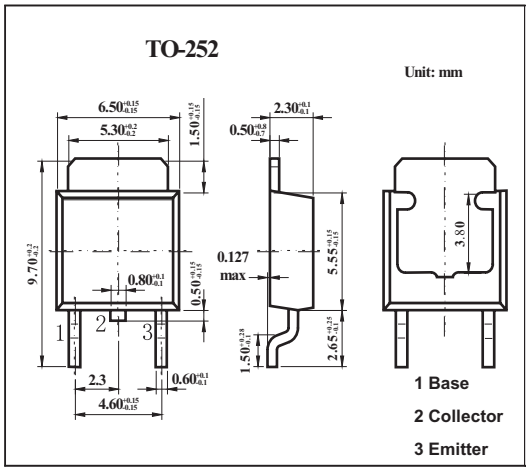
NPN Epitaxial Planar Silicon Transistor

2SC4027



■ Features

- High voltage and large current capcity
- Adoption of MBIT process
- Fast switohing time

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	180	V
Collector to emitter voltage	V_{CEO}	160	V
Emitter to base voltage	V_{EBO}	6	V
Collector current (DC)	I_C	1.5	A
Collector current (Pulse)	I_{cp}	2.5	A
Total Power dissipation Ta = 25℃	P_C	1	W
T_C = 25℃		15	W
Junction temperature	T_j	150	℃
Storage temperature	T_{stg}	-55 to +150	℃

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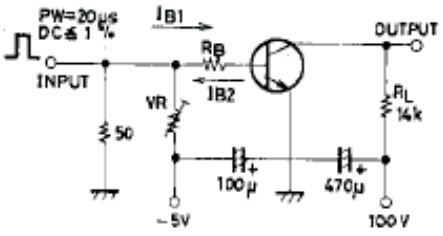
■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
collector cutoff current	I_{CBO}	V_{CB}=120V,I_E=0			1.0	μA
emitter cutoff current	I_{EBO}	V_{EB}=4V,I_C=0			1.0	μA
DC current Gain	h_{FE}	V_{CE}=5V,I_C=100mA	100		400	
		V_{CE}=5V,I_C=10mA	80			
Gain-Bandwidth Product	fT	V_{CE}=10V,I_C=50mA		120		MHz
Output Capacitance	Cob	V_{CB}=10V,f=1MHz		12		pF
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=50mA,I_B=50mA		0.13	0.45	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=50mA,I_B=50mA		0.85	1.2	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA,I_E=0	180			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA,R_{BE}=∞	160			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA,I_C=0	6			V
Turn-ON Time	t_{on}	see specified Test Circuit		60		μs
Storage Time	t_{stg}			1.2		μs
Turn-OFF Time	t_{off}			80		μs

■ Switching Time Test Cirouit



$10I_{B1} = -10I_{B2} = I_C = 0.7A$

For PNP, the polarity is reversed.

Unit (Resistance : Ω, Capacitance : F)

■ h_{FE} Classification

Marking	R	S	T
hFE	100 to 120	140 to 280	200 to 400