# DRA5A13Z

### Silicon PNP epitaxial planar type

#### For digital circuits

Complementary to DRC5A13Z

#### 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)

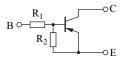
#### Absolute Maximum Ratings $T_a = 25^{\circ}C$

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>	-80	mA	
Total power dissipation	P <sub>T</sub>	150	mW	
Junction temperature	Tj	150	°C	
Storage temperature	T <sub>stg</sub>	-55 to +150	°C	

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

## Marking Symbol: G2

#### Internal Connection

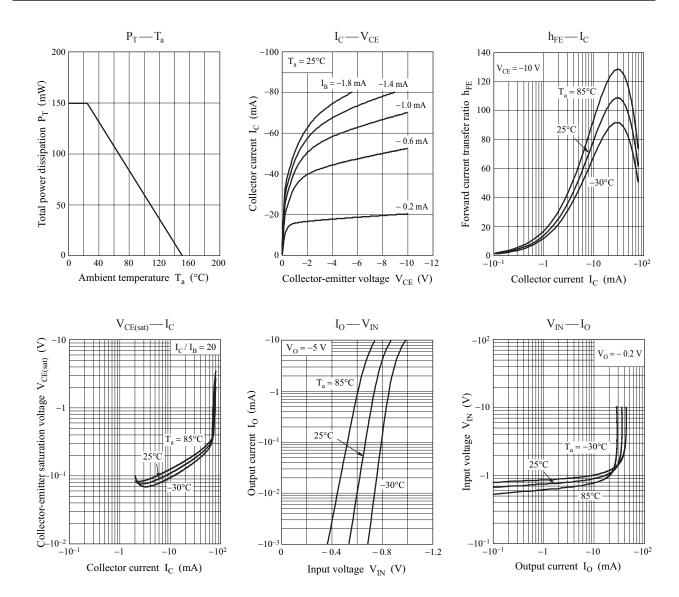


Resistance value	R <sub>1</sub>	1	kΩ
	R <sub>2</sub>	10	kΩ

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

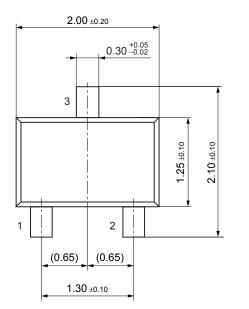
Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage (Emitter open)	V <sub>CBO</sub>	$I_{\rm C} = -10 \ \mu {\rm A}, I_{\rm E} = 0$	-50			V
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	$I_{\rm C} = -2  {\rm mA}, I_{\rm B} = 0$	-50			V
Collector-base cutoff current (Emitter open)	I <sub>CBO</sub>	$V_{\rm CB} = -50$ V, $I_{\rm E} = 0$			- 0.1	μΑ
Collector-emitter cutoff current (Base open)	I <sub>CEO</sub>	$V_{\rm CE} = -50$ V, $I_{\rm B} = 0$			-0.5	μΑ
Emitter-base cutoff current (Collector open)	I <sub>EBO</sub>	$V_{EB} = -6 \text{ V}, I_C = 0$			-1.5	mA
Forward current transfer ratio	h <sub>FE</sub>	$V_{\rm CE} = -10$ V, $I_{\rm C} = -5$ mA	30			
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>	$V_{CE} = -0.2 \text{ V}, I_C = -5 \text{ mA}$	-1.0			V
Input voltage (OFF)	V <sub>I(off)</sub>	$V_{CE} = -5 \text{ V}, I_C = -100 \mu\text{A}$			- 0.4	V
Input resistance	R <sub>1</sub>		-30%	1	+30%	kΩ
Resistance ratio	$R_1 / R_2$		0.08	0.10	0.12	

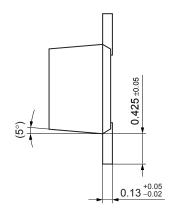
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.



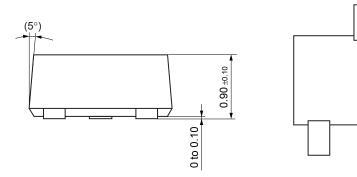
SMini3-F2-B

Unit: mm





(0.49)



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