

# DRA5A13Z

## Silicon PNP epitaxial planar type

For digital circuits

Complementary to DRC5A13Z

### ■ Features

- Low collector-emitter saturation voltage  $V_{CE(sat)}$
- Contributes to miniaturization of sets, reduction of component count.
- Eco-friendly Halogen-free package

### ■ Packaging

Embossed type (Thermo-compression sealing): 3000 pcs / reel (standard)

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

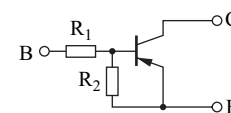
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	-50	V
Collector-emitter voltage (Base open)	$V_{CEO}$	-50	V
Collector current	$I_C$	-80	mA
Total power dissipation	$P_T$	150	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

### ■ Package

- Code  
SMini3-F2-B
- Pin Name  
1: Base  
2: Emitter  
3: Collector

### ■ Marking Symbol: G2

### ■ Internal Connection

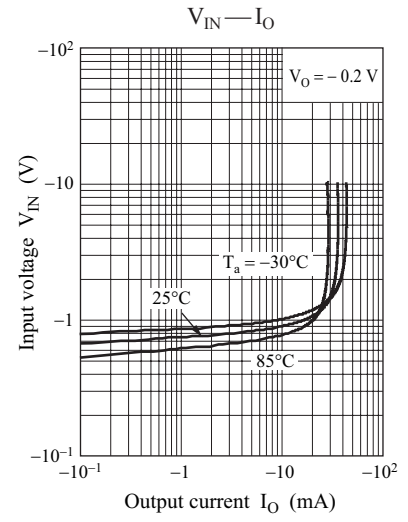
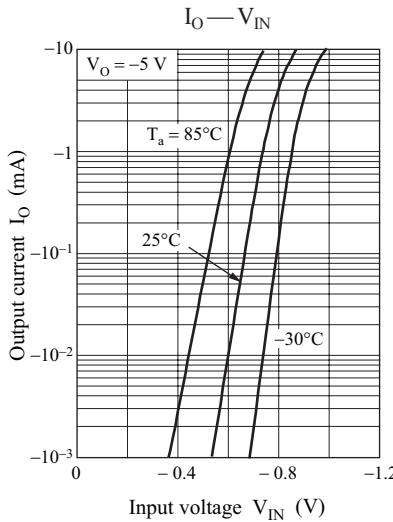
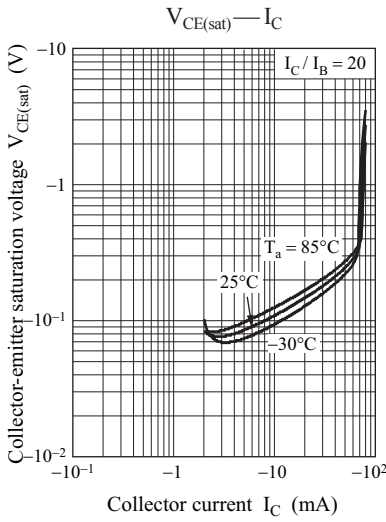
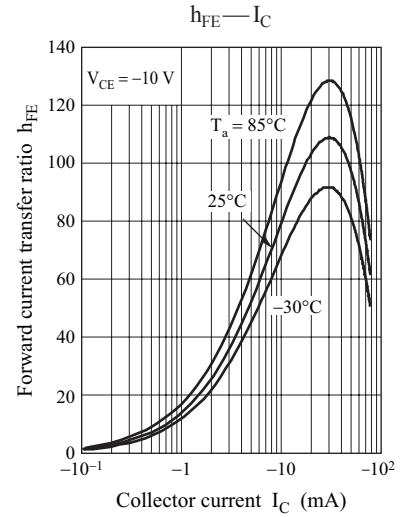
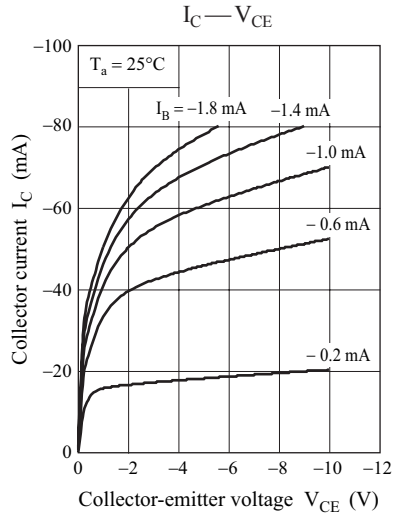
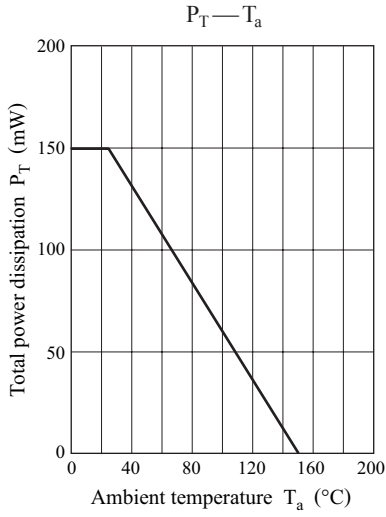


