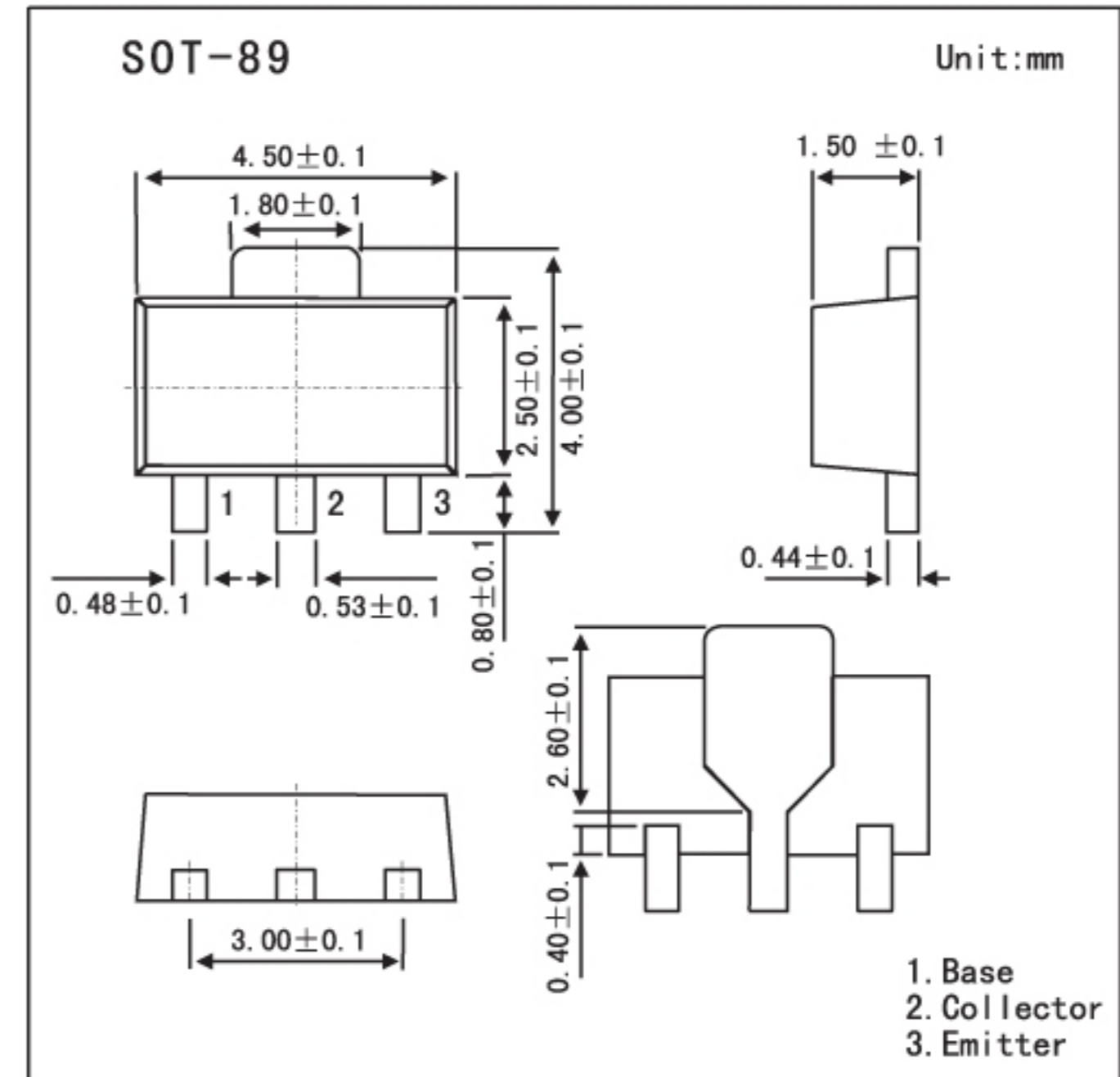


NPN Epitaxial Planar Silicon Transistors

■ Features

- High breakdown voltage. ($BV_{CEO} = 400V$)
- Low saturation voltage,
- typically $V_{CE(sat)} = 0.05V$ at $I_C / I_B = 10mA / 1mA$.
- High switching speed, typically $t_f = 1.7\mu s$ at $I_C = 100mA$.



■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
collector-base voltage	V_{CBO}	400	V
collector-emitter voltage	V_{CEO}	400	V
emitter-base voltage	V_{EBO}	7	V
collector current	I_C	0.1	A
		0.2	A *1
CollectorPower Dissipation	P_C	0.5	W *2
		2	W
Junction Temperature	T_J	150	$^\circ C$
storage Temperature	T_{stg}	-55 to 150	$^\circ C$

*1 Single pulse $p_w=20ms, Duty=1/2$

*2 When mounted on a 40X40X0.7 mm ceramic board.

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	BVCBO	Ic=50μA	400			V
Collector-emitter breakdown voltage	BVCEO	Ic=1mA	400			V
Emitter-base breakdown voltage	BVEBO	IE=50μA	7			V
Collector cutoff current	ICBO	V _{CB} =400V			10	μA
Emitter cutoff current	IEBO	V _{EB} =6V			10	μA
Collector-emitter saturation voltage	V _{CE(sat)}	Ic/Ib=10mA/1mA		0.05	0.5	V
Base-emitter saturation voltage	V _{BE(sat)}	Ic/Ib=10mA/1mA			1.5	V
DC current transfer ratio	hFE	V _{CE} =10V, Ic=10mA	82		270	
Transition frequency	f _T	V _{CE} =10V, I _E =-10mA, f=10MHz		20		MHz
Output capacitance	C _{ob}	V _{CB} =10V, I _E =0A, f=1MHz		7		pF
Turn-on time	t _{on}	Ic=-100mA RL=1.5kΩ		1		μs
Storage time	t _{stg}	I _{B1} =-I _{B2} =10mA		5.5		μs
Fall time	t _f	V _{CC} =-150V		1.7		μs

■ hFE Classification

TYPE	CEP	CEQ
Rank	P	Q
Marking	82 to 180	120 to 270