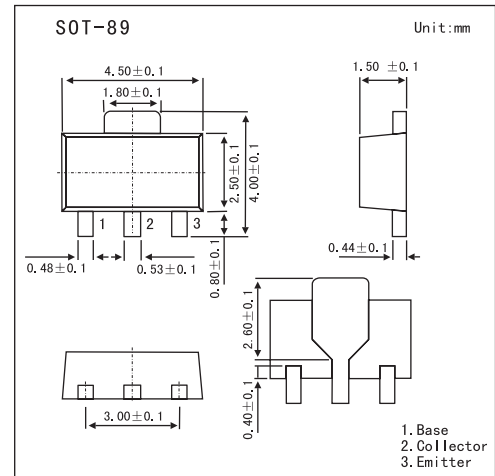


NPN Silicon Epitaxial Transistor

2SD1007

■ Features

- High collector to emitter voltage: $V_{CE0} > 120V$.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	120	V
Collector-emitter voltage	V_{CE0}	120	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_c	0.7	A
Collector current (pulse) *	$I_c(\text{pu})$	1.2	A
Collector power dissipation	P_c	2	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Base-emitter voltage *	V_{BE}	$V_{CE} = 10V, I_c = 10\text{mA}$	550	620	650	mV
Collector cutoff current	I_{CB0}	$V_{CB} = 120V, I_E = 0$			100	nA
Emitter cutoff current	I_{EB0}	$V_{EB} = 5V, I_c = 0$			100	nA
DC current gain *	h_{FE}	$V_{CE} = 1V, I_c = 5.0\text{mA}$	45	200		
		$V_{CE} = 1V, I_c = 100\text{mA}$	90	200	400	
Collector-emitter saturation voltage *	$V_{CE(\text{sat})}$	$I_c = 500\text{mA}, I_B = 50\text{mA}$		0.3	0.6	V
Base-emitter saturation voltage *	$V_{BE(\text{sat})}$	$I_c = 500\text{mA}, I_B = 50\text{mA}$		0.9	1.5	V
Output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1.0\text{MHz}$		10		pF
Transition frequency	f_T	$V_{CE} = 10V, I_E = -10\text{mA}$		90		MHz

*. $PW \leq 350\mu\text{s}$, duty cycle $\leq 2\%$

■ h_{FE} Classification

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