

Transistors with Built-in Resistor

DRC3144W0L

Panasonic

DRC3144W0L

Silicon NPN epitaxial planar type

For digital circuits

Complementary to DRA3144W

DRC9144W in SSSMini3 type package

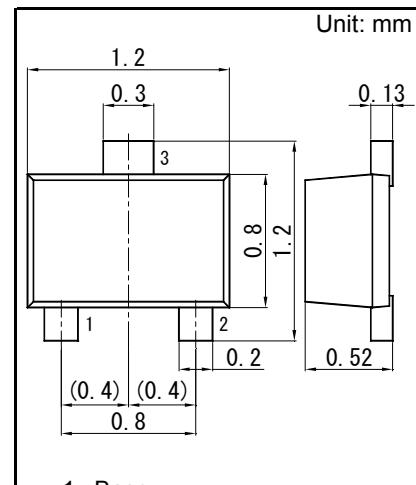
■ Features

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

■ Marking Symbol: NK

■ Packaging

Embossed type (Thermo-compression sealing) : 10 000 pcs / reel (standard)



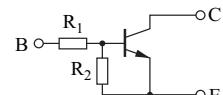
1. Base
2. Emitter
3. Collector

Panasonic	SSSSMini3-F2-B
JEITA	SC-105AA
Code	SOT-723

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

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	100	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Operating ambient temperature	T_{opr}	-40 to +85	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Internal Connection



Resistance value	R1	47	k Ω
	R2	22	k Ω

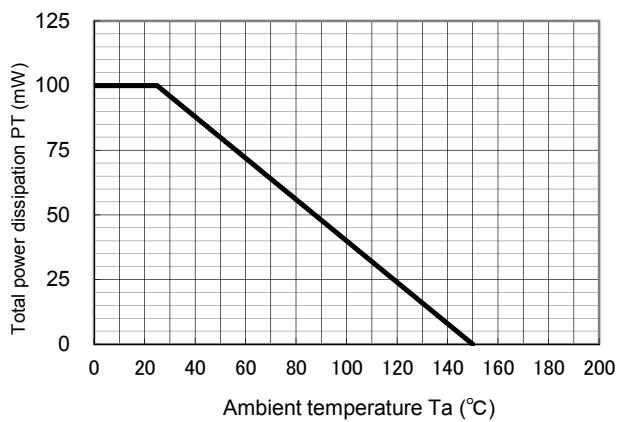
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$VCBO$	$IC = 10 \mu\text{A}$, $IE = 0$	50			V
Collector-emitter voltage (Base open)	$VCEO$	$IC = 2 \text{ mA}$, $IB = 0$	50			V
Collector-base cutoff current (Emitter open)	$ICBO$	$VCB = 50 \text{ V}$, $IE = 0$			0.1	μA
Collector-emitter cutoff current (Base open)	$ICEO$	$VCE = 50 \text{ V}$, $IB = 0$			0.5	μA
Emitter-base cutoff current (Collector open)	$IEBO$	$VEB = 6 \text{ V}$, $IC = 0$			0.2	mA
Forward current transfer ratio	hFE	$VCE = 10 \text{ V}$, $IC = 5 \text{ mA}$	60			-
Collector-emitter saturation voltage	$VCE(sat)$	$IC = 10 \text{ mA}$, $IB = 0.5 \text{ mA}$			0.25	V
Input voltage	$Vi(\text{on})$	$VCE = 0.2 \text{ V}$, $IC = 5 \text{ mA}$	4.4			V
	$Vi(\text{off})$	$VCE = 5 \text{ V}$, $IC = 100 \mu\text{A}$			1.2	V
Input resistance	R1		-30%	47	+30%	k Ω
Resistance ratio	R1/R2		1.70	2.14	2.60	-

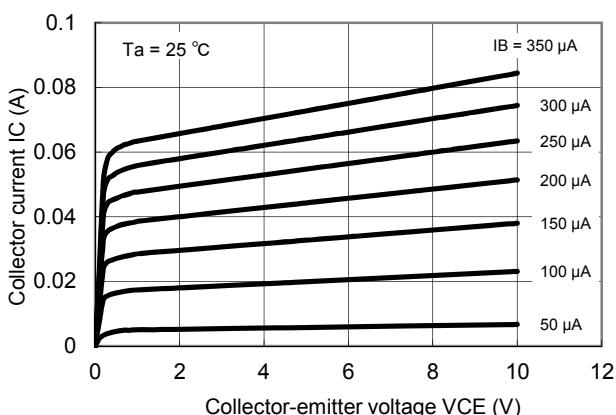
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 Measuring methods for transistors.

