

2SD814, 2SD814A

Silicon NPN epitaxial planer type

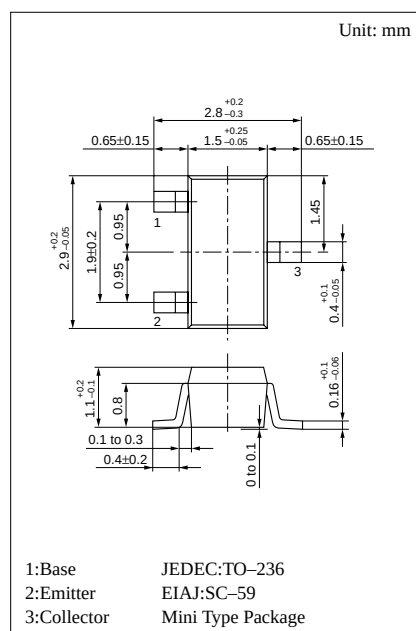
For high breakdown voltage low-frequency and low-noise amplification

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	2SD814	V_{CBO}	150	V
	2SD814A		185	
Collector to emitter voltage	2SD814	V_{CEO}	150	V
	2SD814A		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	°C
Storage temperature		T_{stg}	-55 ~ +150	°C



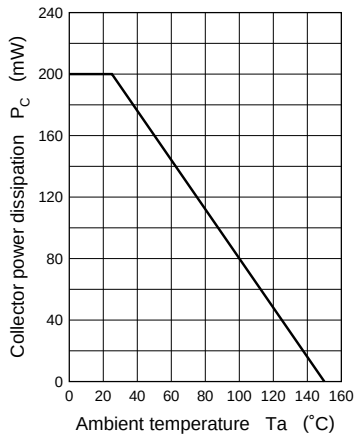
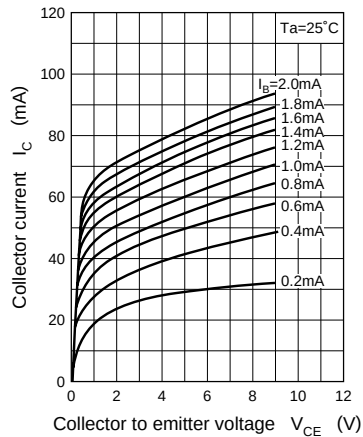
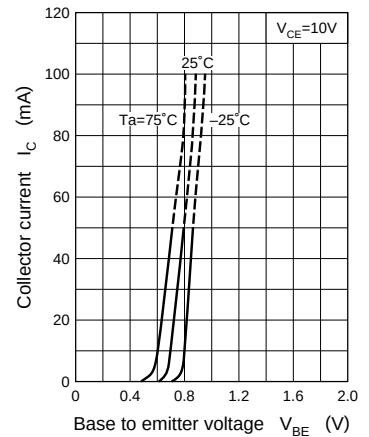
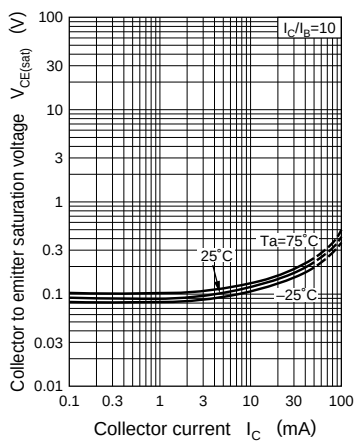
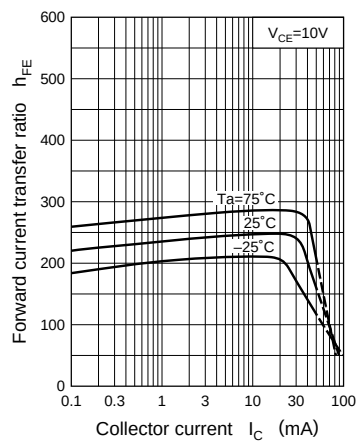
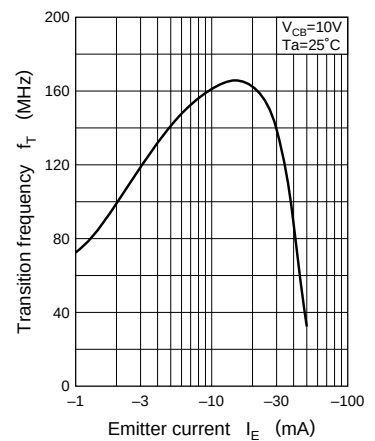
Marking symbol : P(2SD814)
L(2SD814A)

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	μA
Collector to emitter voltage	2SD814 2SD814A	V_{CEO}	$I_C = 100\mu\text{A}, I_B = 0$	150		V
				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	2SD814	PQ	PR	PS
	2SD814A	LQ	LR	LS

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