Resistance value	$R_1$	1	k $\Omega$
	$R_2$	10	k $\Omega$

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

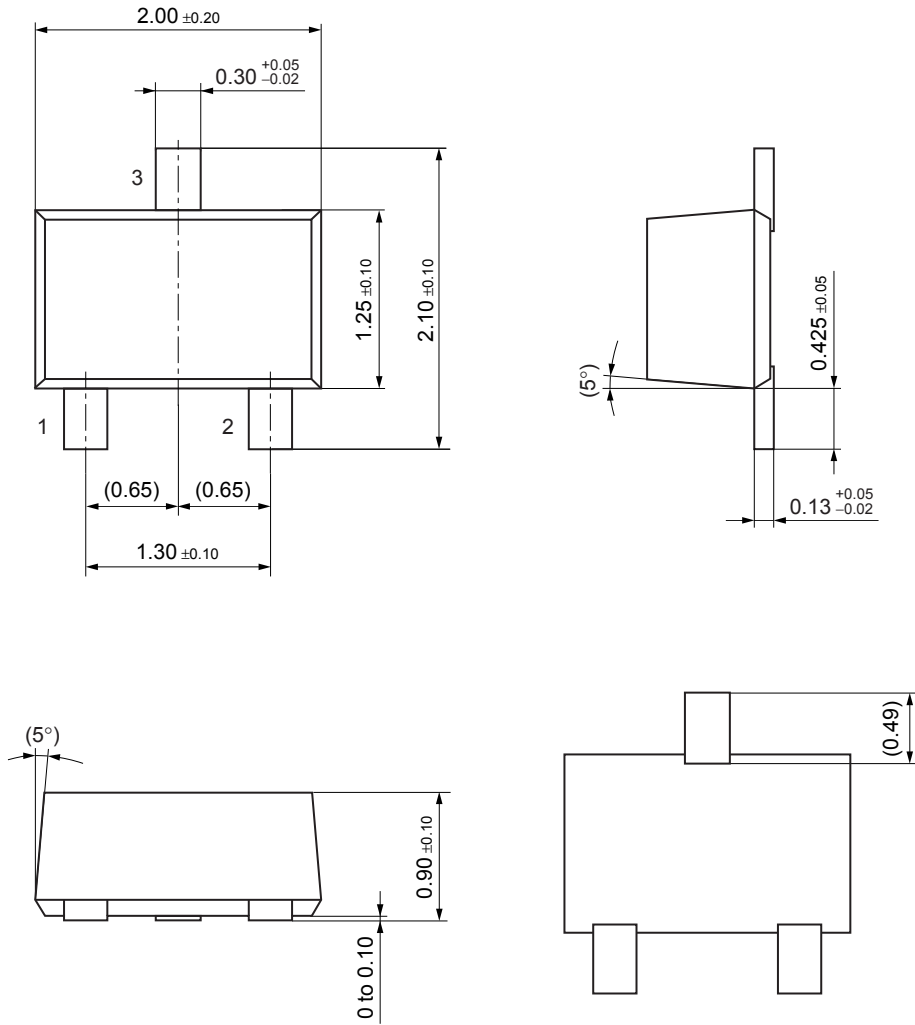
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = -10 \mu\text{A}, I_E = 0$	-50			V
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = -2 \text{mA}, I_B = 0$	-50			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = -50 \text{V}, I_E = 0$			-0.1	$\mu\text{A}$
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = -50 \text{V}, I_B = 0$			-0.5	$\mu\text{A}$
Emitter-base cutoff current (Collector open)	$I_{EBO}$	$V_{EB} = -6 \text{V}, I_C = 0$			-1.5	mA
Forward current transfer ratio	$h_{FE}$	$V_{CE} = -10 \text{V}, I_C = -5 \text{mA}$	30			—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10 \text{mA}, I_B = -0.5 \text{mA}$			-0.25	V
Input voltage (ON)	$V_{I(on)}$	$V_{CE} = -0.2 \text{V}, I_C = -5 \text{mA}$	-1.0			V
Input voltage (OFF)	$V_{I(off)}$	$V_{CE} = -5 \text{V}, I_C = -100 \mu\text{A}$			-0.4	V
Input resistance	$R_1$		-30%	1	+30%	k $\Omega$
Resistance ratio	$R_1 / R_2$		0.08	0.10	0.12	—

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



SMini3-F2-B

Unit: mm



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