



DRA9113Z0L

Silicon PNP epitaxial planar type

For digital circuits

Complementary to DRC9113Z

DRA5113Z in SSMini3 type package

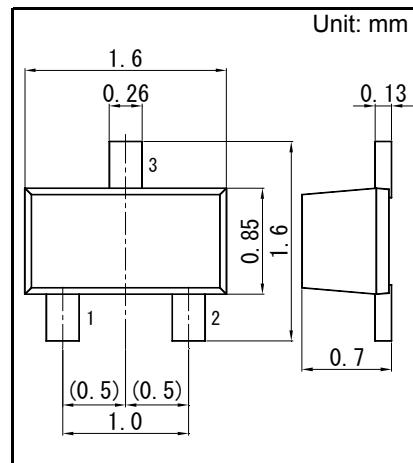
■ Features

- 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)



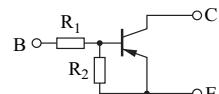
1. Base
2. Emitter
3. Collector

Panasonic	SSMini3-F3-B
JEITA	SC-89
Code	SOT-490

■ 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	125	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



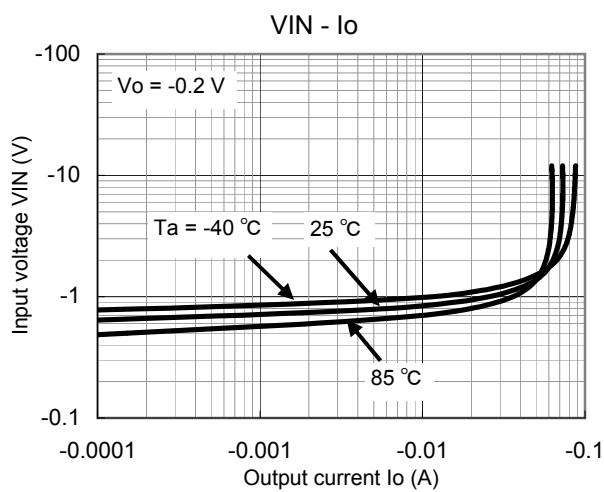
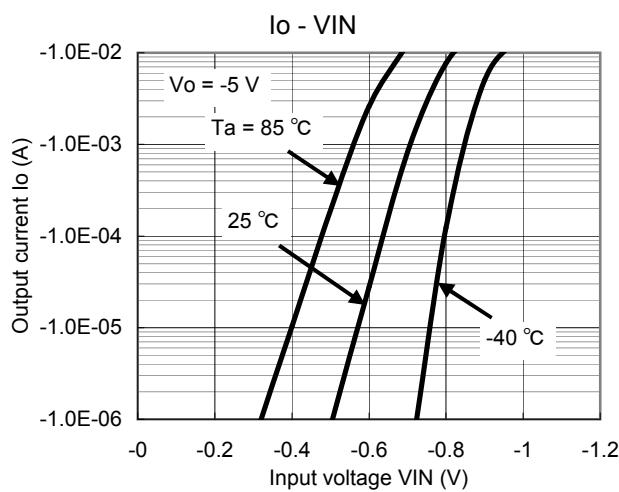
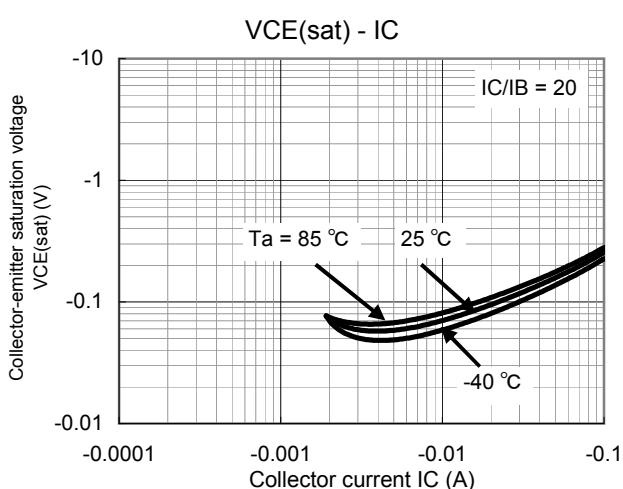
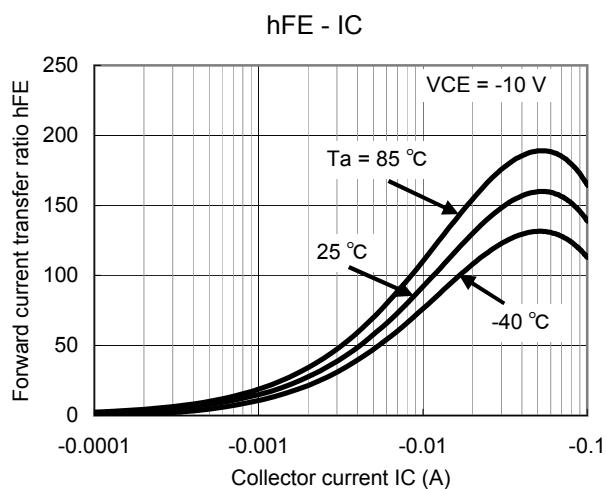
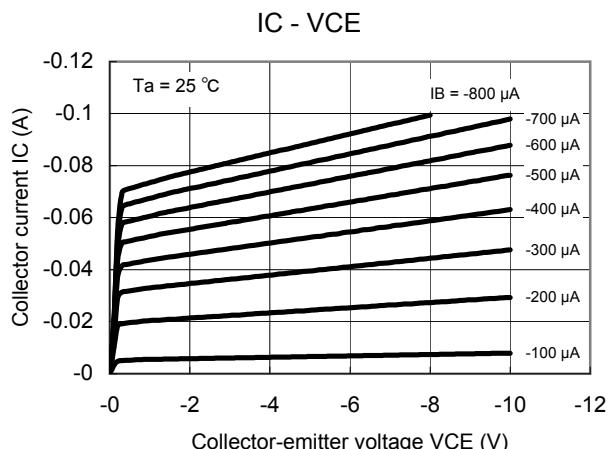
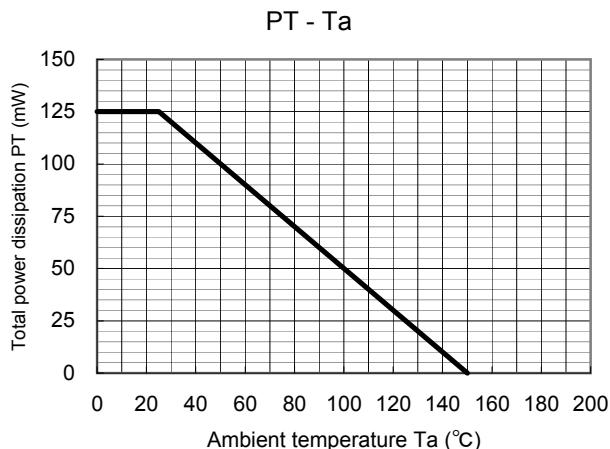
Resistance value	R1	1	k Ω
	R2	10	k Ω

