



# 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)

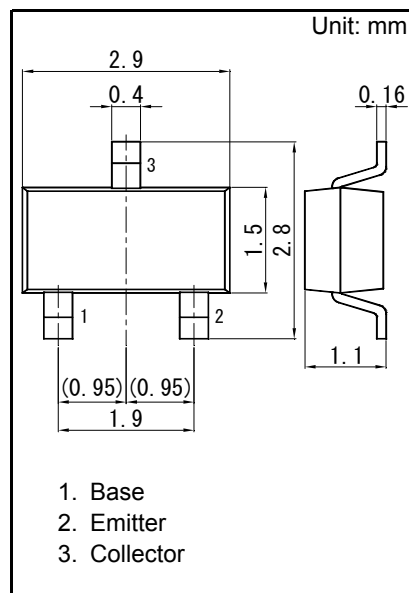
■ Marking Symbol: N1

■ Packaging

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

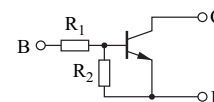
■ Absolute Maximum Ratings  $T_a = 25\text{ }^\circ\text{C}$

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



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

Internal Connection



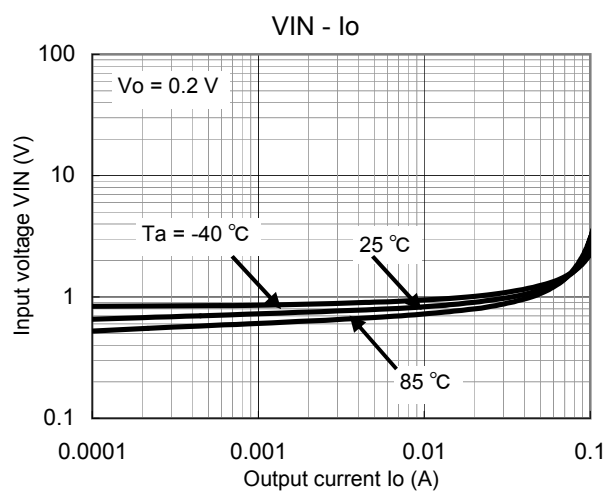
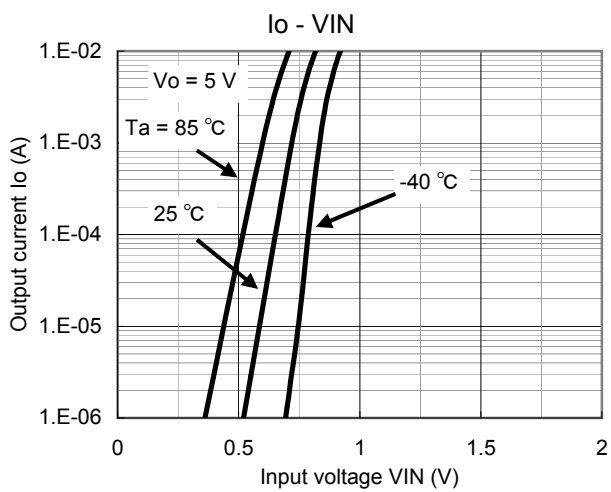
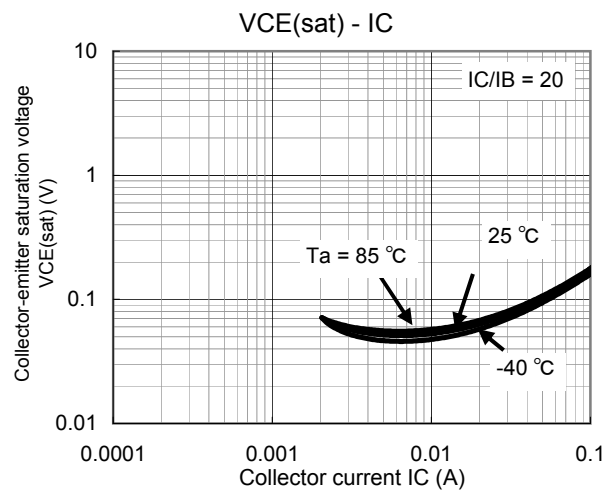
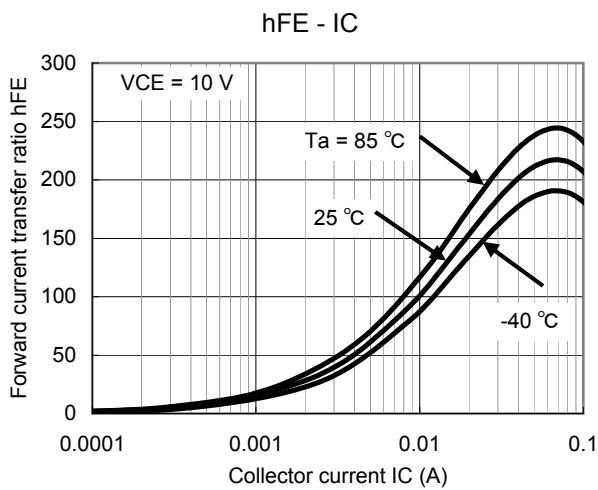
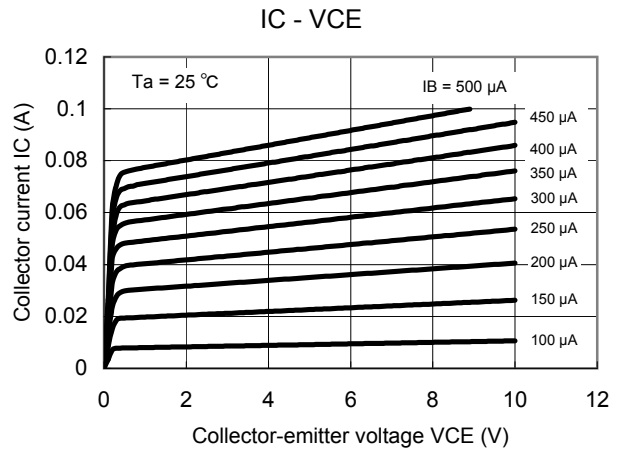
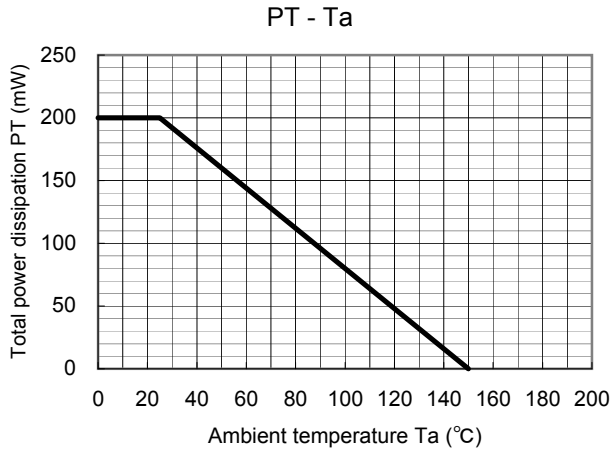
Resistance value	R1	1	kΩ
	R2	10	kΩ

