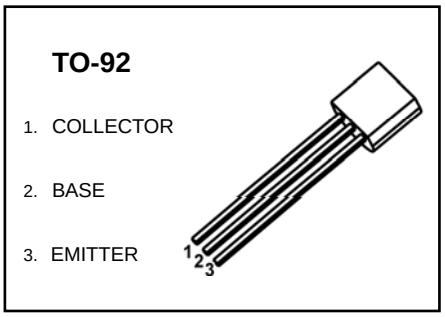
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD

TO-92 Plastic-Encapsulate Transistors

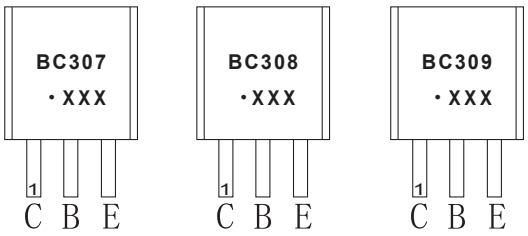
BC307/308/309 TRANSISTOR (PNP)



FEATURES

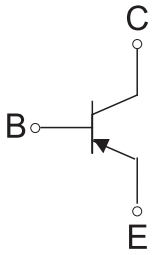
- Amplifier dissipation NPN Silicon

MARKING



BC307,BC308,BC309=Device code
Solid dot=Green molding compound device, if none,the normal device
XXX=Code

Equivalent Circuit



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
BC307	TO-92	Bulk	1000pcs/Bag
BC307-TA	TO-92	Tape	2000pcs/Box
BC308	TO-92	Bulk	1000pcs/Bag
BC308-TA	TO-92	Tape	2000pcs/Box
BC309	TO-92	Bulk	1000pcs/Bag
BC309-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter		Value	Unit
V_{CEO}	Collector-Emitter Voltage	BC307 BC308/309	-45 -25	V
V_{EBO}	Emitter-Base Voltage	BC307 BC308/309	-6 -5	V
I_C	Collector Current -Continuous		-0.1	A
P_C	Collector Power Dissipation		500	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient		357	℃ /W
$R_{\theta JC}$	Thermal Resistance, Junction to Case		125	℃ /W
T_J,T_{stg}	Operation Junction and Storage Temperature Range		-55-150	℃

ELECTRICAL CHARACTERISTICS

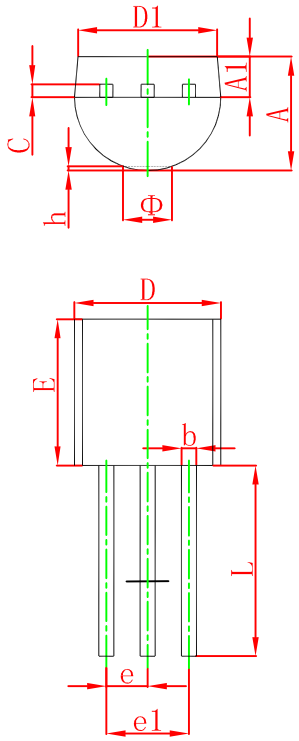
T_a=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-10μA, I_E=0 BC307 BC308/309	-50 -30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-2mA, I_B=0 BC307 BC308/309	-45 -25			V
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 V_{CB}=-25V,I_E=0 BC308/309			-15	nA
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 BC309 V_{CE}=-5V, I_C=-0.2mA , f=30-15KHz, R_G=2KΩ BC309			10 4 4	dB

CLASSIFICATION OF h_{FE}

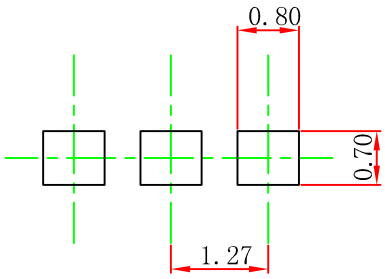
Rank	**A**	**B**	**C**
Range	120-220	180-460	380-800

