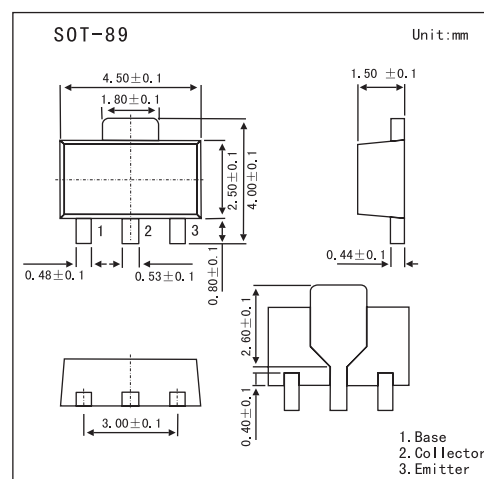


NPN Silicon epitaxial Transistor

2SD1419

■ Features

- Low frequency power amplifier

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

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	120	V
Collector to emitter voltage	V_{CEO}	100	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_C	1	A
Collector peak current	$i_{C(peak)}^{*1}$	2	A
Collector power dissipation	P_C^{*2}	1	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to 150	$^\circ\text{C}$

*1 $PW \leq 10\text{ms}$, duty cycle $\leq 20\%$

*2 Value on the alumina ceramic board (12.5 X 20 X 0.7 mm)

2SD1419■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector to base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\ \mu\text{A}$, $I_E = 0$	120			V
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\ \text{mA}$, $R_{BE} = \infty$	100			V
Emitter to base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\ \mu\text{A}$, $I_C = 0$	5			V
Collector cutoff current	I_{CBO}	$V_{CB} = 100\ \text{V}$, $I_E = 0$			10	μA
DC current transfer ratio	h_{FE}	$V_{CE} = 5\ \text{V}$, $I_C = 150\ \text{mA}^*$	60		200	
		$V_{CE} = 5\ \text{V}$, $I_C = 500\ \text{mA}^*$	30			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\ \text{mA}$, $I_B = 50\ \text{mA}^*$			1	V
Base to emitter voltage	V_{BE}	$V_{CE} = 5\ \text{V}$, $I_C = 150\ \text{mA}^*$			1.5	V
Gain bandwidth product	f_T	$V_{CE} = 5\ \text{V}$, $I_C = 150\ \text{mA}^*$		140		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\ \text{V}$, $I_E = 0$, $f = 1\ \text{MHz}$		12		pF

*Pulse test

■ h_{FE} Classification

Marking	DD	DE
h_{FE}	60~120	100~200