



DRC2113Z0L

Silicon NPN epitaxial planar type

For digital circuits

Complementary to DRA2113Z

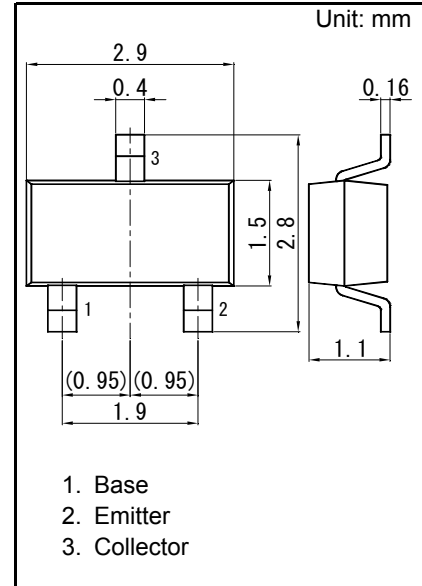
■ Features

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

■ Marking Symbol: N1

■ Packaging

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

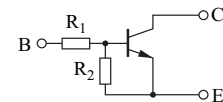


Panasonic	Mini3-G3-B
JEITA	SC-59A
Code	TO-236AA/SOT-23

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

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	200	mW
Junction temperature	Tj	150	$^{\circ}\text{C}$
Operating ambient temperature	Topr	-40 to +85	$^{\circ}\text{C}$
Storage temperature	Tstg	-55 to +150	$^{\circ}\text{C}$

Internal Connection



Resistance value	R1	1	k Ω
	R2	10	k Ω

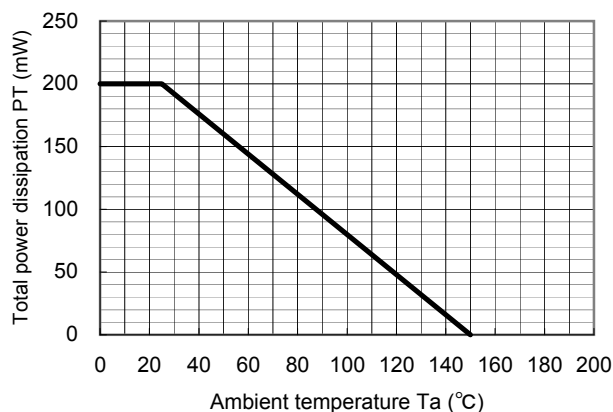
■ Electrical Characteristics $T_a = 25\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$

Parameter	Symbol	Conditions	Min	Typ	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	μA
Collector-emitter cutoff current (Base open)	ICEO	VCE = 50 V, IB = 0			0.5	μA
Emitter-base cutoff current (Collector open)	IEBO	VEB = 6 V, IC = 0			1.5	mA
Forward current transfer ratio	hFE	VCE = 10 V, IC = 5 mA	30			-
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	1.0			V
	Vi(off)	VCE = 5 V, IC = 100 μA			0.4	V
Input resistance	R1		-30%	1	+30%	k Ω
Resistance ratio	R1/R2		0.08	0.1	0.12	-

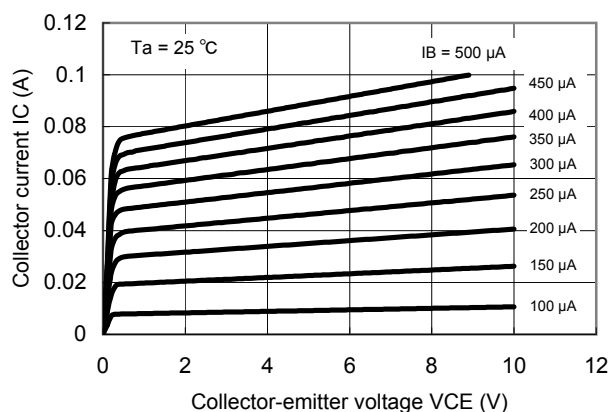
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 Measuring methods for transistors.

Technical Data (reference)