■ 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)	$IEBO$	$VEB = -6 \text{ V}$, $IC = 0$			-1.5	mA
Forward current transfer ratio	hFE	$VCE = -10 \text{ V}$, $IC = -5 \text{ mA}$	30			-
Collector-emitter saturation voltage	$VCE(sat)$	$IC = -10 \text{ mA}$, $IB = -0.5 \text{ mA}$			-0.25	V
Input voltage	$Vi(\text{on})$	$VCE = -0.2 \text{ V}$, $IC = -5 \text{ mA}$	-1.0			V
	$Vi(\text{off})$	$VCE = -5 \text{ V}$, $IC = -100 \mu\text{A}$			-0.4	V
Input resistance	R1		-30%	1	+30%	k Ω
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.

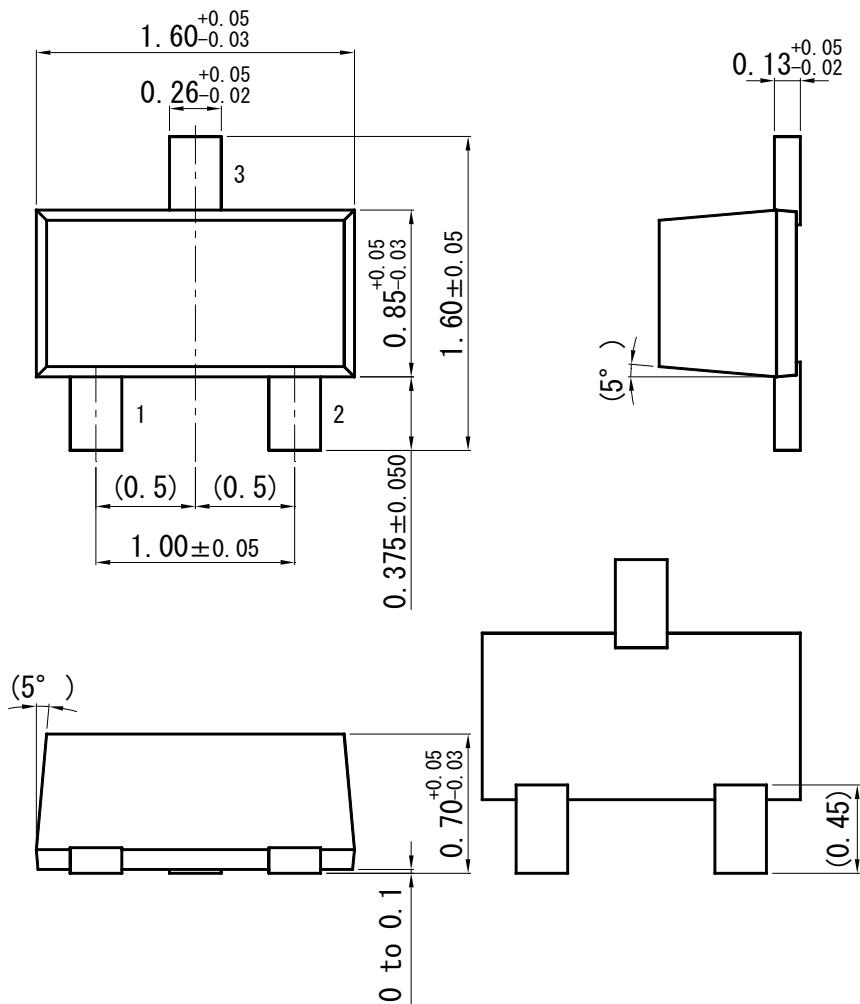
Technical Data (reference)



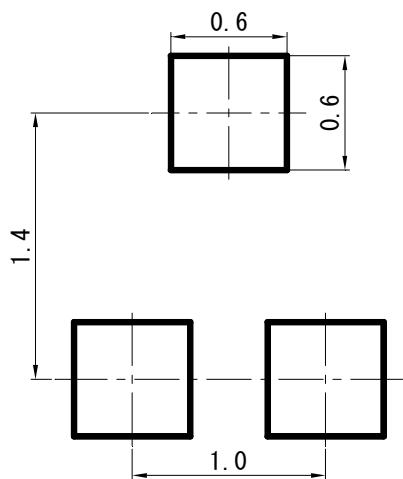
Panasonic

SSMini3-F3-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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