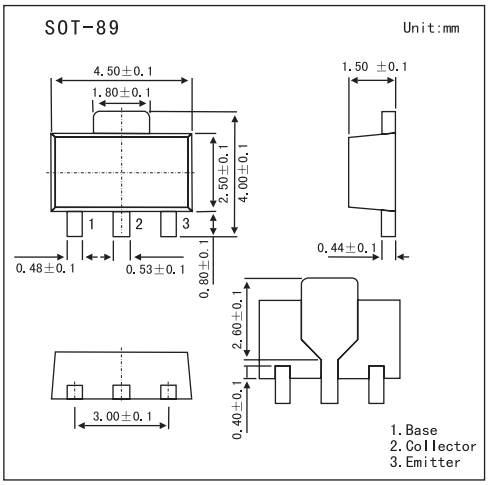
NPN Silicon Epitaxial Transistor

2SD1000



■ Features

- World standard miniature package:SOT-89.
- Low collector saturation voltage.

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	5	V
Collector current (DC)	I_C	0.7	A
Collector Current (pulse) *	I_C	1.0	A
Total power dissipation	P_T	2.0	W
Junction temperature	T_j	150	℃
Storage temperature	T_{stg}	-55 to +150	℃

* Pulse Test PW ⩽ 10ms, Duty Cycle ⩽ 50%.

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 60 V, I_E = 0 A			100	nA
Emitter cutoff current	I_{EBO}	V_{EB} = 5.0 V, I_C = 0 A			100	nA
DC current gain *	h_{FE}	V_{CE} = 1.0 V, I_C = 100 mA	90	200	400	
		V_{CE} = 1.0 V, I_C = 500 mA	50	150		
Collector saturation voltage *	$V_{CE(sat)}$	I_C = 500 mA, I_B = 50 mA		0.12	0.4	V
Base saturation voltage *	$V_{BE(sat)}$	I_C = 500 mA, I_B = 50 mA		0.9	1.2	V
Base-emitter voltage *	V_{BE}	V_{CE} = 6.0 V, I_C = 10 mA	600	635	700	mV
Gain bandwidth product	f_T	V_{CE} = 6.0 V, I_E = -10 mA		110		MHz
Output capacitance	C_{ob}	V_{CB} = 6 V, I_E = 0, f = 1.0 MHz		13		pF

* Pulsed: PW ⩽ 350 μs, duty cycle ⩽ 2%

■ h_{FE} Classification

Marking	LM	LL	LK
hFE	90～180	135～270	200～400