TO-92 Package Outline Dimensions



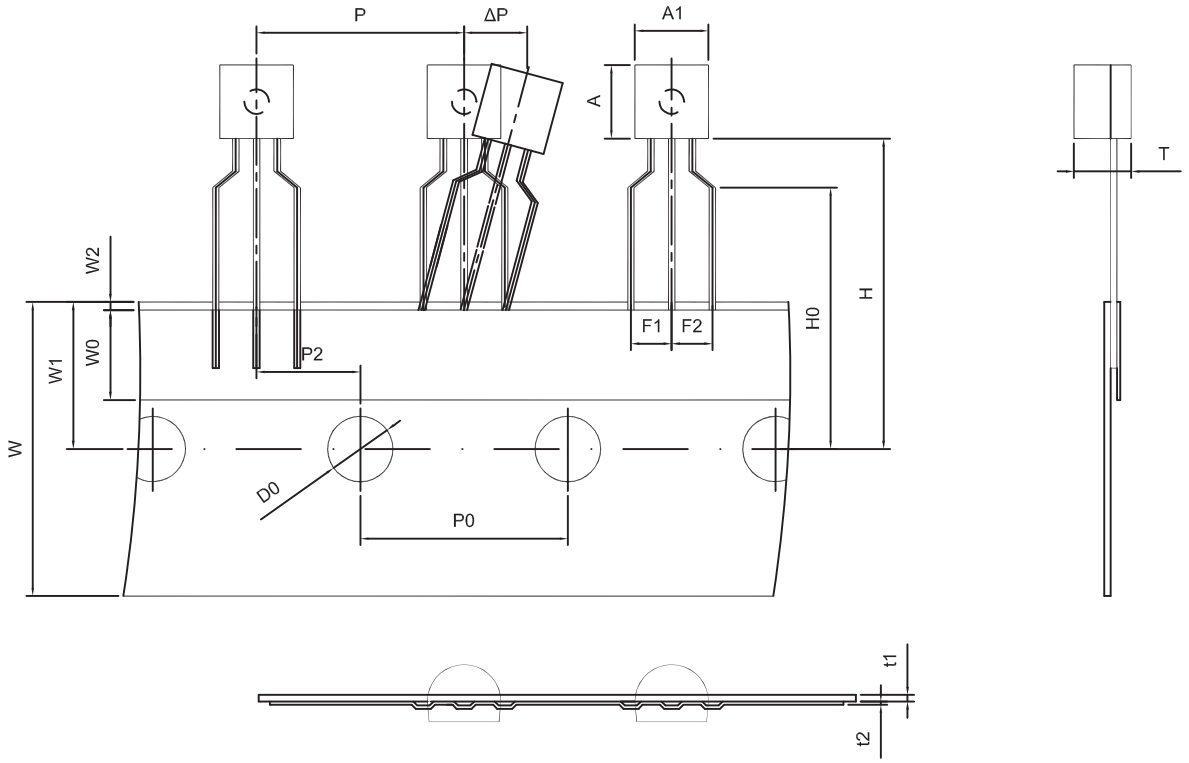
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100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

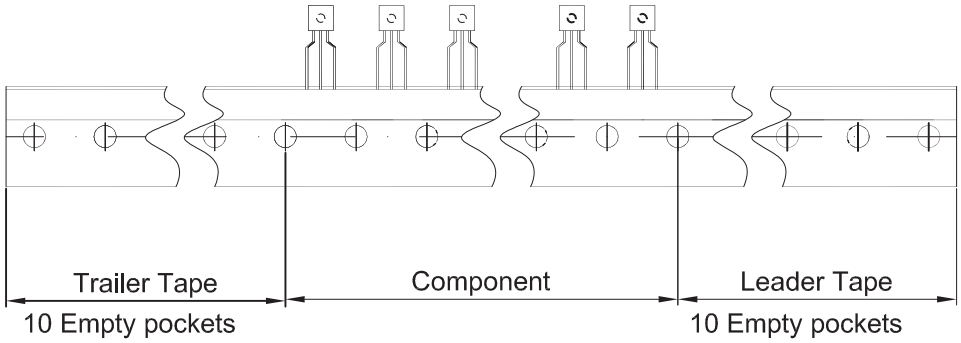


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

TO-92 PACKAGE TAPING 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