Technical Data (reference)

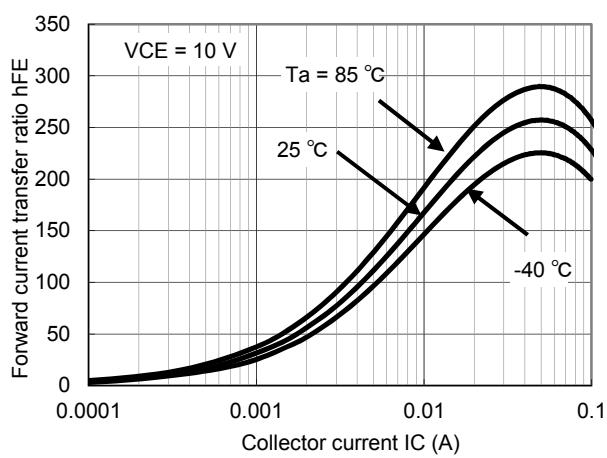
PT - Ta



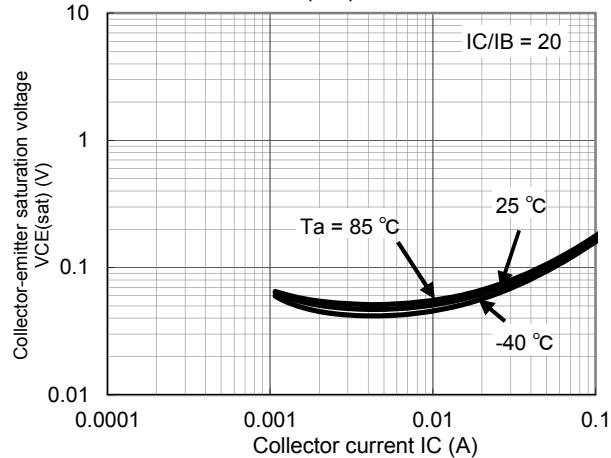
IC - VCE



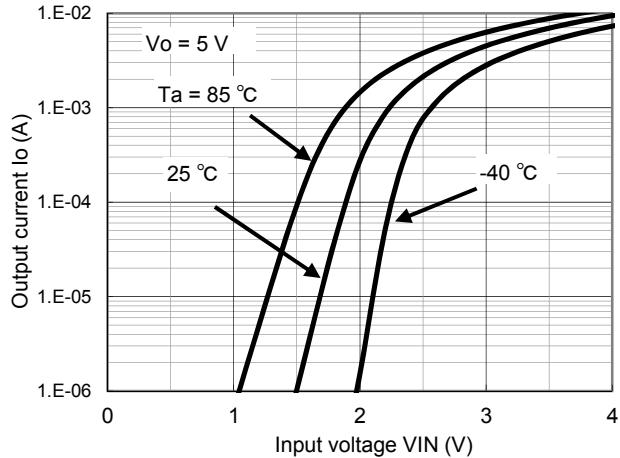
hFE - IC



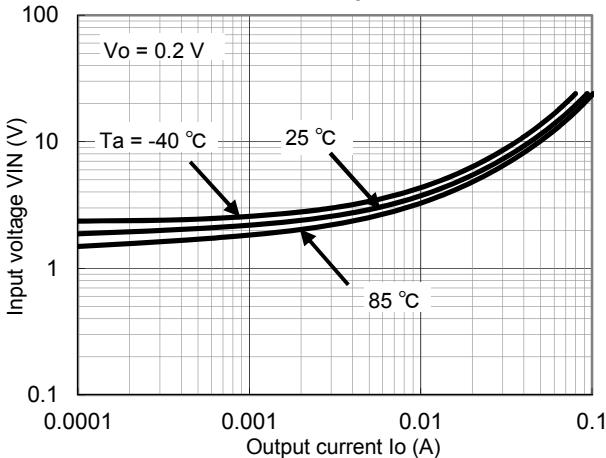
