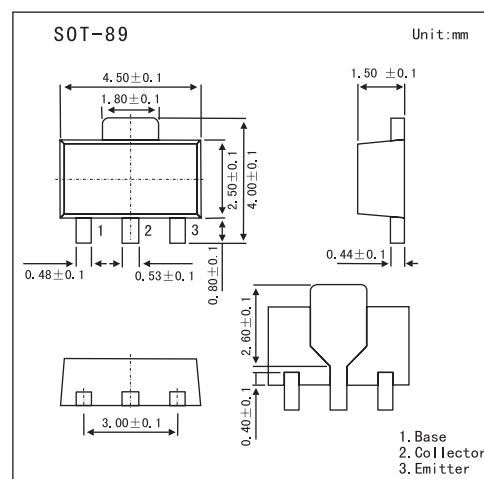


Power Transistor

2SD1963

■ Features

- Low saturation voltage.
- Excellent DC current gain characteristics.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	50	V
Collector-emitter voltage	V_{CEO}	20	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_C	3	A
Collector power dissipation	P_C	0.5	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 breakdown voltage	BV_{CB0}	$I_C=50\mu\text{A}$	50			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C=1\text{mA}$	20			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E=50\mu\text{A}$	6			V
Collector cutoff current	I_{CBO}	$V_{CB}=40\text{V}$			0.5	μA
Emitter cutoff current	I_{EBO}	$V_{EB}=5\text{V}$			0.5	μA
DC current transfer ratio	h_{FE}	$V_{CE}=2\text{V}, I_C=0.5\text{A}$	180		560	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1.5\text{A}, I_B=0.15\text{A}$		0.25	0.45	V
Output capacitance	f_T	$V_{CE}=6\text{V}, I_E=-50\text{mA}, f=100\text{MHz}$		150		MHz
Transition frequency	C_{ob}	$V_{CB}=20\text{V}, I_E=0\text{A}, f=1\text{MHz}$		35		pF

■ h_{FE} Classification

Marking	DG	
Rank	R	S
h_{FE}	180~390	270~560