

2SD814, 2SD814A

Silicon NPN epitaxial planer type

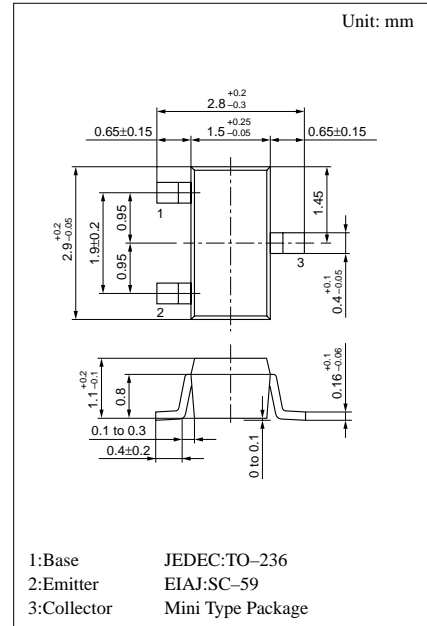
For high breakdown voltage low-frequency and low-noise amplification

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	Ratings	Unit
Collector to base voltage	V_{CBO}	150	V
2SD814			
2SD814A		185	
Collector to emitter voltage	V_{CEO}	150	V
2SD814			
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)

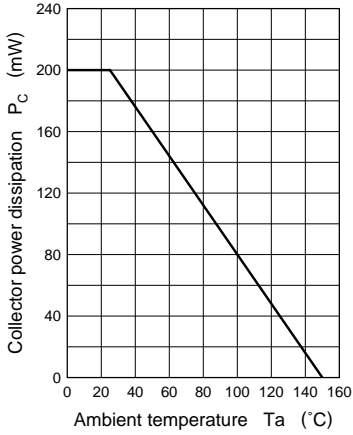
Electrical Characteristics (Ta=25°C)

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

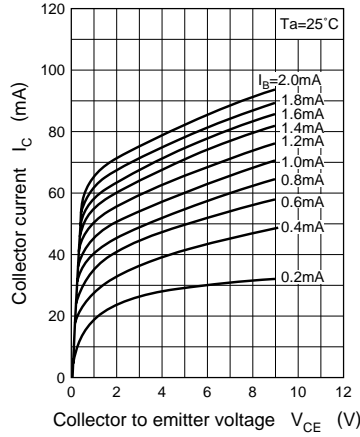
* h_{FE} Rank classification

Rank	Q	R	S
h_{FE}	90 ~ 155	130 ~ 220	185 ~ 330
Marking	2SD814 PQ	PR	PS
Symbol	2SD814A LQ	LR	LS

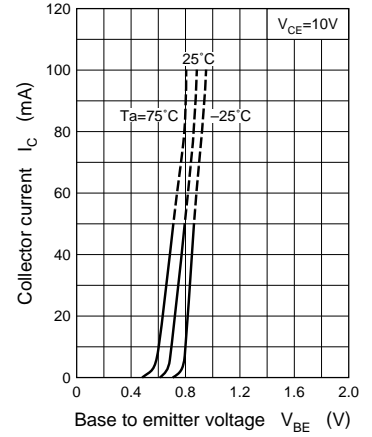
$P_C - T_a$



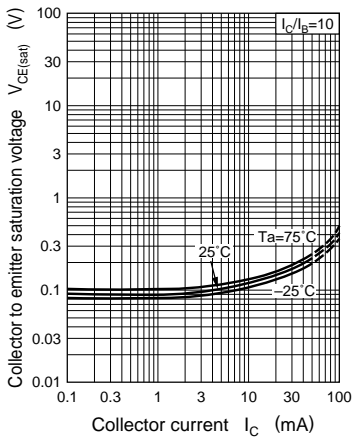
$I_C - V_{CE}$



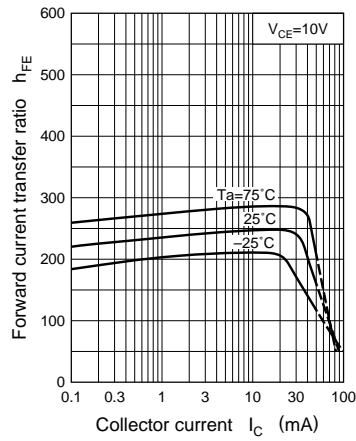
$I_C - V_{BE}$



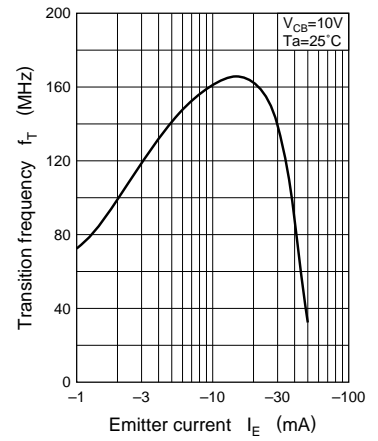
$V_{CE(sat)} - I_C$



$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$

