



## DRA9113Z0L

Silicon PNP epitaxial planar type

For digital circuits

Complementary to DRC9113Z

DRA5113Z in SSMini3 type package

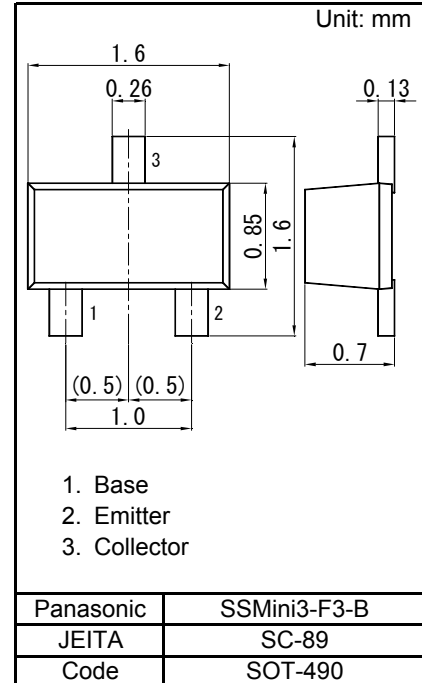
### ■ Features

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

### ■ Marking Symbol: L1

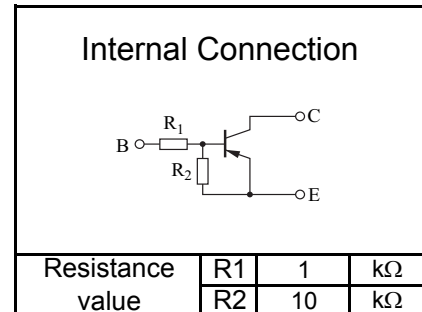
### ■ Packaging

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



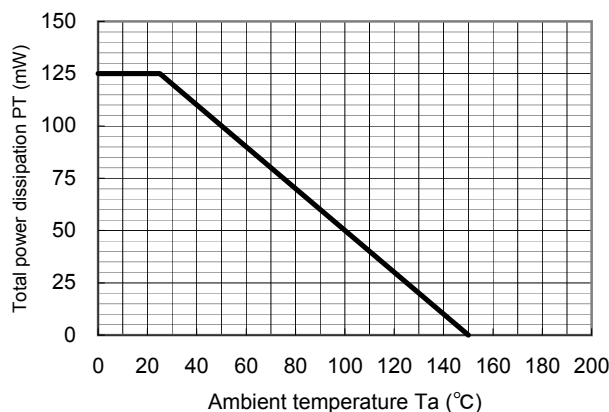
### ■ Electrical Characteristics $T_a = 25\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	VCBO	IC = -10 $\mu\text{A}$ , 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	$\mu\text{A}$
Collector-emitter cutoff current (Base open)	ICEO	VCE = -50 V, IB = 0			-0.5	$\mu\text{A}$
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 $\mu\text{A}$			-0.4	V
Input resistance	R1		-30%	1	+30%	k $\Omega$
Resistance ratio	R1/R2		0.08	0.10	0.12	-

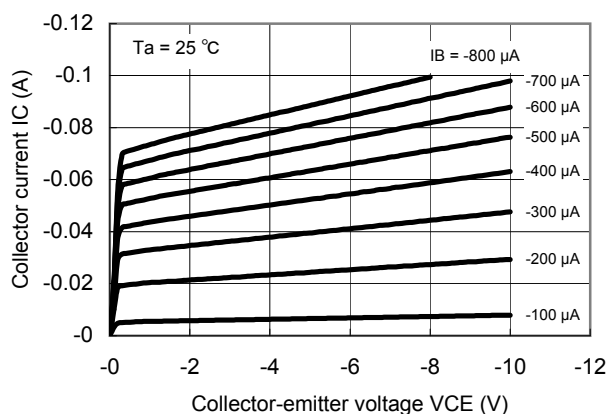
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 Measuring methods for transistors.

Technical Data ( reference )

