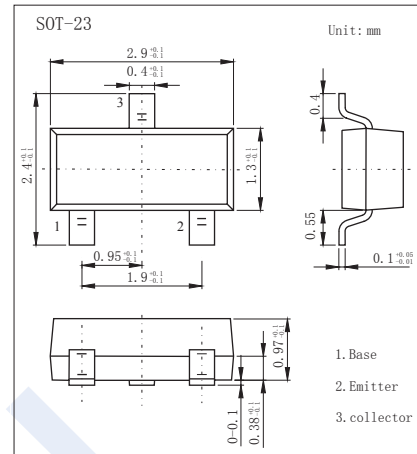


NPN Transistors

2SD814

■ Features

- High collector to emitter voltage V_{CEO} .
- Low noise voltage NV .
- Complimentary to 2SB792

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	150	V
Collector - Emitter Voltage	V_{CEO}	150	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	50	mA
Collector Current - Pulse	I_{CP}	100	
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100 \mu\text{A}, I_E = 0$	150			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 1 \text{ mA}, I_B = 0$	150			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100 \mu\text{A}, I_C = 0$	5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 100 \text{ V}, I_E = 0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4 \text{ V}, I_C = 0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 30 \text{ mA}, I_B = 3 \text{ mA}$			1	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 30 \text{ mA}, I_B = 3 \text{ mA}$			1.2	
DC current gain	h_{FE}	$V_{CE} = 5 \text{ V}, I_C = 10 \text{ mA}$	90		330	
Noise voltage	NV	$V_{CE} = 10 \text{ V}, I_C = 1 \text{ mA}, G_v = 80 \text{ dB}$ $R_g = 100 \text{ kW}, \text{Function} = \text{FLAT}$		150		mV
Collector output capacitance	C_{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		2.3		pF
Transition frequency	f_T	$V_{CE} = 10 \text{ V}, I_E = -10 \text{ mA}, f = 200 \text{ MHz}$		150		MHz

■ Classification of h_{FE}

Type	2SD814-Q	2SD814-R	2SD814-S
Range	90-155	130-220	185-330
Marking	PQ	PR	PS

NPN Transistors

2SD814

■ Typical Characteristics