■ 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%	kΩ
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.

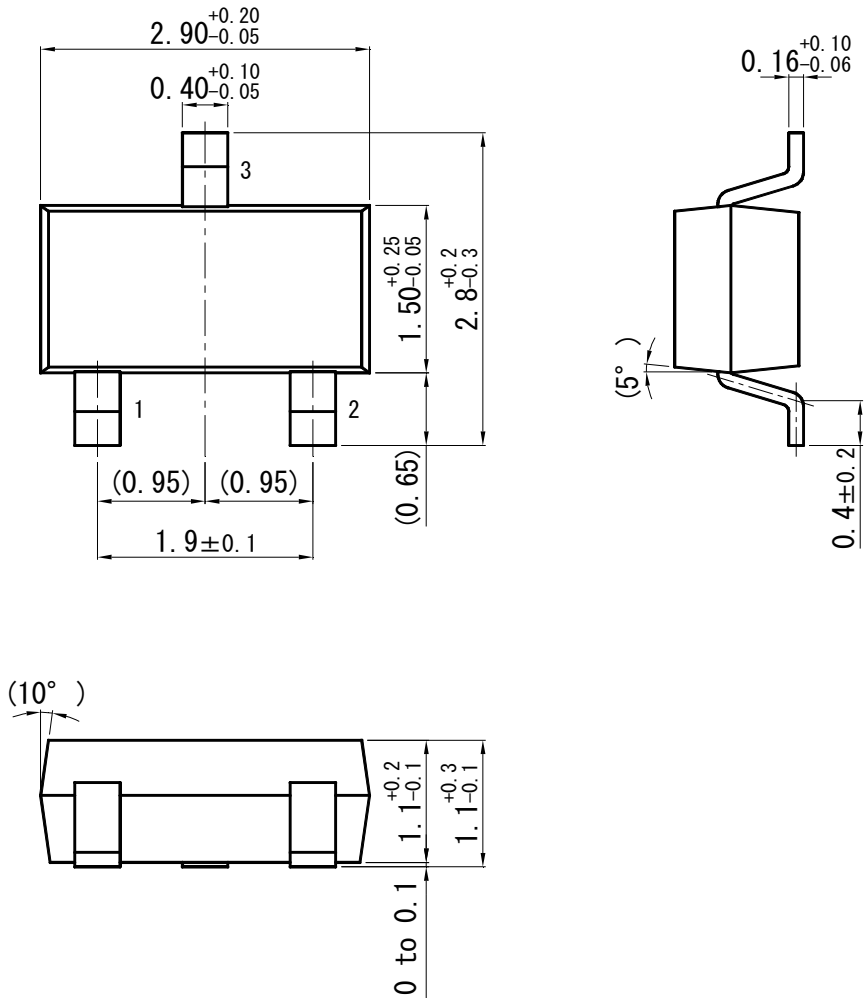
Technical Data ( reference )



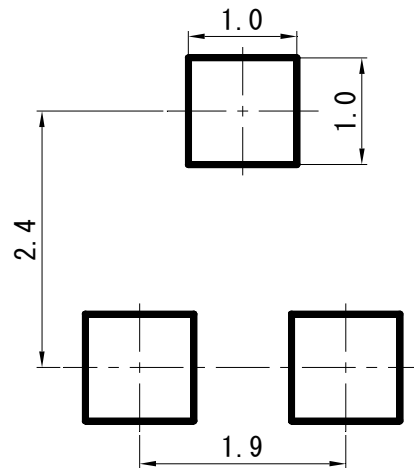


### Mini3-G3-B

Unit: mm



#### ■ Land Pattern (Reference) (Unit: mm)





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