

# 2SD0814, 2SD0814A (2SD814, 2SD814A)

## Silicon NPN epitaxial planer type

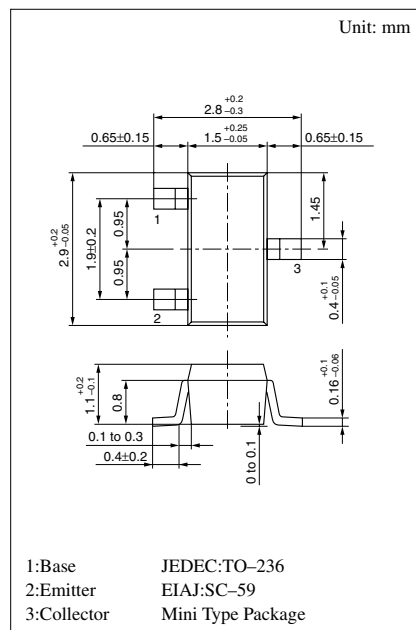
For high breakdown voltage low-frequency and low-noise amplification

### ■ Features

- High collector to emitter voltage  $V_{CEO}$ .
- 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 ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	150	V
2SD0814A		185	
Collector to emitter voltage	$V_{CEO}$	150	V
2SD0814A		185	
Emitter to base voltage	$V_{EBO}$	5	V
Peak collector current	$I_{CP}$	100	mA
Collector current	$I_C$	50	mA
Collector power dissipation	$P_C$	200	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	$-55 \sim +150$	$^\circ\text{C}$



Marking symbol : P(2SD0814)  
L(2SD0814A)

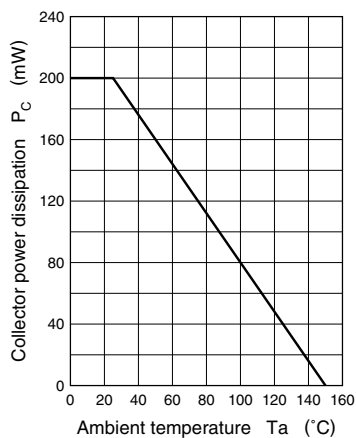
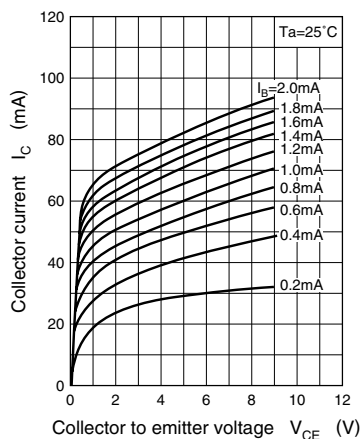
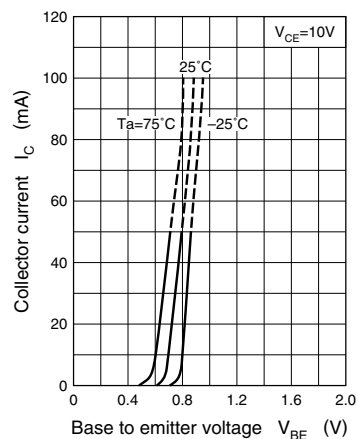
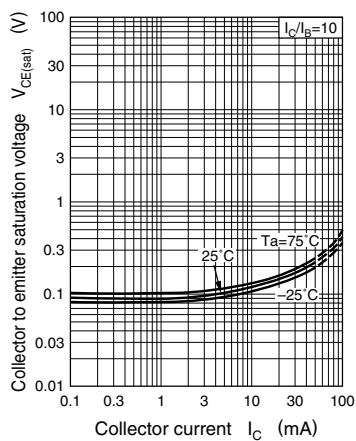
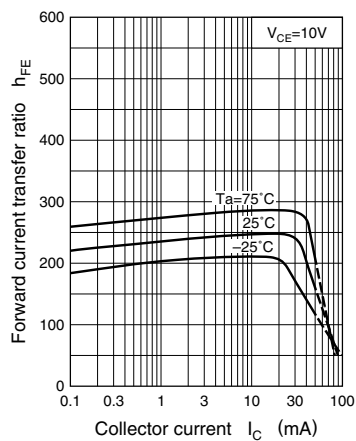
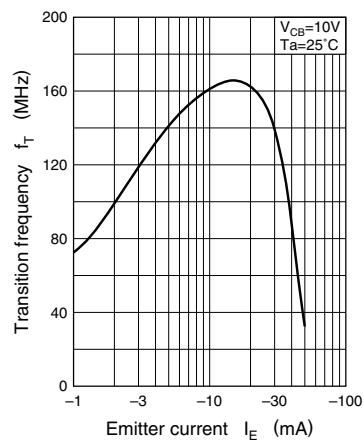
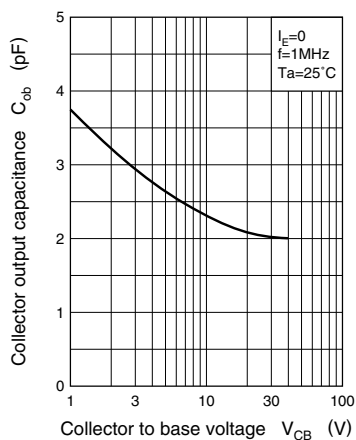
### ■ Electrical Characteristics ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 100\text{V}, I_E = 0$			1	$\mu\text{A}$
Collector to emitter voltage	$V_{CEO}$	$I_C = 100\mu\text{A}, I_B = 0$	150			V
2SD0814A			185			
Emitter to base voltage	$V_{EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	5			V
Forward current transfer ratio	$h_{FE}^*$	$V_{CE} = 5\text{V}, I_C = 10\text{mA}$	90		330	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 30\text{mA}, I_B = 3\text{mA}$			1	V
Transition frequency	$f_T$	$V_{CB} = 10\text{V}, I_E = -10\text{mA}, f = 200\text{MHz}$		150		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$		2.3		pF
Noise voltage	NV	$V_{CE} = 10\text{V}, I_C = 1\text{mA}, G_V = 80\text{dB}$ $R_g = 100\text{k}\Omega, \text{Function} = \text{FLAT}$		150		mV

\* $h_{FE}$  Rank classification

Rank	Q	R	S
$h_{FE}$	90 ~ 155	130 ~ 220	185 ~ 330
Marking Symbol	2SD0814 PQ	PR	PS
	2SD0814A LQ	LR	LS

Note.) The Part numbers in the Parenthesis show conventional part number.

$P_C - T_a$  $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_E$  $C_{ob} - V_{CB}$ 

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