Transistors with Built-in Resistor

DRC5114Y0L

DRC5114Y0L

Panasonic

Silicon NPN epitaxial planar type

For digital circuits
Complementary to DRA5114Y
DRC2114Y in SMini3 type package

■ Features

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

■ Marking Symbol: NC

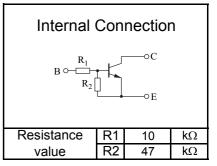
■ Packaging

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	150	mW
Junction temperature	Tj	150	°C
Operating ambient temperature	Topr	-40 to +85	°C
Storage temperature	Tstg	-55 to +150	°C

Unit: mm 2.0 0.3 0.13 25 2 0.9 (0.65)(0.65)1.3 1. Base 2. Emitter 3. Collector SMini3-F2-B Panasonic JEITA SC-85 Code



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

Established: 2009-10-15

Revised

: 2014-03-20

Symbol	Conditions	Min	Тур	Max	Unit
VCBO	IC = 10 μA, IE = 0	50			V
VCEO	IC = 2 mA, IB = 0	50			V
ICBO	VCB = 50 V, IE = 0			0.1	μA
ICEO	VCE = 50 V, IB = 0			0.5	μA
IEBO	VEB = 6 V, IC = 0			0.2	mA
hFE	VCE = 10 V, IC = 5 mA	80			-
VCE(sat)	IC = 10 mA, IB = 0.5 mA			0.25	V
Vi(on)	VCE = 0.2 V, IC = 5 mA	1.7			V
Vi(off)	VCE = 5 V, IC = 100 μA			0.5	V
R1		-30%	10	+30%	kΩ
R1/R2		0.17	0.21	0.25	-
	VCBO VCEO) ICBO) ICEO) IEBO hFE VCE(sat) Vi(on) Vi(off) R1	VCBO IC = 10 μA, IE = 0 VCEO IC = 2 mA, IB = 0) ICBO VCB = 50 V, IE = 0) ICEO VCE = 50 V, IB = 0) IEBO VEB = 6 V, IC = 0 hFE VCE = 10 V, IC = 5 mA VCE(sat) IC = 10 mA, IB = 0.5 mA Vi(on) VCE = 5 V, IC = 100 μA R1	VCBO IC = 10 μA, IE = 0 50 VCEO IC = 2 mA, IB = 0 50) ICBO VCB = 50 V, IE = 0 50) ICEO VCE = 50 V, IB = 0 50) IEBO VEB = 6 V, IC = 0 50 hFE VCE = 10 V, IC = 5 mA 80 VCE(sat) IC = 10 mA, IB = 0.5 mA 1.7 Vi(on) VCE = 5 V, IC = 100 μA 1.7 Vi(off) VCE = 5 V, IC = 100 μA -30%	VCBO IC = 10 μA, IE = 0 50 VCEO IC = 2 mA, IB = 0 50) ICBO VCB = 50 V, IE = 0 50) ICEO VCE = 50 V, IB = 0 50) IEBO VEB = 6 V, IC = 0 50 hFE VCE = 10 V, IC = 5 mA 80 VCE(sat) IC = 10 mA, IB = 0.5 mA 1.7 Vi(on) VCE = 0.2 V, IC = 5 mA 1.7 Vi(off) VCE = 5 V, IC = 100 μA -30% 10	VCBO IC = 10 μA, IE = 0 50 VCEO IC = 2 mA, IB = 0 50) ICBO VCB = 50 V, IE = 0 0.1) ICEO VCE = 50 V, IB = 0 0.5) IEBO VEB = 6 V, IC = 0 0.2 hFE VCE = 10 V, IC = 5 mA 80 VCE(sat) IC = 10 mA, IB = 0.5 mA 0.25 Vi(on) VCE = 0.2 V, IC = 5 mA 1.7 Vi(off) VCE = 5 V, IC = 100 μA 0.5 R1 -30% 10 +30%

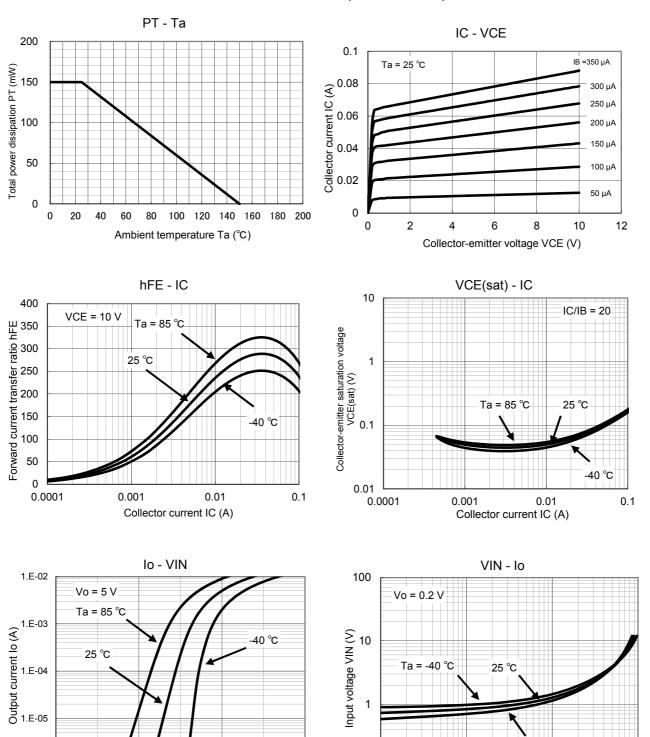
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 Measuring methods for transistors.

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Technical Data (reference)



0.1

0.0001

1.5

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0.1

85 ℃

Output current lo (A)

0.001

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0.5

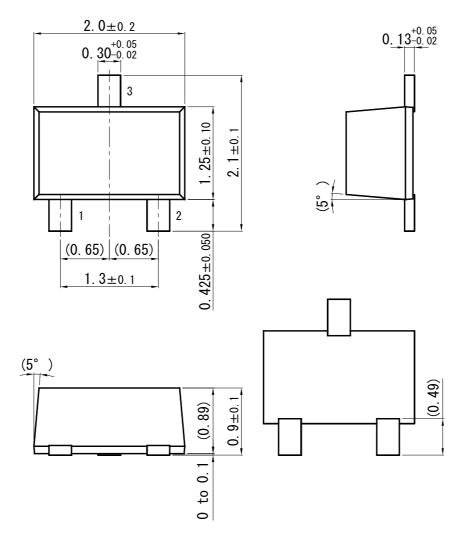
Input voltage VIN (V)

1.E-06

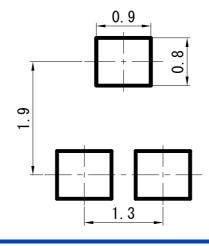
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SMini3-F2-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



Established: 2009-10-15 Revised: 2014-03-20

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