# DMC56104

### Silicon NPN epitaxial planar type

#### For digital circuits

DMC26104 in SMini5 type package

#### Features

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

#### Basic Part Number

Dual DRC2114Y (Common emitter)

#### Packaging

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

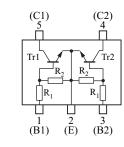
#### Absolute Maximum Ratings $T_a = 25^{\circ}C$

Parameter	Symbol	Rating	Unit	
Collector-base voltage (Emitter open)	V <sub>CBO</sub>	50	V	
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	50	V	
Collector current	I <sub>C</sub> 100		mA	
Total power dissipation	P <sub>T</sub>	150	mW	
Junction temperature	Tj	T <sub>j</sub> 150		
Storage temperature	T <sub>stg</sub>	-55 to +150	°C	

#### Package

- Code
- SMini5-F3-B
- Pin Name
  - 1: Base (Tr1) 4: Collector (Tr2)
  - 2: Emitter (Common) 5: Collector (Tr1)
  - 3: Base (Tr2)
- Marking Symbol: J2

#### Internal Connection



Resistance value	R <sub>1</sub>	10	kΩ
	R <sub>2</sub>	47	kΩ

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

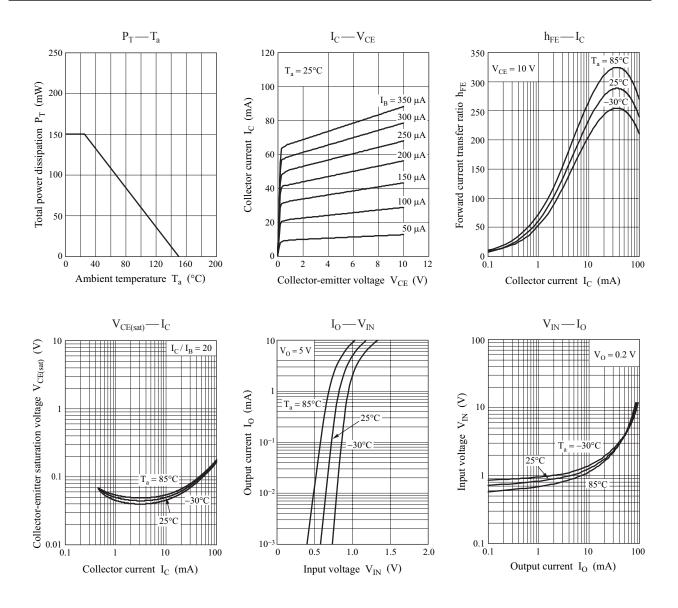
Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage (Emitter open)	V <sub>CBO</sub>	$I_{\rm C} = 10 \ \mu {\rm A}, I_{\rm E} = 0$	50			V
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	$I_{\rm C} = 2  {\rm mA},  I_{\rm B} = 0$	50			V
Collector-base cutoff current (Emitter open)	I <sub>CBO</sub>	$V_{CB} = 50 \text{ V}, I_E = 0$			0.1	μΑ
Collector-emitter cutoff current (Base open)	I <sub>CEO</sub>	$V_{CE} = 50 \text{ V}, I_{B} = 0$			0.5	μΑ
Emitter-base cutoff current (Collector open)	I <sub>EBO</sub>	$V_{\rm EB} = 6  \rm V,  I_{\rm C} = 0$			0.2	mA
Forward current transfer ratio	h <sub>FE</sub>	$V_{CE} = 10 \text{ V}, I_C = 5 \text{ mA}$	80			
h <sub>FE</sub> ratio *	h <sub>FE</sub> (Small/Large)	$V_{CE} = 10 \text{ V}, I_C = 5 \text{ mA}$	0.50	0.99		_
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	$I_{\rm C} = 10 \text{ mA}, I_{\rm B} = 0.5 \text{ mA}$			0.25	V
Input voltage (ON)	V <sub>I(on)</sub>	$V_{CE} = 0.2 \text{ V}, I_C = 5 \text{ mA}$	1.7			V
Input voltage (OFF)	V <sub>I(off)</sub>	$V_{CE} = 5 \text{ V}, I_C = 100 \mu\text{A}$			0.5	V
Input resistance	R <sub>1</sub>		-30%	10	+30%	kΩ
Resistance ratio	R <sub>1</sub> / R <sub>2</sub>		0.17	0.21	0.25	

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

2. \*: Ratio between 2 elements

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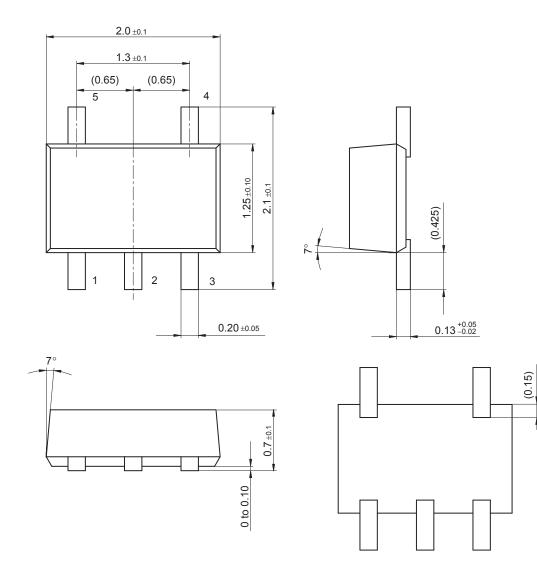
### **Panasonic**



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SMini5-F3-B

Unit: mm



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