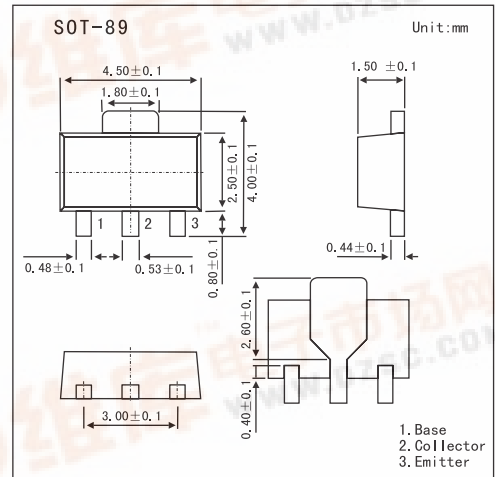


SMD Type Transistors

NPN Silicon Epitaxial Transistor
2SD1001

Features

- World standard miniature package:SOT-89.
- High collector-emitter voltage.



Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V _{CB0}	80	V
Collector-emitter voltage	V _{CE0}	80	V
Emitter-base voltage	V _{EB0}	5	V
Collector current (DC)	I _c	300	mA
Collector Current (pulse) *	I _c	500	mA
Total power dissipation	P _T	2.0	W
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-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 _{cBO}	V _{CB} = 80 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 = 50 mA	90	200	400	
		V _{CE} = 2.0 V, I _c = 300 mA	30	80		
Collector saturation voltage *	V _{CE(sat)}	I _c = 300 mA, I _B = 30 mA		0.15	0.6	V
Base saturation voltage *	V _{BE(sat)}	I _c = 300 mA, I _B = 30 mA		0.86	1.2	V
Base-emitter voltage *	V _{BE}	V _{CE} = 6.0 V, I _c = 10 mA	600	645	700	mV
Gain bandwidth product	f _T	V _{CE} = 6.0 V, I _E = -10 mA		140		MHz
Output capacitance	C _{ob}	V _{CB} = 6 V, I _E = 0, f = 1.0 MHz		70		pF

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

hFE Classification

Marking	EM	EL	EK
h _{FE}	90~180	135~270	200~400

