# 2SD0814A (2SD814A)

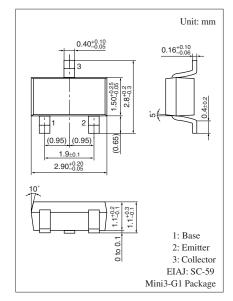
## Silicon NPN epitaxial planar type

For high breakdown voltage low-frequency and low-noise amplification

#### Features

- High collector-emitter voltage (Base open)  $V_{CEO}$
- Low noise voltage NV
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

#### Absolute Maximum Ratings $T_a = 25^{\circ}C$ Parameter Symbol Unit Rating V<sub>CBO</sub> V Collector-base voltage (Emitter open) 185 Collector-emitter voltage (Base open) V<sub>CEO</sub> 185 V 5 V Emitter-base voltage (Collector open) V<sub>EBO</sub> 50 Collector current $I_C$ mА Peak collector current 100 mА I<sub>CP</sub> $\mathbf{P}_{\mathbf{C}}$ Collector power dissipation 200 mW °C Junction temperature Ti 150 °C Storage temperature T<sub>stg</sub> -55 to +150



#### Marking Symbol: L

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

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	$I_{C} = 100 \ \mu A, I_{B} = 0$				V
Emitter-base voltage (Collector open)	V <sub>EBO</sub>	$I_E = 10 \ \mu A, \ I_C = 0$				V
Collector-base cutoff current (Emitter open)	I <sub>CBO</sub>	$V_{CB} = 100 \text{ V}, I_E = 0$			1	μΑ
Forward current transfer ratio *	h <sub>FE</sub>	$V_{CE} = 5 \text{ V}, I_{C} = 10 \text{ mA}$	90		330	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	$I_{\rm C} = 30 \text{ mA}, I_{\rm B} = 3 \text{ mA}$			1	V
Transition frequency	f <sub>T</sub>	$V_{CB} = 10 \text{ V}, I_E = -10 \text{ mA}, f = 200 \text{ MHz}$		150		MHz
Collector output capacitance (Common base, input open circuited)	C <sub>ob</sub>	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		2.3		pF
Noise voltage	NV	$V_{CE} = 10 \text{ V}, \text{ I}_{C} = 1 \text{ mA}, \text{ G}_{V} = 80 \text{ dB}$ $R_{g} = 100 \text{ k}\Omega, \text{ Function} = \text{FLAT}$		150		mV

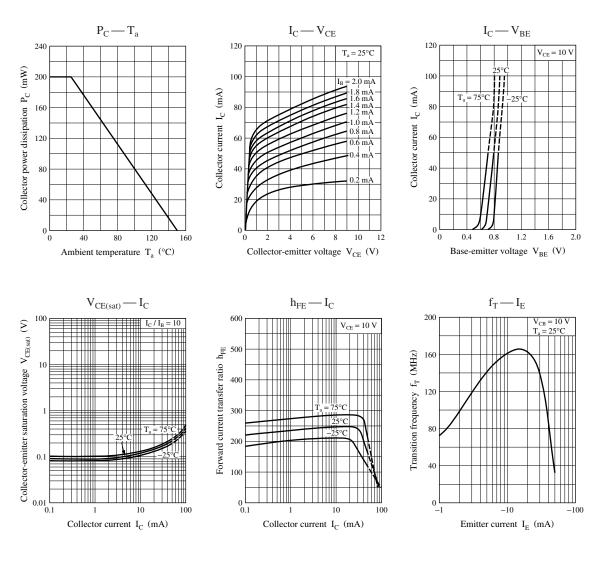
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

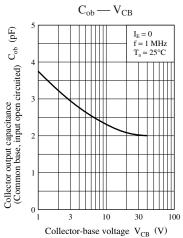
2. \*: Rank classification

Rank	Q	R	S	
h <sub>FE</sub>	90 to 155	130 to 220	185 to 330	

Note) The part number in the parenthesis shows conventional part number.

# **Panasonic**





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