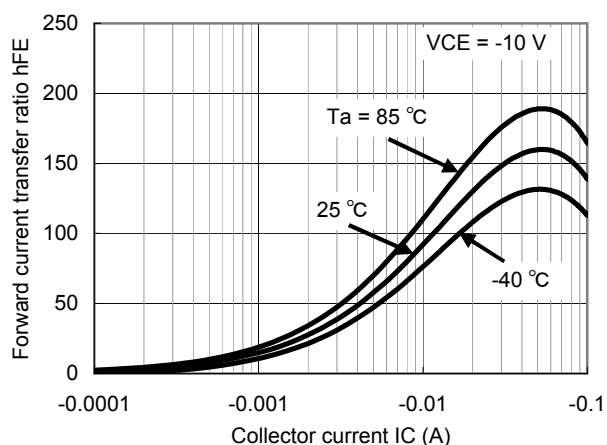
PT - Ta



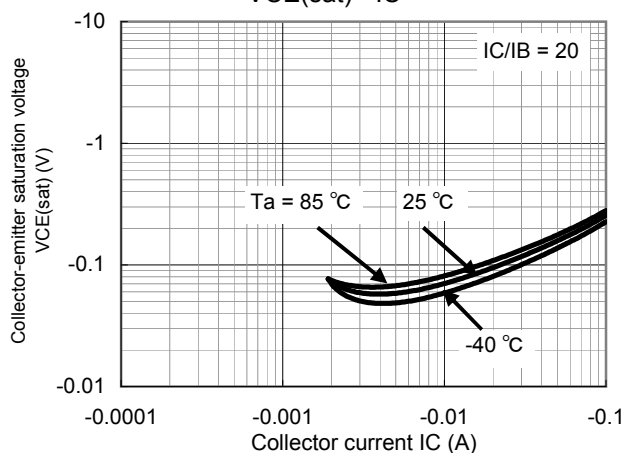
IC - VCE



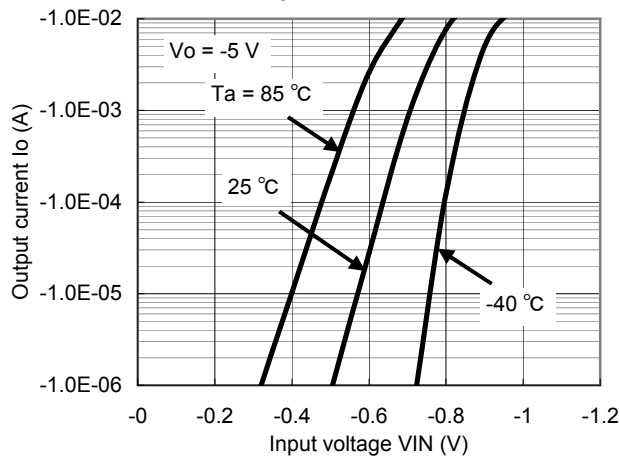
hFE - IC



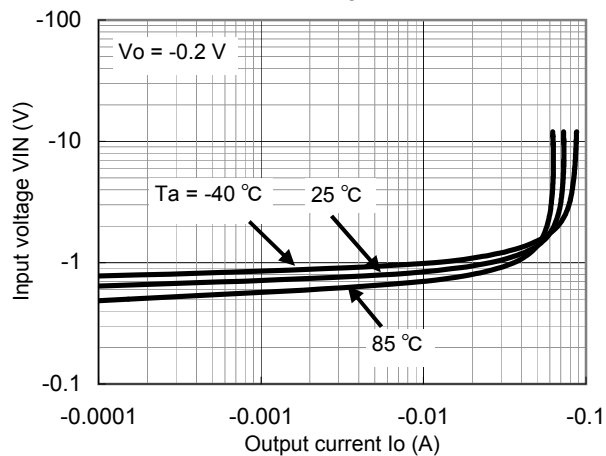
VCE(sat) - IC



Io - VIN



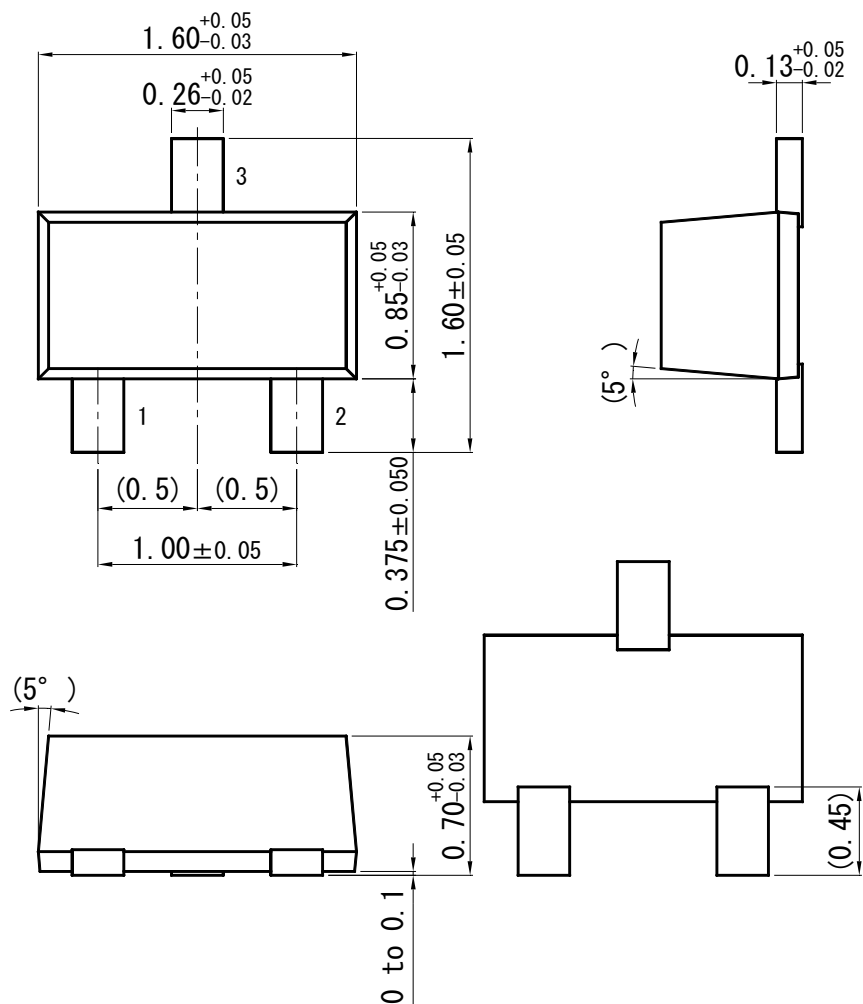
VIN - Io



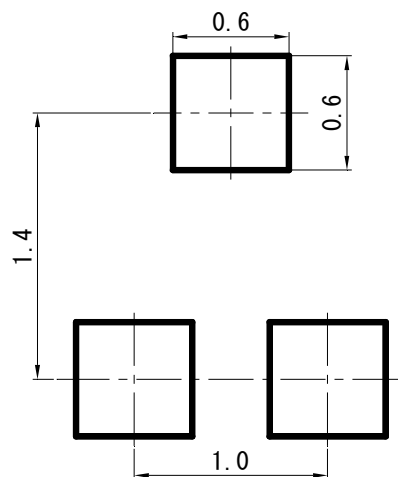
**Panasonic**

SSMini3-F3-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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