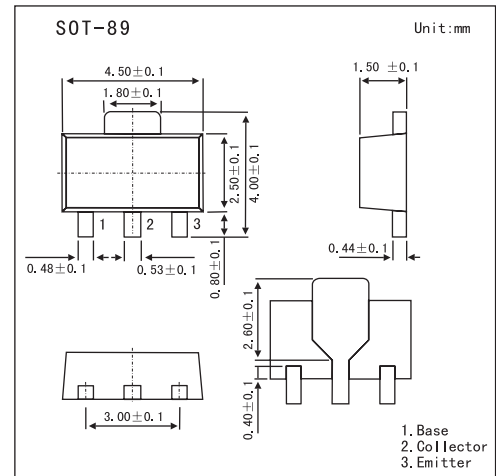


## NPN Epitaxial Planar Silicon Transistors

## 2SC4505

## ■ Features

- High breakdown voltage. ( $V_{CE0} = 400V$ )
- Low saturation voltage,
- typically  $V_{CE(sat)} = 0.05V$  at  $I_C / I_B = 10mA / 1mA$ .
- High switching speed, typically  $t_f = 1.7\mu s$  at  $I_C = 100mA$ .

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

Parameter	Symbol	Rating	Unit
collector-base voltage	$V_{CB0}$	400	V
collector-emitter voltage	$V_{CE0}$	400	V
emitter-base voltage	$V_{EB0}$	7	V
collector current	$I_C$	0.1	A
		0.2	A *1
CollectorPower Dissipation	$P_C$	0.5	W *2
		2	W
Junotion Temperature	$T_J$	150	$^\circ C$
storage Temperature	$T_{stg}$	-55 to 150	$^\circ C$

\*1 Single pulse  $p_w=20ms, Duty=1/2$

\*2 When mounted on a 40X40X0.7 mm ceramic board.

**2SC4505**

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	BVCBO	Ic=50μA	400			V
Collector-emitter breakdown voltage	BVCEO	Ic=1mA	400			V
Emitter-base breakdown voltage	BVEBO	Ie=50μA	7			V
Collector cutoff current	ICBO	V <sub>CB</sub> =400V			10	μA
Emitter cutoff current	IEBO	V <sub>EB</sub> =6V			10	μA
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	Ic/I <sub>B</sub> =10mA/1mA		0.05	0.5	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	Ic/I <sub>B</sub> =10mA/1mA			1.5	V
DC current transfer ratio	hFE	V <sub>CE</sub> =10V , Ic=10mA	82		270	
Transition frequency	fr	V <sub>CE</sub> =10V , Ie=-10mA , f=10MHz		20		MHz
Output capacitance	Cob	V <sub>CB</sub> =10V , Ie=0A , f=1MHz		7		pF
Turn-on time	ton	Ic=-100mA RL=1.5kΩ		1		□s
Storage time	tstg	I <sub>B1</sub> =-I <sub>B2</sub> =10mA		5.5		□s
Fall time	tf	V <sub>CC</sub> =-150V		1.7		□s

## ■ hFE Classification

TYPE	CEP	CEQ
Rank	P	Q
Marking	82 to 180	120 to 270