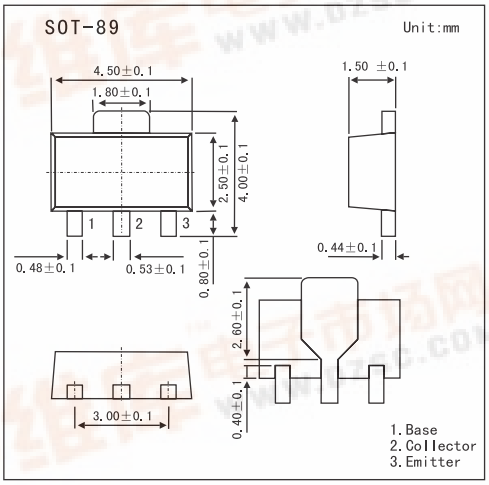
NPN Silicon Epitaxial Transistor

2SD999



■ Features

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

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	30	V
Collector-emitter voltage	V_{CEO}	25	V
Emitter-base voltage	V_{EBO}	5	V
Collector current (DC)	I_C	1	A
Collector Current (pulse) *	I_C	1.5	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} = 30 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 = 1.0A	50	140		
Collector saturation voltage *	$V_{CE(sat)}$	I_C = 1.0 A, I_B = 0.1A		0.21	0.4	V
Base saturation voltage *	$V_{BE(sat)}$	I_C = 1.0 A, I_B = 0.1A		1	1.2	V
Base-emitter voltage *	V_{BE}	V_{CE} = 6.0 V, I_C = 10 mA	600	630	700	mV
Gain bandwidth product	f_T	V_{CE} = 6.0 V, I_E = -10 mA		130		MHz
Output capacitance	C_{ob}	V_{CB} = 6 V, I_E = 0, f = 1.0 MHz		22		pF

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

■ h_{FE} Classification

Marking	CM	CL	CK
h_{FE}	90～180	135～270	200～400