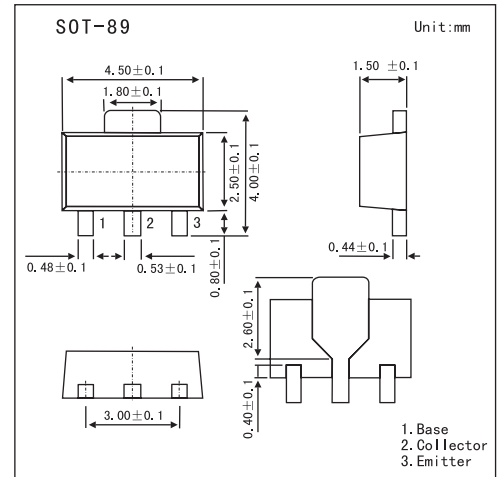


Silicon PNP Triple Diffused Type

2SA1971

■ Features

- High voltage: $V_{CE} = -400\text{ V}$

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	-400	V
Collector-emitter voltage	V_{CE0}	-400	V
Emitter-base voltage	V_{EB0}	-7	V
Collector current	I_C	-0.5	A
Collector current(pulse)	I_{CP}	-1	A
Base current	I_B	-0.25	A
Collector power dissipation	P_C	500	mW
		1000 *	
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to +150	$^\circ\text{C}$

* Mounted on ceramic substrate ($250\text{ mm}^2 \times 0.8\text{ t}$)

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Collector cut-off current	I_{CBO}	$V_{CB} = -400\text{ V}, I_E = 0$			-10	μA	
Emitter cut-off current	I_{EBO}	$V_{EB} = -7\text{ V}, I_C = 0$			-1	μA	
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10\text{ mA}, I_B = 0$	-400			V	
DC current gain	h_{FE}	$V_{CE} = -5\text{ V}, I_C = -20\text{ mA}$	140		450		
		$V_{CE} = -5\text{ V}, I_C = -100\text{ mA}$	140		400		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100\text{ mA}, I_B = -10\text{ mA}$		-0.4	-1	V	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100\text{ mA}, I_B = -10\text{ mA}$		-0.76	-0.9	V	
Transition frequency	f_T	$V_{CE} = -5\text{ V}, I_C = -50\text{ mA}$		35		MHz	
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$		18		pF	
Turn-on time	t_{on}	<p> $20\ \mu\text{s}$ INPUT I_{B1} OUTPUT I_{B2} I_{B2} $2\text{ k}\Omega$ $V_{CC} = -200\text{ V}$ $I_{B1} = -10\text{ mA}, I_{B2} = 20\text{ mA}$ DUTY CYCLE $\leq 1\%$ </p>		0.2		μs	
Storage time	t_{stg}				2.3		μs
Fall time	t_f				0.2		μs