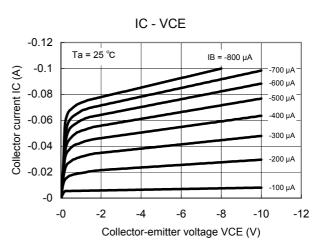
Transistors with Built-in Resistor

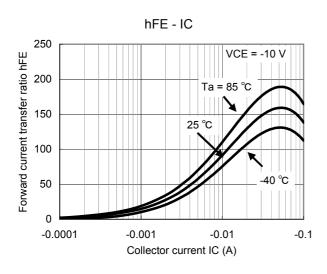
### DRA2114E0L

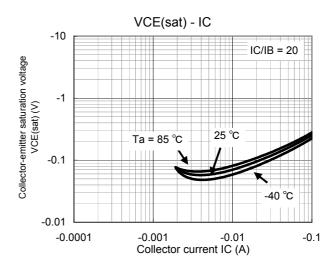
# **Panasonic**

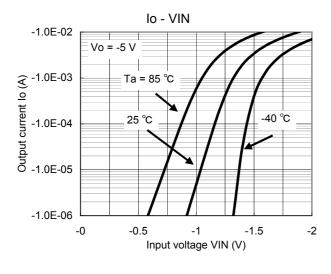
## Technical Data (reference)

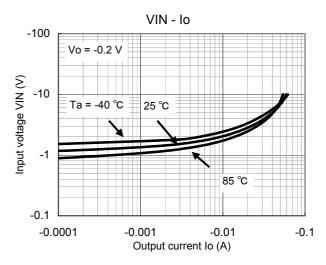












Established: 2009-10-29 Revised: 2014-01-20

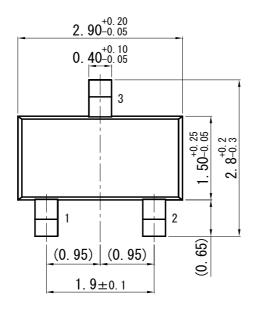
Transistors with Built-in Resistor

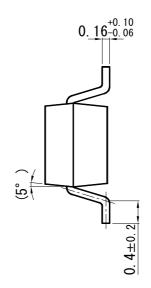
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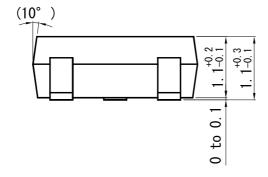
Mini3-G3-B

**Panasonic** 

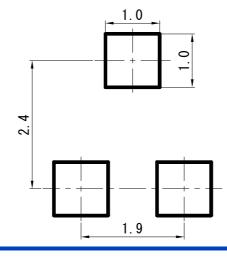
Unit: mm







■ Land Pattern (Reference) (Unit: mm)



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Established: 2009-10-29 Revised: 2014-01-20

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