

# DMC56201

## Silicon NPN epitaxial planar type

For digital circuits

### ■ Features

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

### ■ Basic Part Number

Dual DRC2114E (Common base)

### ■ Packaging

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

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

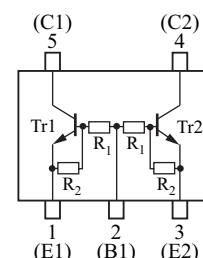
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	50	V
Collector-emitter voltage (Base open)	$V_{CEO}$	50	V
Collector current	$I_C$	100	mA
Total power dissipation	$P_T$	150	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

### ■ Package

- Code  
SMini5-F3-B
- Pin Name  
1: Emitter (Tr1)      4: Collector (Tr2)  
2: Base (Common)    5: Collector (Tr1)  
3: Emitter (Tr2)

### ■ Marking Symbol: E2

### ■ Internal Connection



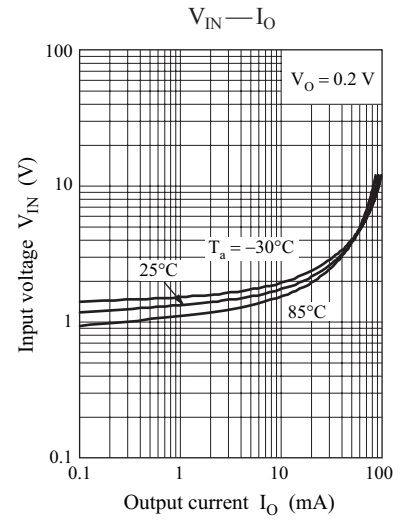
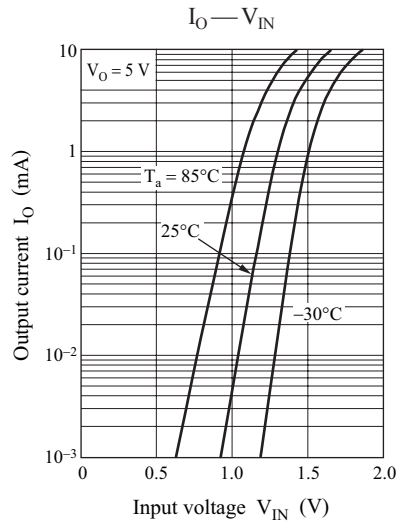
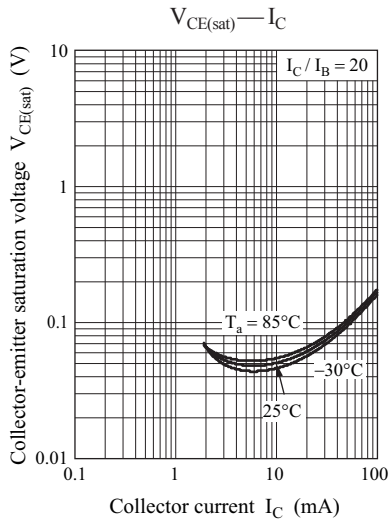
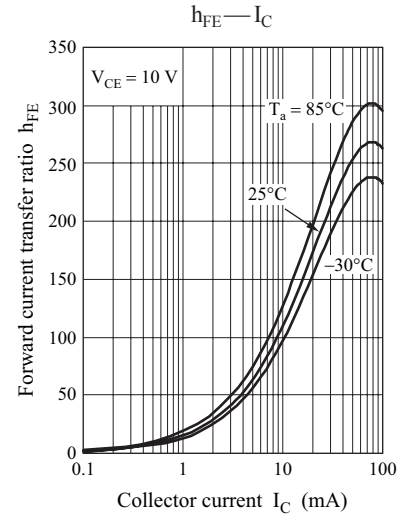
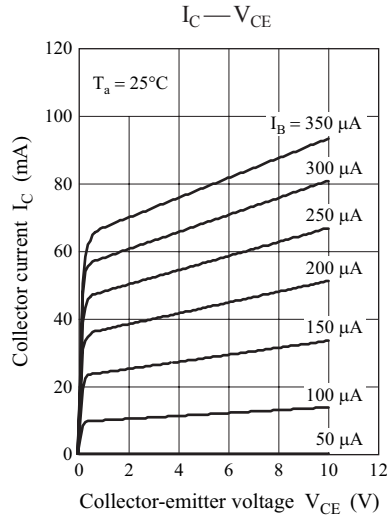
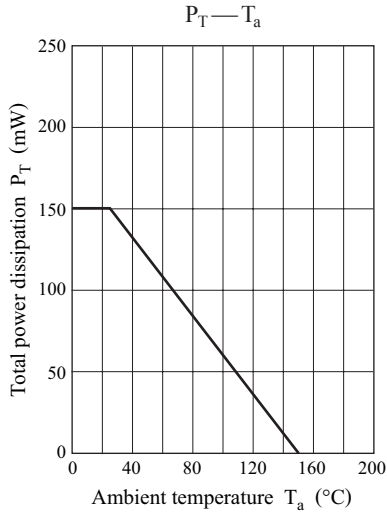
Resistance value	$R_1$	10	$\text{k}\Omega$
	$R_2$	10	$\text{k}\Omega$

