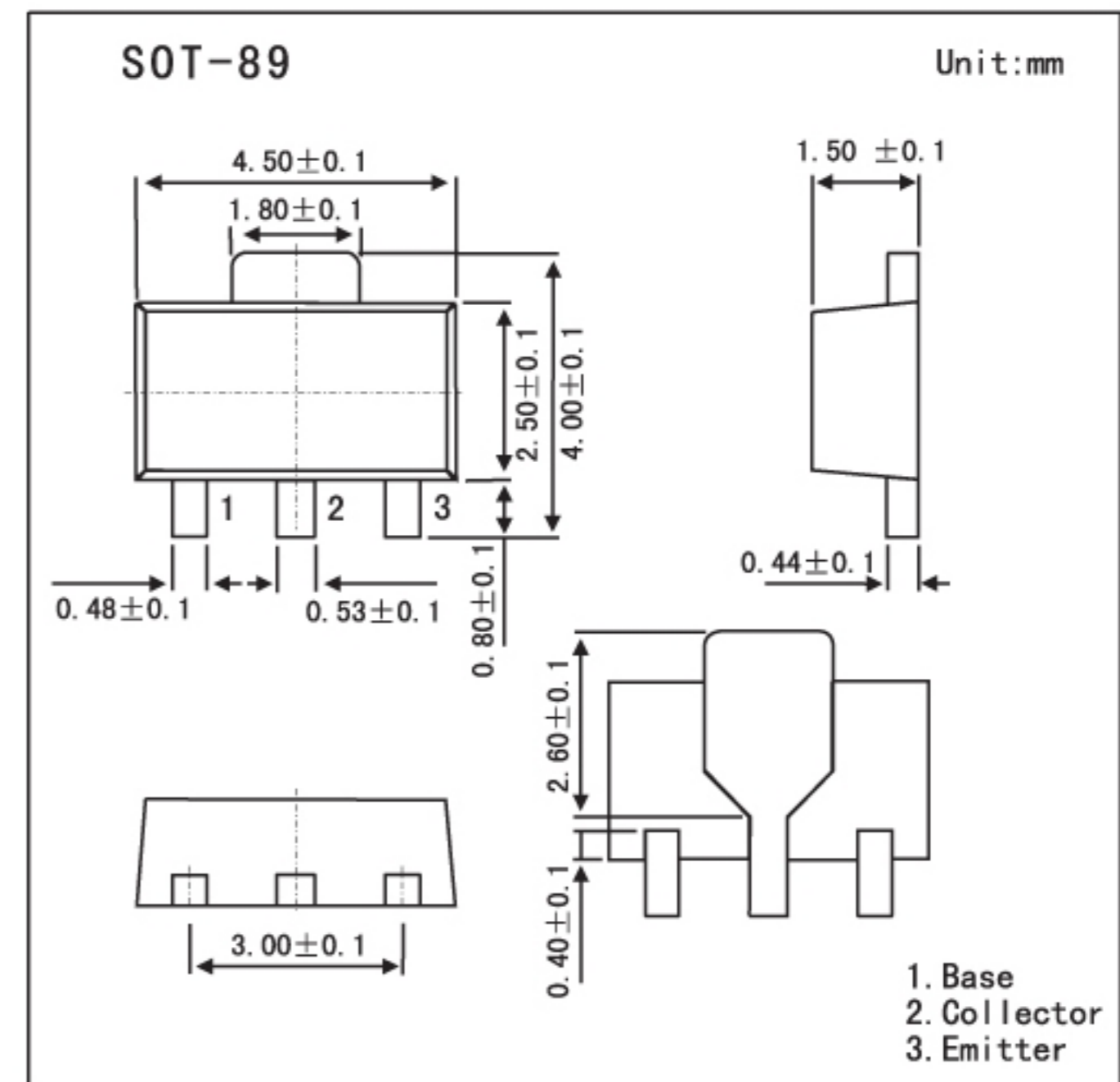


## NPN Epitaxial Planar Silicon Transistors

### ■ 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	VCB=400V			10	μA
Emitter cutoff current	IEBO	VEB=6V			10	μA
Collector-emitter saturation voltage	VCE(sat)	Ic/Ib=10mA/1mA		0.05	0.5	V
Base-emitter saturation voltage	VBE(sat)	Ic/Ib=10mA/1mA			1.5	V
DC current transfer ratio	hFE	VCE=10V , Ic=10mA	82		270	
Transition frequency	fT	VCE=10V , IE=-10mA , f=10MHz		20		MHz
Output capacitance	Cob	VCB=10V , IE=0A , f=1MHz		7		pF
Turn-on time	ton	Ic=-100mA RL=1.5kΩ		1		μs
Storage time	tstg	Ib1=-Ib2=10mA		5.5		μs
Fall time	tr	VCC=-150V		1.7		μs

■ hFE Classification

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