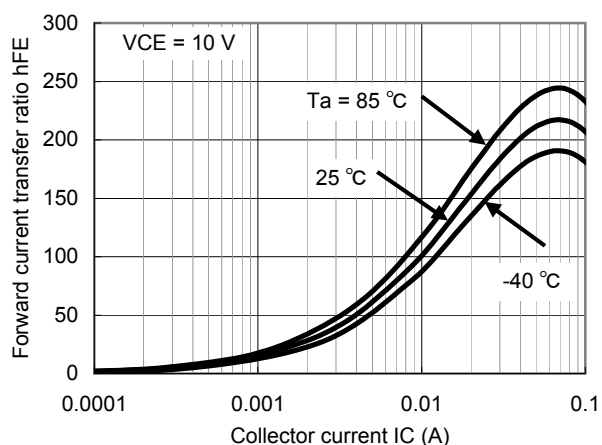
PT - Ta



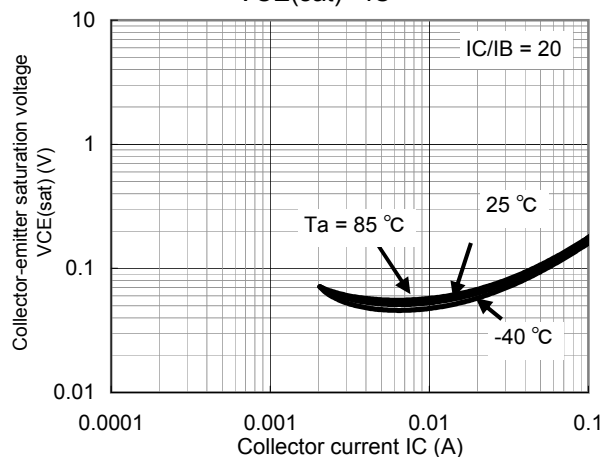
IC - VCE



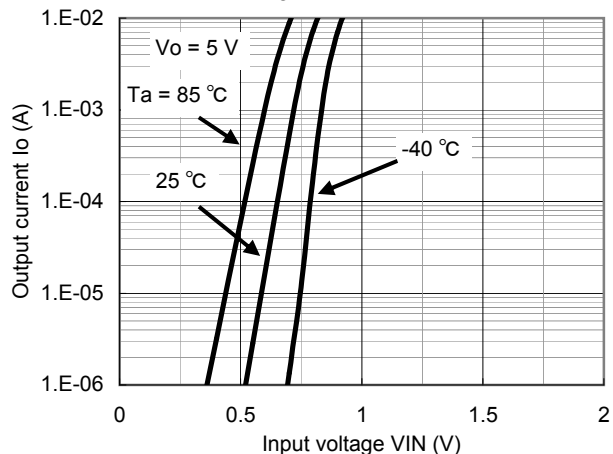
hFE - IC



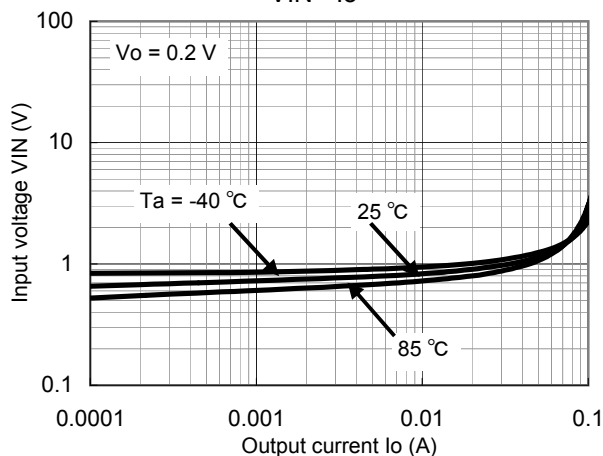
VCE(sat) - IC



Io - VIN



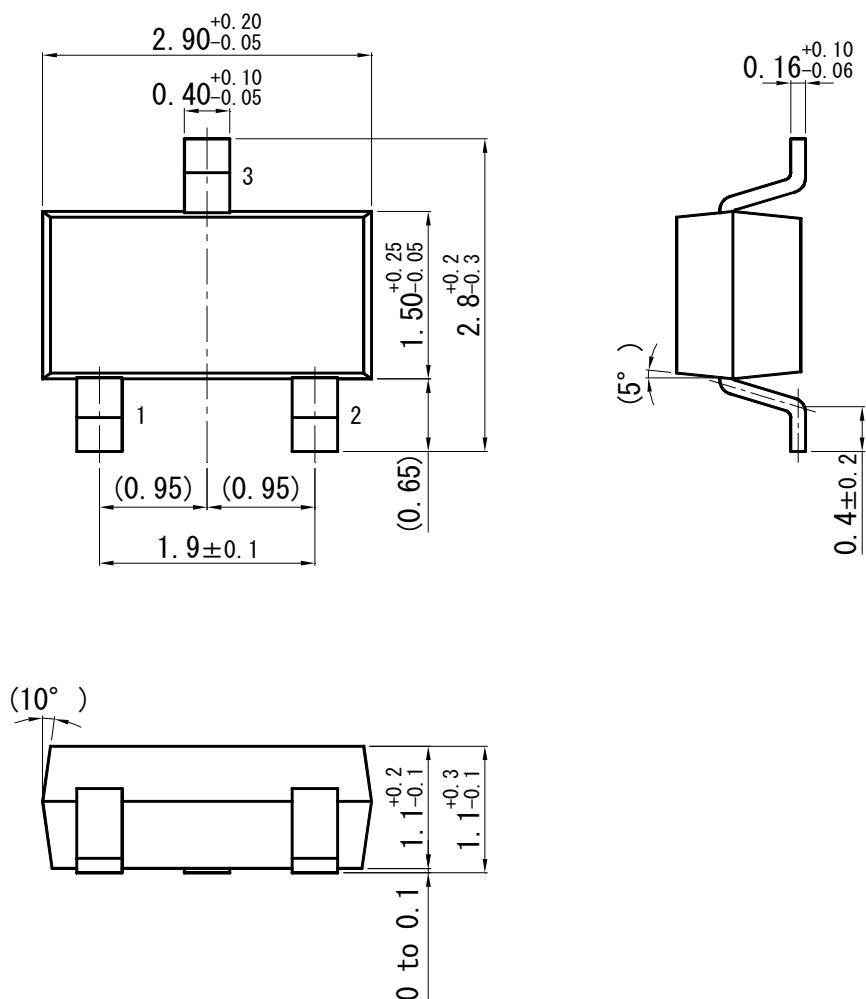
VIN - Io



Panasonic

Mini3-G3-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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