

# 2SD814, 2SD814A

## Silicon NPN epitaxial planer type

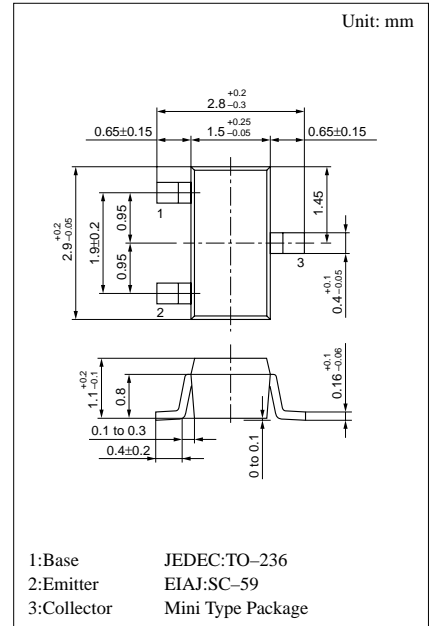
For high breakdown voltage low-frequency and low-noise amplification

### 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 (Ta=25°C)

Parameter	Symbol	Rated	Unit
Collector to base voltage	V <sub>CBO</sub>	150	V
2SD814		185	
Collector to emitter voltage	V <sub>CEO</sub>	150	V
2SD814A		185	
Emitter to base voltage	V <sub>EBO</sub>	5	V
Peak collector current	I <sub>CP</sub>	100	mA
Collector current	I <sub>C</sub>	50	mA
Collector power dissipation	P <sub>C</sub>	200	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 ~ +150	°C



Marking symbol : P(2SD814)  
L(2SD814A)

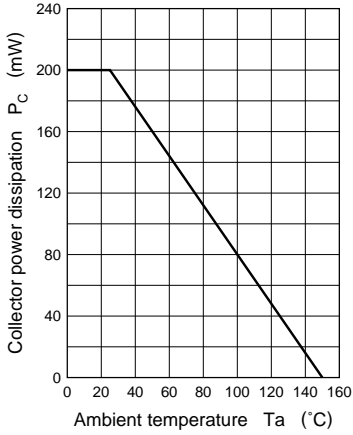
### Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> = 100V, I <sub>E</sub> = 0			1	μA
Collector to emitter voltage	V <sub>CEO</sub>	I <sub>C</sub> = 100μA, I <sub>B</sub> = 0	150			V
			185			
Emitter to base voltage	V <sub>EBO</sub>	I <sub>E</sub> = 10μA, I <sub>C</sub> = 0	5			V
Forward current transfer ratio	h <sub>FE</sub> *	V <sub>CE</sub> = 5V, I <sub>C</sub> = 10mA	90		330	
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 30mA, I <sub>B</sub> = 3mA			1	V
Transition frequency	f <sub>T</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = -10mA, f = 200MHz		150		MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 1MHz		2.3		pF
Noise voltage	NV	V <sub>CE</sub> = 10V, I <sub>C</sub> = 1mA, G <sub>v</sub> = 80dB R <sub>g</sub> = 100kΩ, Function = FLAT		150		mV

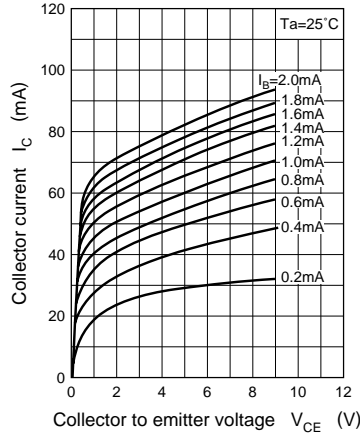
\*h<sub>FE</sub> Rank classification

Rank	Q	R	S
h <sub>FE</sub>	90 ~ 155	130 ~ 220	185 ~ 330
Marking	2SD814	PQ	PR
Symbol	2SD814A	LQ	LR

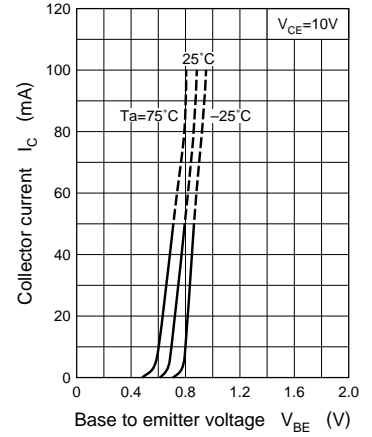
$P_C - T_a$



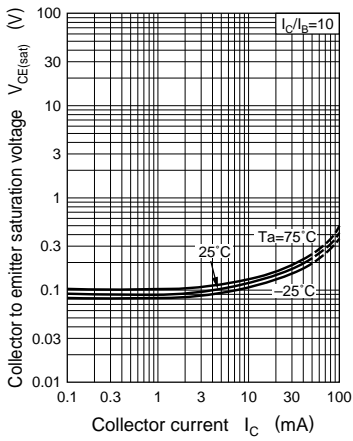
$I_C - V_{CE}$



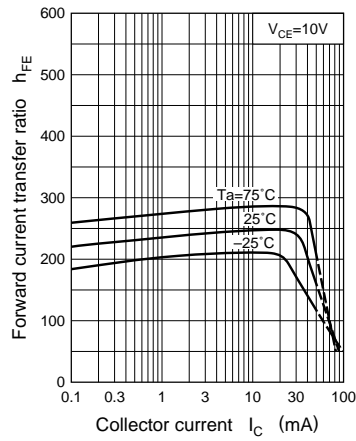
$I_C - V_{BE}$



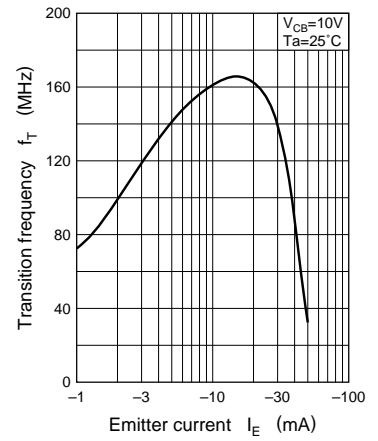
$V_{CE(sat)} - I_C$



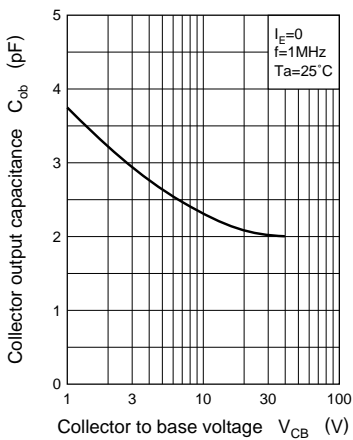
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$





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