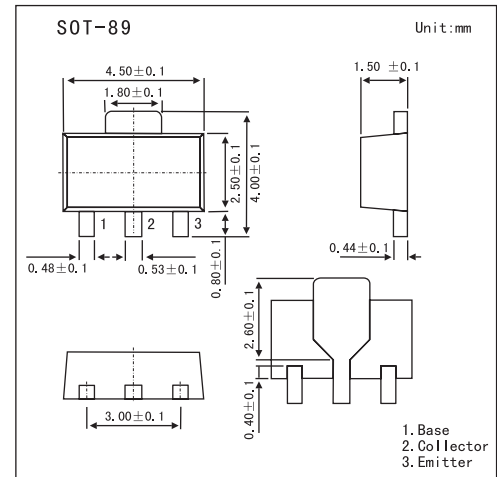


## NPN Epitaxial Planar Silicon Transistor

## 2SC4705

## ■ Features

- High DC current gain ( $h_{FE}=800$  to 3200).
- Low collector-to-emitter saturation voltage :  
 $V_{CE(sat)} \leq 0.5V$  max.
- High  $V_{EBO}$  :  $V_{EBO} \geq 15V$ .
- Small size making it easy to provide high-density, hybrid ICs.

■ 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	$I_C$	200	mA
Collector current (pulse)	$I_{CP}$	300	mA
Base current	$I_B$	40	mA
Collector dissipation, mounted on ceramic board(250mm <sup>2</sup> X0.8mm)	$P_C$	1.3	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

**2SC4705**■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 40V, I_E = 0$			0.1	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 10V, I_C = 0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE} = 5V, I_C = 100\text{mA}$	800	1500	3200	
Gain bandwidth product	$f_T$	$V_{CE} = 10V, I_C = 10\text{mA}$		250		MHz
Output capacitance	$C_{ob}$	$V_{CB} = 10V, f = 1.0\text{MHz}$		4		pF
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}, I_B = 2\text{mA}$		0.12	0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 100\text{mA}, I_B = 2\text{mA}$		0.85	1.2	V
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	15			V

## ■ Marking

Marking	CP
---------	----