

TO-92 Plastic-Encapsulate Transistors

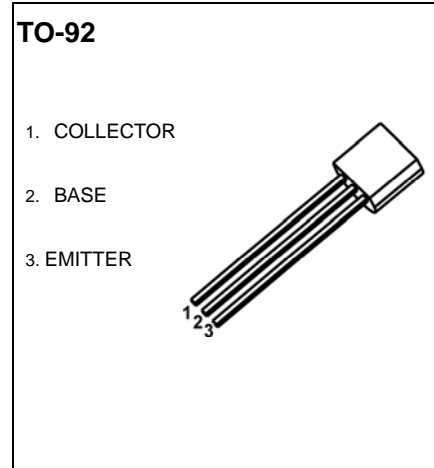
BC307/308/309 TRANSISTOR (PNP)

FEATURES

- Amplifier dissipation NPN Silicon

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CEO}	Collector-Emitter Voltage BC307	-45	V
	BC308/309	-25	
V _{EBO}	Emitter-Base Voltage BC307	-6	V
	BC308/309	-5	
I _C	Collector Current -Continuous	-0.1	A
P _C	Collector Power Dissipation	500	mW
R _{θJA}	Thermal Resistance, Junction to Ambient	357	°C/W
R _{θJC}	Thermal Resistance, Junction to Case	125	°C/W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C



ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-10μA, I _E =0 BC307	-50			V
		BC308/309	-30			
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =-2mA, I _B =0 BC307	-45			V
		BC308/309	-25			
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-10μA, I _C =0	-5			V
Collector cut-off current	I _{CBO}	V _{CB} =-45V, I _E =0 BC307			-15	nA
		V _{CB} =-25V, I _E =0 BC308/309				
Emitter cut-off current	I _{EBO}	V _{EB} =-5V, I _C =0			-15	nA
DC current gain	h _{FE}	V _{CE} =-5V, I _C =-2mA	120		800	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =-10mA, I _B =-0.5mA			-0.3	V
		I _C =-100mA, I _B =-5mA			-0.6	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C =-10mA, I _B =-0.5mA			-0.75	V
		I _C =-100mA, I _B =-5mA			-1	V
Base-emitter voltage	V _{BE}	V _{CE} =-5V, I _C =-2mA	-0.55		-0.75	V
Transition frequency	f _T	V _{CE} =-5V, I _C =-10mA, f=50MHz		130		MHz
Collector output capacitance	C _{ob}	V _{CB} =-10V, I _E =0, f=1MHz			6	pF
Noise figure	NF	V _{CE} =-5V, I _C =-0.2mA, f=1KHz, R _G =2KΩ BC307/BC308			10	dB
		BC309			4	
		V _{CE} =-5V, I _C =-0.2mA, f=30-15KHz, R _G =2KΩ BC309			4	

CLASSIFICATION OF h_{FE}

Rank	A	B	C
Range	120-220	180-460	380-800

TO-92 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

NOTICE

JCET reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JCET does not assume any liability arising out of the application or use of any product described herein.

TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250