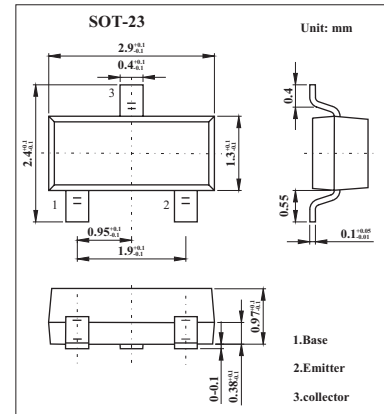


NPN Triple Diffused Planar Silicon Transistor

2SC4412



Features

- High breakdown voltage.
- Small reverse transfer capacitance and excellent high frequency characteristic (C_{re} : 1.0pF typ).
- Excellent DC current gain ratio (h_{FE} ratio : 0.95 typ).

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	300	V
Collector-emitter voltage	V_{CE0}	300	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_C	50	mA
Collector current (pulse)	I_{CP}	100	mA
Collector dissipation	P_C	250	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 200\text{V}$, $I_E = 0$			0.1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 4\text{V}$, $I_C = 0$			0.1	μA
DC current Gain	h_{FE}	$V_{CE} = 6\text{V}$, $I_C = 0.1\text{mA}$	100		320	
		$V_{CE} = 6\text{V}$, $I_C = 1\text{mA}$	100			
Gain bandwidth product	f_T	$V_{CE} = 30\text{V}$, $I_C = 10\text{mA}$		70		MHz
Output capacitance	C_{ob}	$V_{CB} = 30\text{V}$, $f = 1\text{MHz}$		1.5		pF
Reverse transfer capacitance	C_{re}	$V_{CB} = 30\text{V}$, $f = 1\text{MHz}$		1.0		pF
DC current gain ratio	h_{FE}^{ratio}	h_{FE1}/h_{FE2}		0.95		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$			1.0	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$			1.0	V
Collector-to-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}$, $I_E = 0$	300			V
Collector-to-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}$, $R_{BE} = \infty$	300			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}$, $I_C = 0$	5			V

h_{FE} Classification

Marking	QT	
Rank	4	5
h_{FE}	100~200	160~320