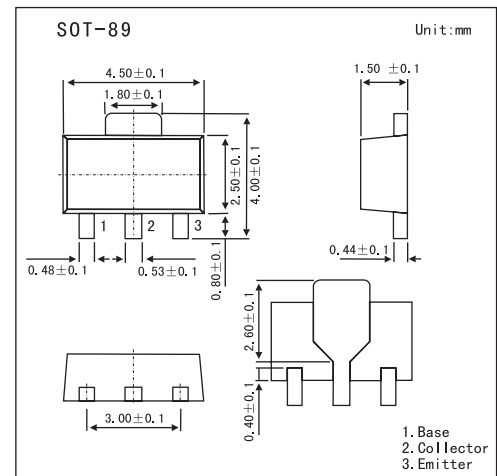


NPN Epitaxial Planar Silicon Transistor

2SC4520

■ Features

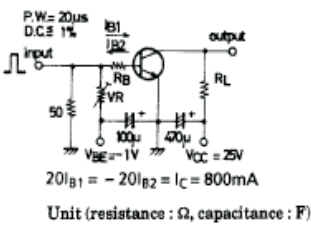
- Adoption of FBET, MBIT process.
- Large current capacity.
- Low collector-to-emitter saturation voltage.
- Fast switching speed.
- Small-sized package.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	60	V
Collector-emitter voltage	V_{CE0}	45	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_C	1.5	A
Collector current (pulse)	I_{CP}	3	A
Collector dissipation	P_C	1.3	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

2SC4520

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 45V, I_E = 0$			1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 3V, I_C = 0$			1	μA
DC current gain	h_{FE}	$V_{CE} = 2V, I_C = 100mA$	100		400	
Gain bandwidth product	f_T	$V_{CE} = 2V, I_C = 100mA$		300		MHz
Output capacitance	C_{ob}	$V_{CB} = 10V, f = 1.0MHz$		13		pF
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 800mA, I_B = 40mA$		0.25	0.7	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 800mA, I_B = 40mA$		0.9	1.3	V
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1mA, R_{BE} = \infty$	45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	5			V
Turn-on time	t_{on}	 $PW = 20\mu s$ $DC = 1\%$ $20I_{B1} = -20I_{B2} = I_C = 800mA$ Unit (resistance : Ω, capacitance : F)		50	100	ns
Storage time	t_{stg}			150	270	ns
Fall time	t_f			180	350	ns

■ hFE Classification

Marking	CK		
Rank	R	S	T
hFE	100~200	140~280	200~400