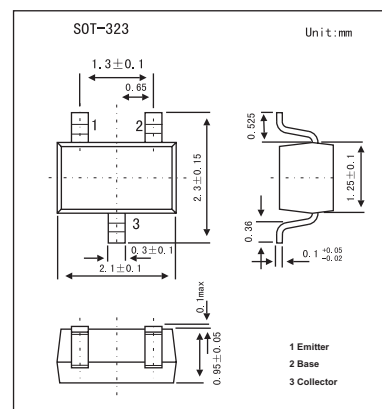


NPN Epitaxial Planar Silicon Transistor

2SC4413

■ Features

- Adoption of FBET process.
- High DC current gain.
- Low collector-to-emitter saturation voltage.
- High V_{EBO} .
- Small Cob.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	15	V
Collector current	I_C	100	mA
Collector current(Pulse)	I_{CP}	200	mA
Base current	I_B	20	mA
Collector dissipation	P_C	150	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	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 40\text{V}, I_E = 0$			0.1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 10\text{V}, I_C = 0$			0.1	μA
DC current gain	h_{FE}	$V_{CE} = 5\text{V}, I_C = 10\text{mA}$	800	1500	3200	
Gain bandwidth product	f_T	$V_{CE} = 10\text{V}, I_C = 10\text{mA}$		200		MHz
Output capacitance	C_{ob}	$V_{CB} = 10\text{V}, f = 1\text{MHz}$		1.5		pF
Collector-to-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50\text{mA}, I_B = 1\text{mA}$		0.1	0.5	V
Base-to-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 50\text{mA}, I_B = 1\text{mA}$		0.8	1.1	V
Collector-to-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	60			V
Collector-to-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	50			V
Emitter-to-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	15			V

■ Marking

Marking	GY
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