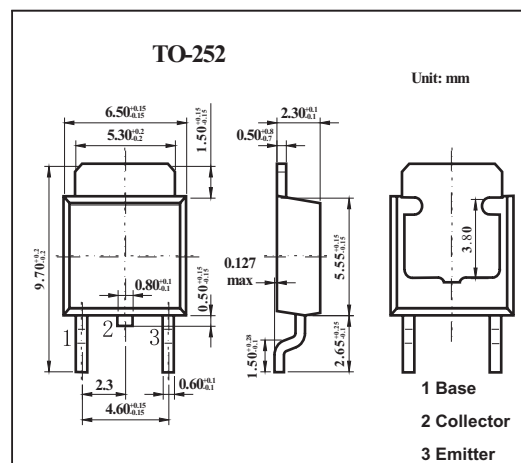


Silicon NPN Epitaxial

2SC3072

■ Features

- High DC current gain.
- Low collector saturation voltage.
- High power dissipation.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	50	V
Collector-emitter voltage	V_{CE0}	20	V
Emitter-base voltage	V_{EB0}	8	V
Collector current	I_C	5	A
Collector current pulse *	I_{CP}	8	A
Base current	I_B	0.5	A
Collector power dissipation $T_a = 25^\circ\text{C}$	P_C	1.0	W
$T_c = 25^\circ\text{C}$		10	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* Pulse test: Pulse width = 10 ms (max), duty cycle = 30% (max)

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 20\text{ V}, I_E = 0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 8\text{ V}, I_C = 0$			100	nA
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0$	20			V
DC current gain	h_{FE}	$V_{CE} = 2\text{ V}, I_C = 0.5\text{ A}$	140		450	
		$V_{CE} = 2\text{ V}, I_C = 4\text{ A}$	70			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 4\text{ A}, I_B = 0.1\text{ A}$			1.0	V
Base-emitter voltage	V_{BE}	$V_{CE} = 2\text{ V}, I_C = 4\text{ A}$			1.5	V
Transition frequency	f_T	$V_{CE} = 2\text{ V}, I_C = 0.5\text{ A}$		100		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$		40		pF

■ h_{FE} Classification

Marking	C3072		
Rank	A	B	C
h_{FE}	140~240	200~330	300~450