

DRC5114E

Silicon NPN epitaxial planar type

For digital circuits

Complementary to DRA5114E

DRC2114E in SMini3 type package

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Halogen-free / RoHS compliant
(EU RoHS / UL-94 V-0 / MSL: Level 1 compliant)

■ Marking Symbol: NB

■ Packaging

DRC5114E0L Embossed type (Thermo-compression sealing): 3 000 pcs / reel (standard)

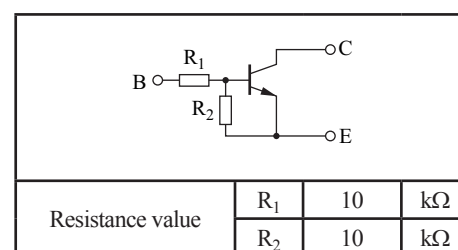
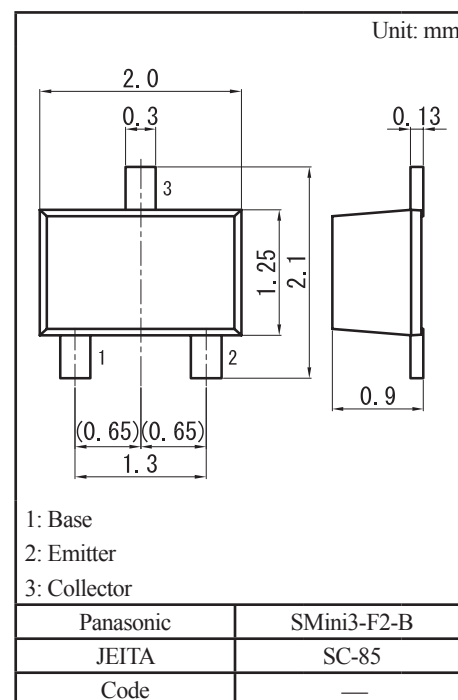
■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

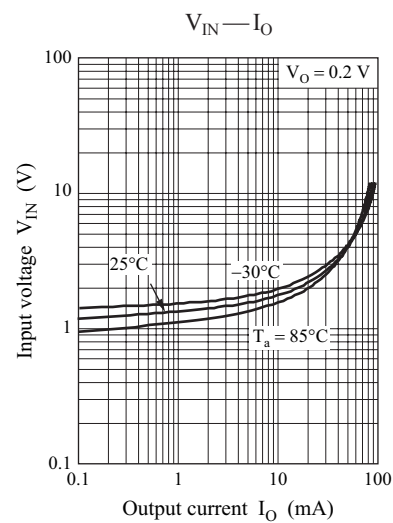
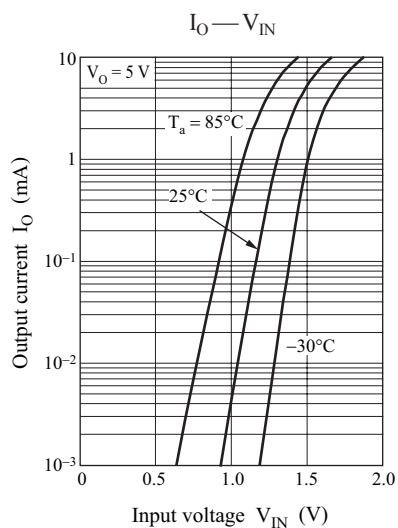
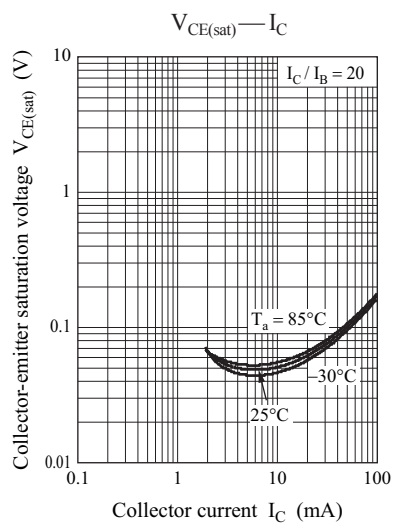
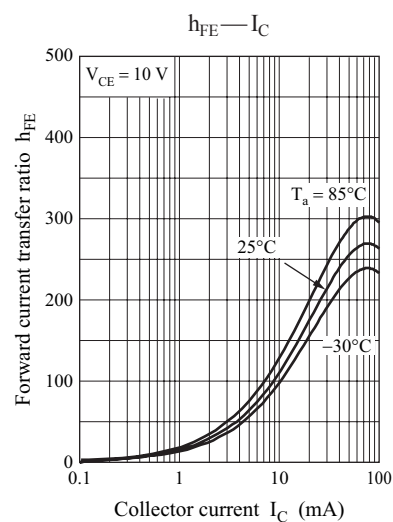
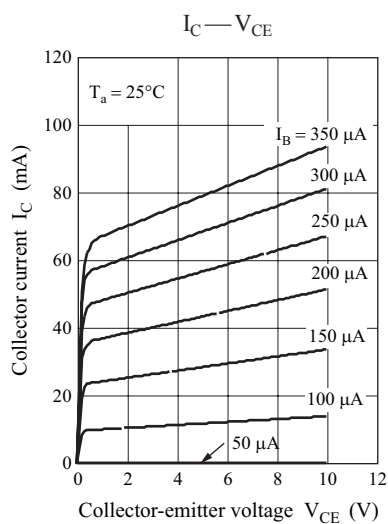
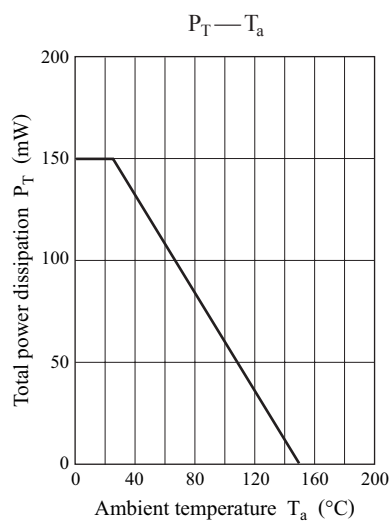
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	50	V
Collector-emitter voltage (Base open)	V_{CEO}	50	V
Collector current	I_C	100	mA
Total power dissipation	P_T	150	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10\ \mu\text{A}$, $I_E = 0$	50			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 2\ \text{mA}$, $I_B = 0$	50			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 50\ \text{V}$, $I_E = 0$			0.1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = 50\ \text{V}$, $I_B = 0$			0.5	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 6\ \text{V}$, $I_C = 0$			0.5	mA
Forward current transfer ratio	h_{FE}	$V_{CE} = 10\ \text{V}$, $I_C = 5\ \text{mA}$	35			—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10\ \text{mA}$, $I_B = 0.5\ \text{mA}$			0.25	V
Input voltage (ON)	$V_{I(on)}$	$V_{CE} = 0.2\ \text{V}$, $I_C = 5\ \text{mA}$	2.1			V
Input voltage (OFF)	$V_{I(off)}$	$V_{CE} = 5\ \text{V}$, $I_C = 100\ \mu\text{A}$			0.8	V
Input resistance	R_1		-30%	10	+30%	k Ω
Resistance ratio	R_1 / R_2		0.8	1.0	1.2	—

