# **DRAQA24X**

### Silicon PNP epitaxial planar type

For digital circuits

Complementary to DRCQA24X

DRA3124X in USSMini3 type package

#### ■ Features

- High forward current transfer ratio h<sub>FE</sub>
- ullet 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): 10000 pcs / reel (standard)

#### ■ Absolute Maximum Ratings $T_a = 25$ °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	$I_{C}$	-80	mA
Total power dissipation	P <sub>T</sub>	100	mW
Junction temperature	$T_j$	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

#### ■ Package

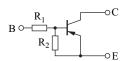
Code

USSMini3-F1-B

- Pin Name
  - 1: Base
  - 2: Emitter
  - 3: Collector

#### ■ Marking Symbol: GP

#### ■ Internal Connection



Resistance value	R <sub>1</sub>	22	kΩ
	$R_2$	47	kΩ

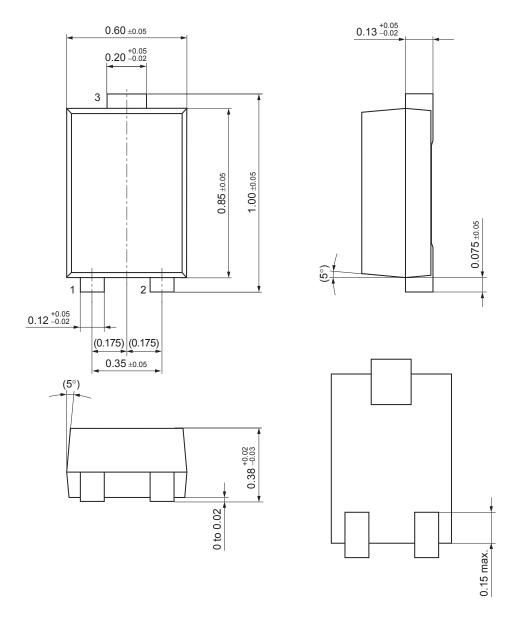
#### ■ Electrical Characteristics T<sub>a</sub> = 25°C±3°C

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>	$I_C = -2 \text{ mA}, I_B = 0$	-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 <sub>CEO</sub>	$V_{CE} = -50 \text{ V}, I_{B} = 0$			-0.5	μΑ
Emitter-base cutoff current (Collector open)	I <sub>EBO</sub>	$V_{EB} = -6 \text{ V}, I_C = 0$			-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 <sub>CE(sat)</sub>	$I_C = -10 \text{ mA}, I_B = -0.5 \text{ mA}$			-0.25	V
Input voltage (ON)	V <sub>I(on)</sub>	$V_{CE} = -0.2 \text{ V}, I_{C} = -5 \text{ mA}$	-2.1			V
Input voltage (OFF)	V <sub>I(off)</sub>	$V_{CE} = -5 \text{ V}, I_{C} = -100 \mu\text{A}$			-0.6	V
Input resistance	$R_1$		-30%	22	+30%	kΩ
Resistance ratio	$R_1/R_2$		0.37	0.47	0.57	_

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

### USSMini3-F1-B

Unit: mm



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