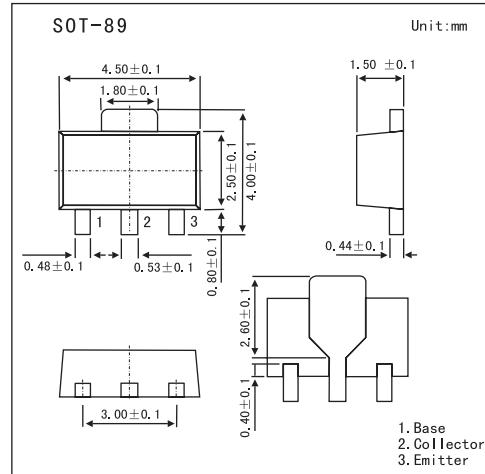


# 2SD999

## ■ Features

- World standard miniature package:SOT-89.
- Low collector saturation voltage.
- Excellent dc current gain linearity.



## ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V <sub>CBO</sub>	30	V
Collector-emitter voltage	V <sub>C EO</sub>	25	V
Emitter-base voltage	V <sub>EBO</sub>	5	V
Collector current (DC)	I <sub>C</sub>	1	A
Collector Current (pulse) *	I <sub>C</sub>	1.5	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	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> = 30 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> = 1.0A	50	140		
Collector saturation voltage *	V <sub>CE(sat)</sub>	I <sub>C</sub> = 1.0 A, I <sub>B</sub> = 0.1A		0.21	0.4	V
Base saturation voltage *	V <sub>BE(sat)</sub>	I <sub>C</sub> = 1.0 A, I <sub>B</sub> = 0.1A		1	1.2	V
Base-emitter voltage *	V <sub>BE</sub>	V <sub>CE</sub> = 6.0 V, I <sub>C</sub> = 10 mA	600	630	700	mV
Gain bandwidth product	f <sub>T</sub>	V <sub>CE</sub> = 6.0 V, I <sub>E</sub> = -10 mA		130		MHz
Output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 6 V, I <sub>E</sub> = 0, f = 1.0 MHz		22		pF

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

## ■ h<sub>FE</sub> Classification

Marking	CM	CL	CK
h <sub>FE</sub>	90~180	135~270	200~400