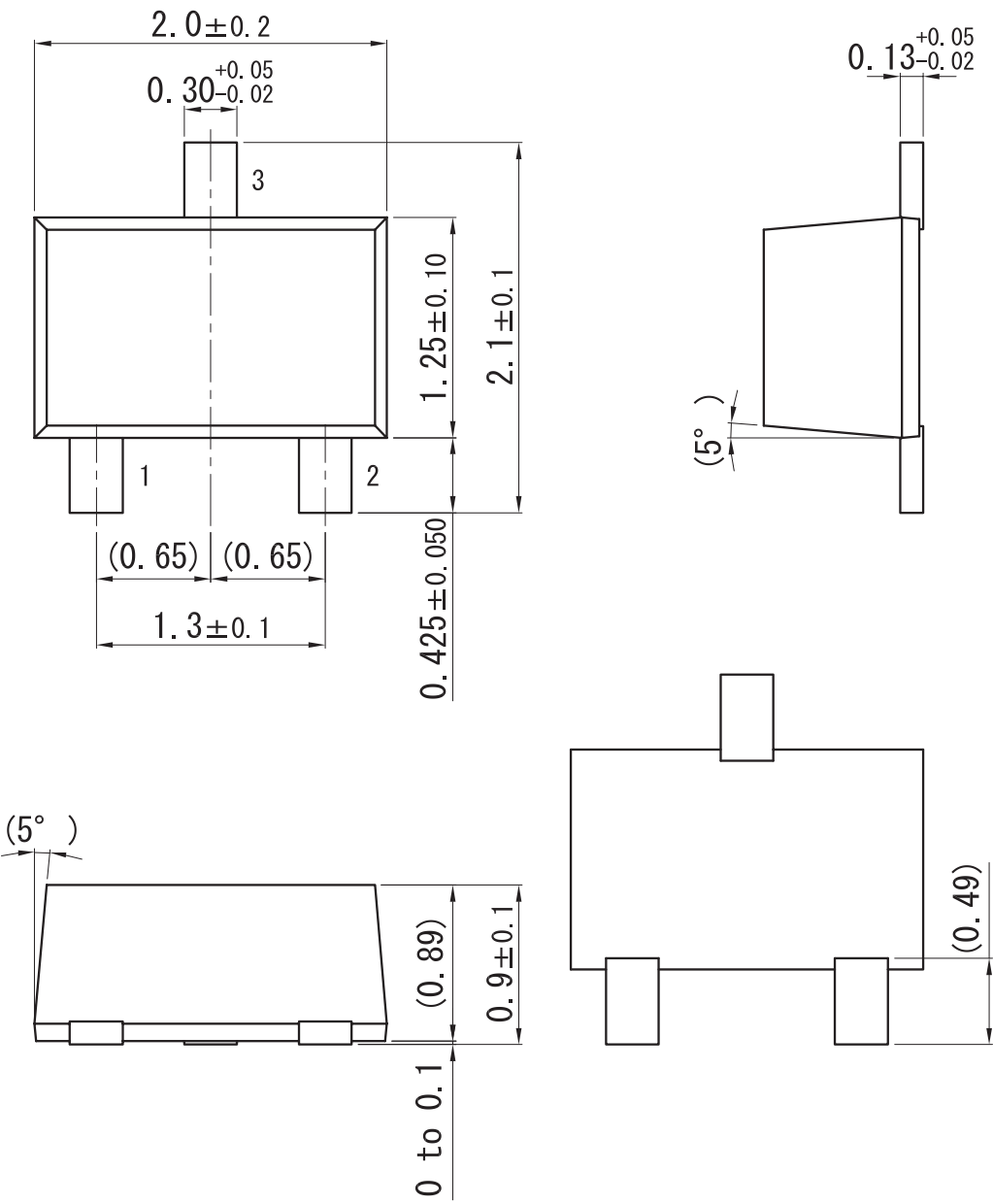
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.



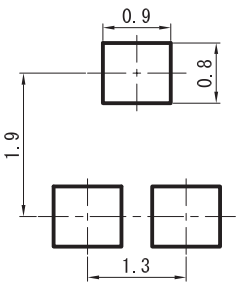


SMini3-F2-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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