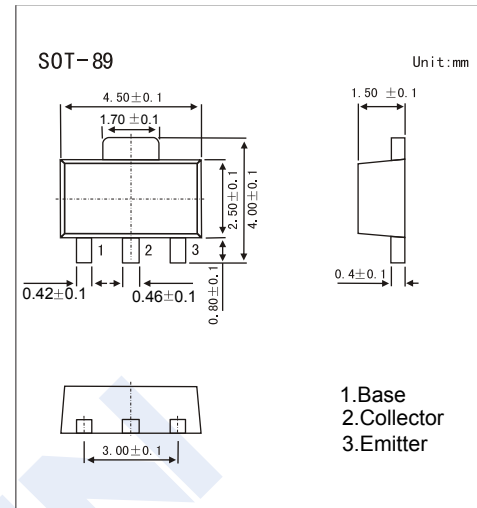


NPN Transistors

2SD1007

■ Features

- High collector to emitter voltage: $V_{CEO} > 120V$.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	120	V
Collector-emitter voltage	V_{CEO}	120	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	0.7	A
Collector current (pulse) *	$I_C (pu)$	1.2	A
Collector power dissipation	P_c	2	W
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	-55 to +150	$^\circ C$

*. $PW \leq 10ms$, duty cycle $\leq 50\%$

■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Base-emitter voltage *	V_{BE}	$V_{CE} = 10V, I_C = 10mA$	550	620	650	mV
Collector cutoff current	I_{CBO}	$V_{CB} = 120V, I_E = 0$			100	nA
Emitter cutoff current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			100	nA
DC current gain *	h_{FE}	$V_{CE} = 1V, I_C = 5.0mA$	45	200		
		$V_{CE} = 1V, I_C = 100mA$	90	200	400	
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = 500mA, I_B = 50mA$		0.3	0.6	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C = 500mA, I_B = 50mA$		0.9	1.5	V
Output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1.0MHz$		10		pF
Transition frequency	f_T	$V_{CE} = 10V, I_E = -10mA$		90		MHz

*. $PW \leq 350us$, duty cycle $\leq 2\%$

■ h_{FE} Classification(2)

Marking	HR	HQ	HP
h_{FE}	90~180	135~270	200~400