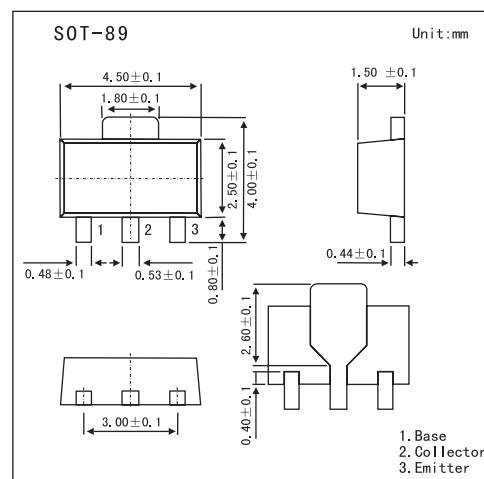


Silicon NPN Epitaxial Planar Type

2SD2185

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$.
- Mini Power type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	50	V
Collector-emitter voltage	V_{CE0}	50	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_C	3	A
Peak collector current	I_{CP}	4	A
Collector power dissipation	P_C	1	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base voltage	V_{CB0}	$I_C = 10\ \mu\text{A}$, $I_E = 0$	50			V
Collector-emitter voltage	V_{CE0}	$I_C = 1\ \text{mA}$, $I_B = 0$	50			V
Emitter-base voltage	V_{EB0}	$I_E = 10\ \mu\text{A}$, $I_C = 0$	5			V
Collector-base cutoff current	I_{CBO}	$V_{CB} = 20\ \text{V}$, $I_E = 0$			0.1	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 2\ \text{V}$, $I_C = 200\ \text{mA}$	120		340	
		$V_{CE} = 2\ \text{V}$, $I_C = 1.0\ \text{A}$	80			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1\ \text{A}$, $I_B = 50\ \text{mA}$		0.15	0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 1\ \text{A}$, $I_B = 50\ \text{mA}$		0.85	1.2	V
Transition frequency	f_T	$V_{CB} = 10\ \text{V}$, $I_E = -50\ \text{mA}$, $f = 200\ \text{MHz}$		120		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\ \text{V}$, $I_E = 0$, $f = 1\ \text{MHz}$		20	35	pF

■ h_{FE} Classification

Marking	1H	
Rank	R	S
h_{FE}	120~240	170~340