# DRC2144E

### Silicon NPN epitaxial planar type

#### For digital circuits

Complementary to DRA2144E

#### Features

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

#### Packaging

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

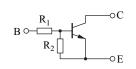
#### Absolute Maximum Ratings $T_a = 25^{\circ}C$

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>	200	mW	
Junction temperature	Tj	150	°C	
Storage temperature	T <sub>stg</sub>	-55 to +150	°C	

- Package
- Code
- Mini3-G3-B
- Pin Name
- 1: Base
- 2: Emitter
- 3: Collector

Marking Symbol: NL

Internal Connection



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

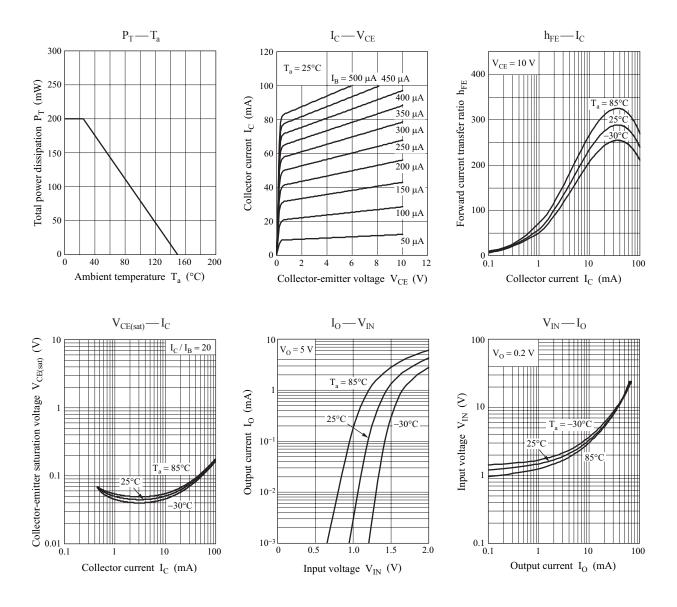
#### Electrical Characteristics $T_a = 25^{\circ}C \pm 3^{\circ}C$

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>	$V_{EB} = 6 V, I_C = 0$			0.1	mA
Forward current transfer ratio	h <sub>FE</sub>	$V_{CE} = 10 \text{ V}, I_C = 5 \text{ mA}$	80			
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>	$V_{CE} = 0.2 \text{ V}, I_C = 5 \text{ mA}$	3.6			V
Input voltage (OFF)	V <sub>I(off)</sub>	$V_{CE} = 5 \text{ V}, I_C = 100 \mu\text{A}$			0.8	V
Input resistance	R <sub>1</sub>		-30%	47	+30%	kΩ
Resistance ratio	$R_1 / R_2$		0.8	1.0	1.2	

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

#### DRC2144E

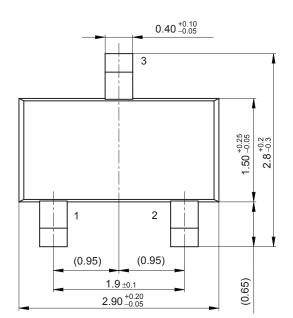
### **Panasonic**

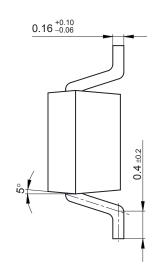


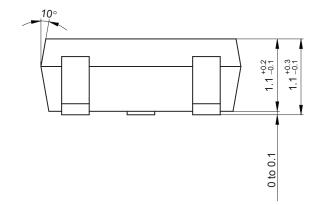
### **Panasonic**

Mini3-G3-B

Unit: mm







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