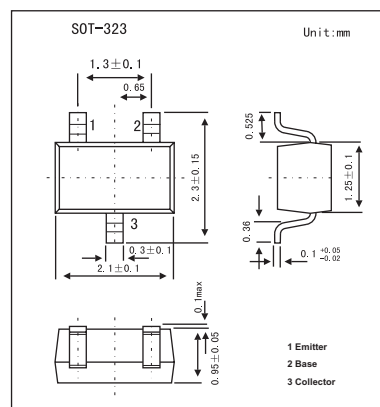


## NPN Epitaxial Planar Silicon Transistor

## 2SC4413

## ■ Features

- Adoption of FBET process.
- High DC current gain.
- Low collector-to-emitter saturation voltage.
- High VEBO.
- Small Cob.



## ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V <sub>CB0</sub>	60	V
Collector-emitter voltage	V <sub>CEO</sub>	50	V
Emitter-base voltage	V <sub>EBO</sub>	15	V
Collector current	I <sub>C</sub>	100	mA
Collector current(Pulse)	I <sub>CP</sub>	200	mA
Base current	I <sub>B</sub>	20	mA
Collector dissipation	P <sub>C</sub>	150	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> = 40V, I <sub>E</sub> =0			0.1	μA
Emitter cutoff current	I <sub>EBO</sub>	V <sub>EB</sub> = 10V, I <sub>C</sub> =0			0.1	μA
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 10mA	800	1500	3200	
Gain bandwidth product	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 10mA		200		MHz
Output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V, f = 1MHz		1.5		pF
Collector-to-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 50mA, I <sub>B</sub> = 1mA		0.1	0.5	V
Base-to-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 50mA, I <sub>B</sub> = 1mA		0.8	1.1	V
Collector-to-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 10μA, I <sub>E</sub> = 0	60			V
Collector-to-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = 1mA, R <sub>BE</sub> = ∞	50			V
Emitter-to-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 10μA, I <sub>C</sub> = 0	15			V

## ■ Marking

Marking	GY
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