VCE(sat) - IC

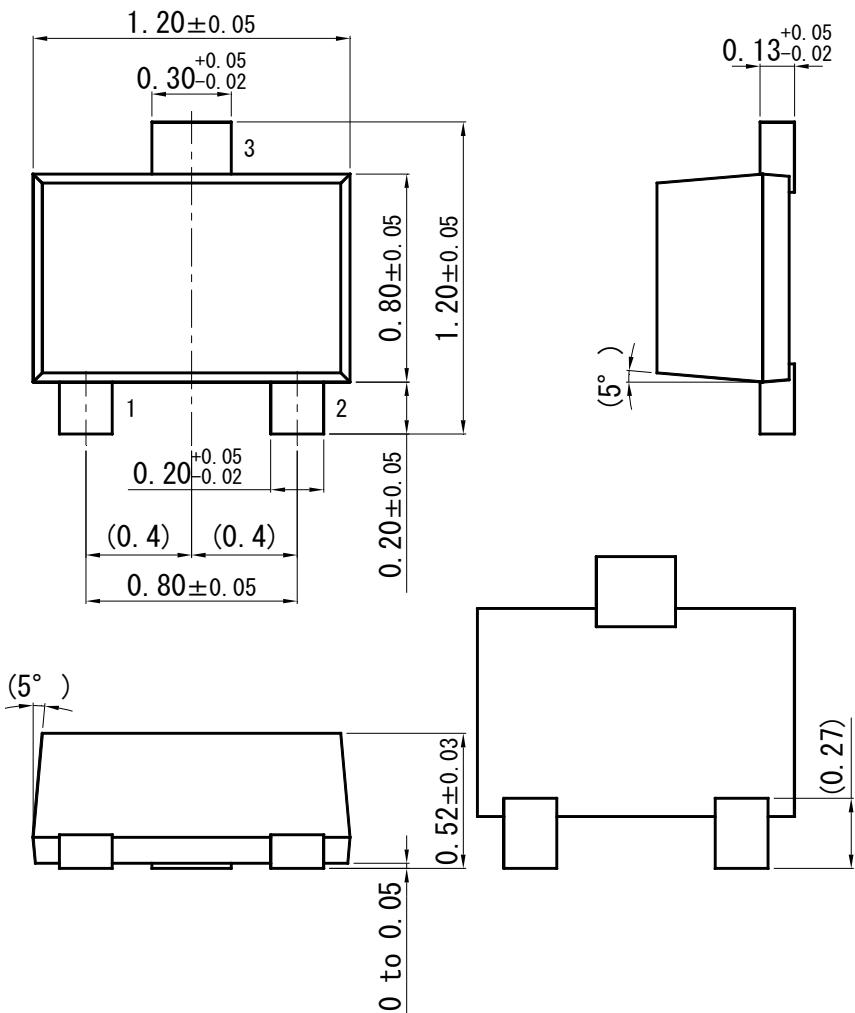


Io - VIN

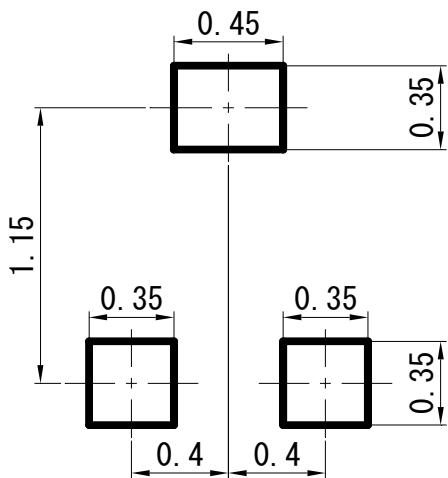


VIN - Io





■ Land Pattern (Reference) (Unit: mm)



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