DRC2143Z

Silicon NPN epitaxial planar type

For digital circuits
Complementary to DRA2143E

■ Features

- \bullet High forward current transfer ratio h_{FE}
- \bullet Low collector-emitter saturation voltage $V_{\text{CE(sat)}}$
- 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 $T_a = 25$ °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	200	mW	
Junction temperature	T _j	150	°C	
Storage temperature	T _{stg}	-55 to +150	°C	

■ Package

• Code

Mini3-G3-B

Pin Name

1: Base

2: Emitter

3: Collector

■ Marking Symbol: N8

■ Internal Connection

$$B \circ \begin{matrix} R_1 \\ R_2 \end{matrix} \circ C$$

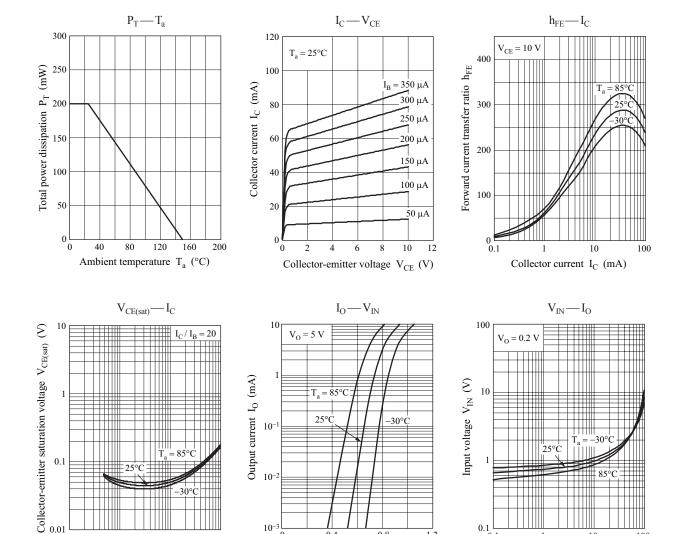
Resistance value	R_1	4.7	kΩ
	R ₂	47	kΩ

■ Electrical Characteristics $T_a = 25$ °C±3°C

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Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage (Emitter open)	V _{CBO}	$I_C = 10 \mu A, I_E = 0$	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}	$V_{\rm CB} = 50 \text{ V}, I_{\rm E} = 0$			0.1	μΑ
Collector-emitter cutoff current (Base open)	I _{CEO}	$V_{CE} = 50 \text{ V}, I_{B} = 0$			0.5	μΑ
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 6 \text{ V}, I_C = 0$			0.2	mA
Forward current transfer ratio	h_{FE}	$V_{CE} = 10 \text{ V}, I_{C} = 5 \text{ mA}$	80		400	
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)}	$V_{CE} = 0.2 \text{ V}, I_{C} = 5 \text{ mA}$	1.3			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%	4.7	+30%	kΩ
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.

Panasonic DRC2143Z



0.1

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Output current IO (mA)

100

1.2

Input voltage V_{IN} (V)

 10^{-2}

10-3 _____

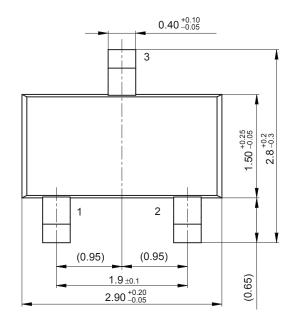
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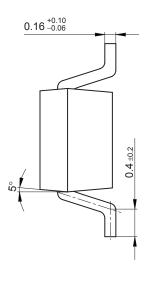
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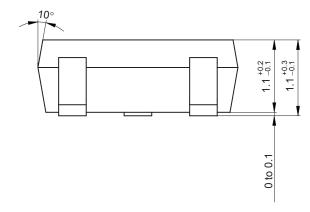
Collector current I_C (mA)

100

Mini3-G3-B Unit: mm







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