### ■ 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)	$I_{EBO}$	$V_{EB} = 6 \text{V}, I_C = 0$			0.5	mA
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 10 \text{V}, I_C = 5 \text{mA}$	35			—
$h_{FE}$ ratio *	$h_{FE}$ (Small/Large)	$V_{CE} = 10 \text{V}, I_C = 5 \text{mA}$	0.50	0.99		—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10 \text{mA}, I_B = 0.5 \text{mA}$			0.25	V
Input voltage (ON)	$V_{I(on)}$	$V_{CE} = 0.2 \text{V}, I_C = 5 \text{mA}$	2.1			V
Input voltage (OFF)	$V_{I(off)}$	$V_{CE} = 5 \text{V}, I_C = 100 \mu\text{A}$			0.8	V
Input resistance	$R_1$		-30%	10	+30%	$\text{k}\Omega$
Resistance ratio	$R_1 / R_2$		0.8	1.0	1.2	—

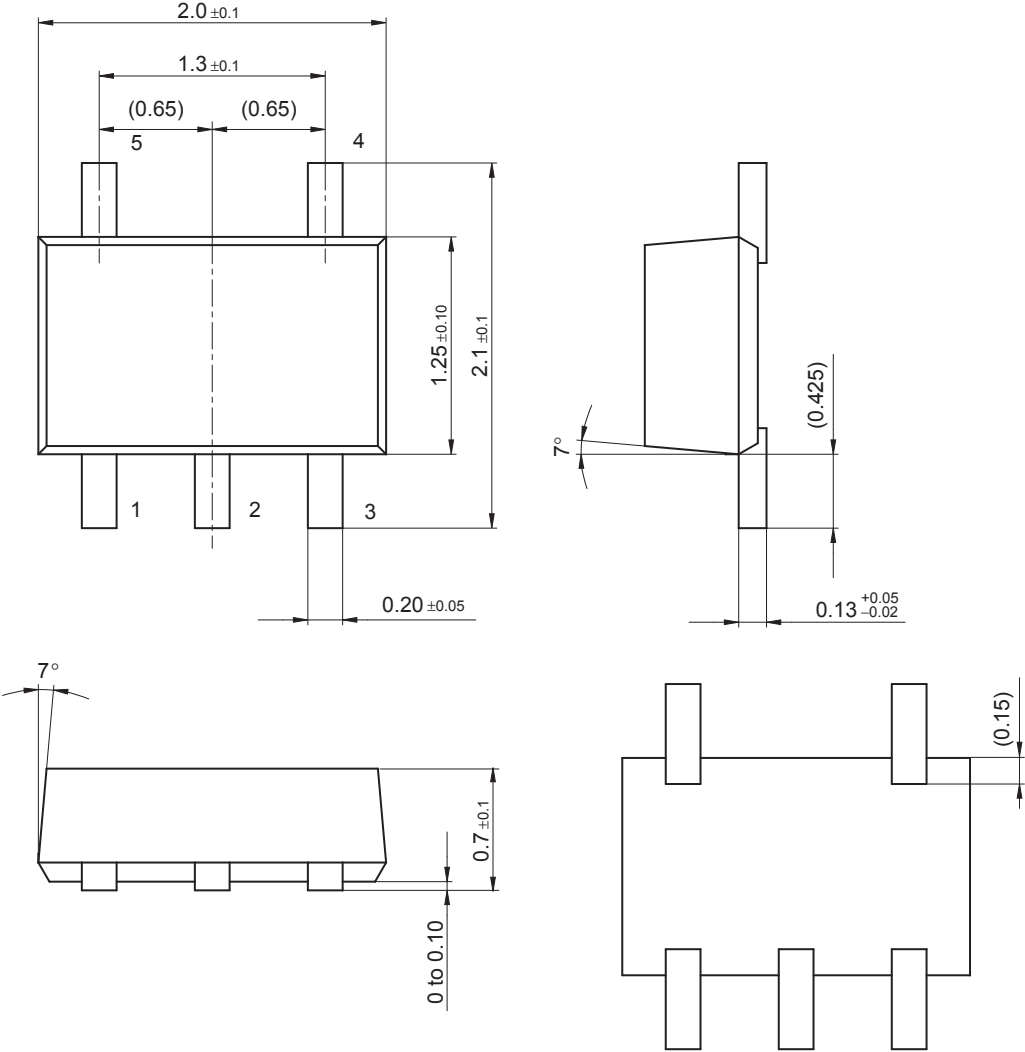
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*: Ratio between 2 elements



SMini5-F3-B

Unit: mm



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