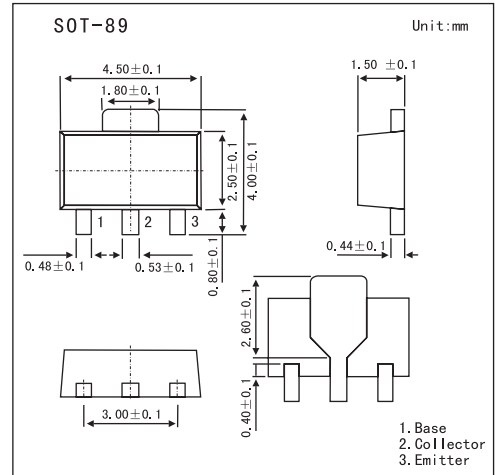


# 2SD1000

### Features

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



### Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V <sub>CB0</sub>	60	V
Collector-emitter voltage	V <sub>CEO</sub>	50	V
Emitter-base voltage	V <sub>EBO</sub>	5	V
Collector current (DC)	I <sub>c</sub>	0.7	A
Collector Current (pulse) *	I <sub>c</sub>	1.0	A
Total power dissipation	P <sub>T</sub>	2.0	W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

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

### Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> = 60 V, I <sub>E</sub> = 0 A			100	nA
Emitter cutoff current	I <sub>EBO</sub>	V <sub>EB</sub> = 5.0 V, I <sub>C</sub> = 0 A			100	nA
DC current gain *	h <sub>FE</sub>	V <sub>CE</sub> = 1.0 V, I <sub>C</sub> = 100 mA	90	200	400	
		V <sub>CE</sub> = 1.0 V, I <sub>C</sub> = 500 mA	50	150		
Collector saturation voltage *	V <sub>CE(sat)</sub>	I <sub>C</sub> = 500 mA, I <sub>B</sub> = 50 mA		0.12	0.4	V
Base saturation voltage *	V <sub>BE(sat)</sub>	I <sub>C</sub> = 500 mA, I <sub>B</sub> = 50 mA		0.9	1.2	V
Base-emitter voltage *	V <sub>BE</sub>	V <sub>CE</sub> = 6.0 V, I <sub>C</sub> = 10 mA	600	635	700	mV
Gain bandwidth product	f <sub>T</sub>	V <sub>CE</sub> = 6.0 V, I <sub>E</sub> = -10 mA		110		MHz
Output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 6 V, I <sub>E</sub> = 0, f = 1.0 MHz		13		pF

\* Pulsed: PW ≤ 350 μs, duty cycle ≤ 2%

### hFE Classification

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