

NPN Silicon Epitaxial Planar Transistor

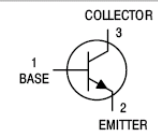


Features:

- Low Current.
- Low voltage.
- Power dissipation. ($P_C = 200\text{mW}$)

Application:

- General purpose switching and amplification application



SOT-323

Maximum Rating @ $T_A=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Value	Units
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}		
Emitter-Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	100	mA
Collector Dissipation	P_C	200	mW
Junction and Storage Temperature	T_j, T_{stg}	-65 to +150	$^\circ\text{C}$

Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

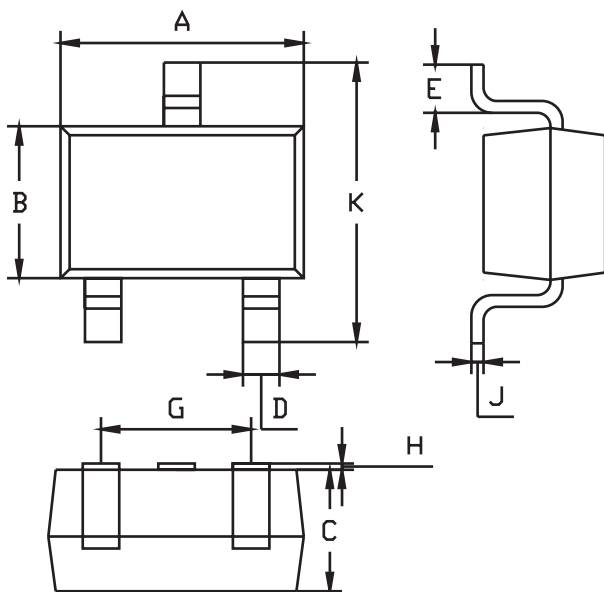
Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$				
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	5			
Collector cut-off current	I_{CBO}	$V_{CB} = 30\text{V}, I_E = 0$			15	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$			100	

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Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Unit
DC current gain	h_{FE}	$V_{CE} = 5V, I_C = 10\mu A$	150			
		$V_{CE} = 5V, I_C = 100mA$	200	290	450	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10mA, I_B = 0.5mA$		90	250	mV
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 10mA, I_B = 0.5mA$		700		V
Transition frequency	f_T	$V_{CE} = 5V, I_C = 10mA$ $f = 100MHz$	100			MHz
Collector capacitance	C_C	$V_{CB} = 10V, I_E = 0,$ $f = 1MHz$			3	pF

Plastic Surface Mounted Package:



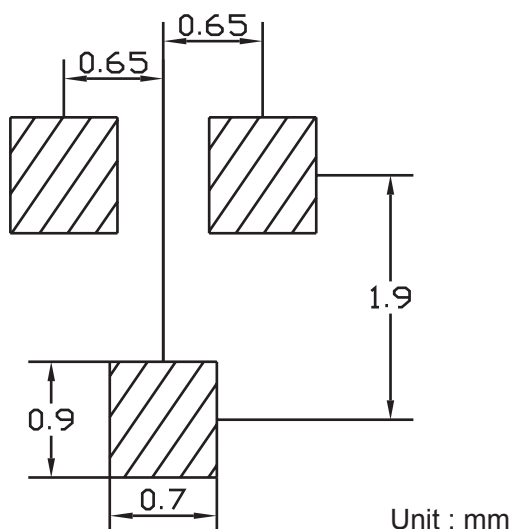
SOT- 323		
Dim	Min	Max
A	1.8	2.2
B	1.15	1.35
C	1 Typical	
D	0.15	0.35
E	0.25	0.40
G	1.2	1.4
H	0.02	0.1
J	0.1 Typical	
K	2.1	2.3
All Dimensions in mm		



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Soldering Footprint:



Part Number Table

Description	Part Number
Transistor, Bipolar, NPN, 65V, 100mA, SOT-323	BC846BW-7-F

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