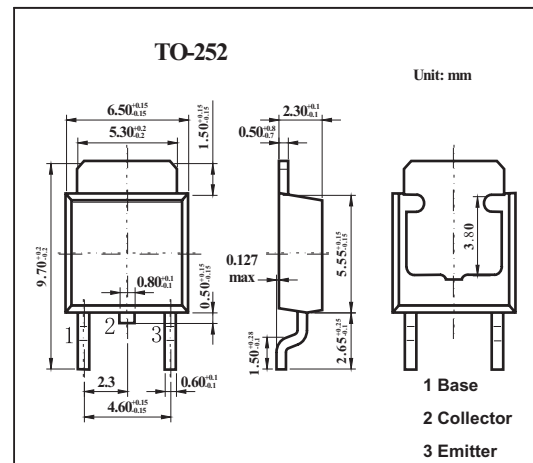


NPN Silicon Epitaxial Transistor

2SC2946

■ Features

- High Voltage $V_{CE0}=200V$
- High speed $t_f < \mu s$

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

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	330	V
Collector to emitter voltage	V_{CEO}	200	V
Emitter to base voltage	V_{EBO}	7	V
Collector current	I_{CP}	2	A
Collector peak current *1	I_C	4	A
Total Power dissipation $T_a = 25^\circ C$ *2	P_T	2	W
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	-55 to +150	$^\circ C$

*1 $PW \leq 10ms$, Duty cycle $\leq 50\%$

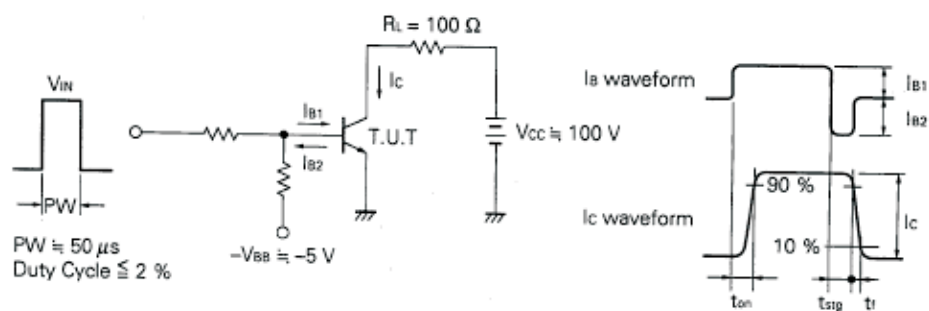
*2 when mounted on ceramic substrate of $7.5cm^2 \times 0.7mm$

2SC2946

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
collector cutoff current	I_{CBO}	$V_{CB}=250\text{V}, I_E=0$			1	μA
emitter cutoff current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			1	μA
DC current Gain *	h_{FE}	$V_{CE}=5\text{V}, I_C=100\text{mA}$	20	60	160	
		$V_{CE}=5\text{V}, I_C=1\text{A}$	15			
Collector Saturation Voltage *	$V_{CE(sat)}$	$I_C=1\text{A}, I_B=0.1\text{A}$			1	V
Base Saturation Voltage *	$V_{BE(sat)}$	$I_C=1\text{A}, I_B=0.1\text{A}$			1.5	V
Turn-on Time	t_{on}	see Test circuit			1	μs
Storage Time	t_{stg}				2	
Fall Time	t_f				1	

* Pulsed: $PW \leq 350\mu\text{s}$, Duty Cycle $\leq 2\%$

■ Switching Time(t_{on}, t_{stg}, t_f) Test Circuit■ h_{FE} Classification

Marking	N	M	L	K
h_{FE}	20 to 50	30 to 70	50 to 100	80 to 160