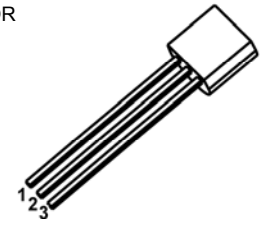
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-92 Plastic-Encapsulate Transistors

BC546 / BC547 / BC548 TRANSISTOR (NPN)

TO-92

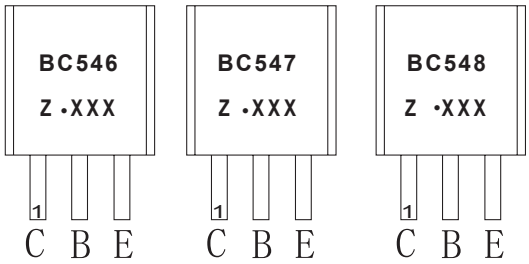
1. COLLECTOR
2. BASE
3. EMITTER



FEATURES

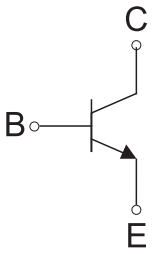
- High Voltage
- Complement to BC556,BC557,BC558

MARKING



BC546,BC547,BC548=Device code
Solid dot=Green molding compound device, if none,the normal device
Z=Rank of h_{FE}
XXX=Code

Equivalent Circuit



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
BC546	TO-92	Bulk	1000pcs/Bag
BC546-TA	TO-92	Tape	2000pcs/Box
BC547	TO-92	Bulk	1000pcs/Bag
BC547-TA	TO-92	Tape	2000pcs/Box
BC548	TO-92	Bulk	1000pcs/Bag
BC548-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter		Value	Unit
V_{CBO}	Collector-Base Voltage	BC546	80	V
		BC547	50	
		BC548	30	
V_{CEO}	Collector-Emitter Voltage	BC546	65	V
		BC547	45	
		BC548	30	
V_{EBO}	Emitter-Base Voltage	BC546	6	V
		BC547	6	V
		BC548	5	V
I_C	Collector Current-Continuous		0.1	A
P_C	Collector Power Dissipation		625	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient		200	℃/W
T_j	Junction Temperature		150	℃
T_{stg}	Storage Temperature		-55~+150	℃

ELECTRICAL CHARACTERISTICS

T_a=25℃ unless otherwise specified

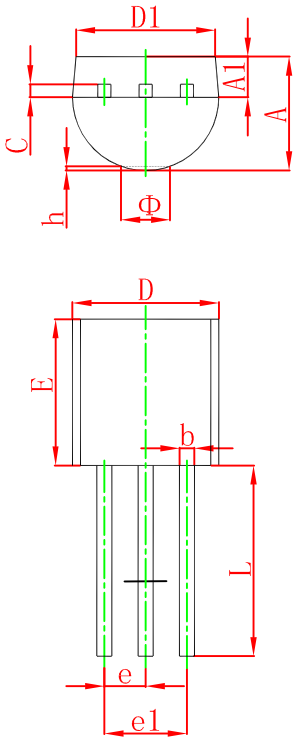
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter		Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BC546	$V_{(BR)CBO}$	I_C= 0.1mA,I_E=0	80			V
	BC547			50			
	BC548			30			
Collector-emitter breakdown voltage	BC546	$V_{(BR)CEO}$	I_C=1mA,I_B=0	65			V
	BC547			45			
	BC548			30			
Emitter-base breakdown voltage	BC546	$V_{(BR)EBO}$	I_E=10μA,I_C=0	6			V
	BC547			6			
	BC548			5			
Collector cut-off current	BC546	I_{CBO}	V_{CB}=70V,I_E=0			0.1	μA
	BC547		V_{CB}=50V,I_E=0			0.1	μA
	BC548		V_{CB}=30V,I_E=0			0.1	μA
Collector cut-off current	BC546	I_{CEO}	V_{CE}=60V,I_B=0			0.1	μA
	BC547		V_{CE}=45V,I_B=0			0.1	μA
	BC548		V_{CE}=30V,I_B=0			0.1	μA
Emitter cut-off current		I_{EBO}	V_{EB}=5V,I_C=0			0.1	μA
DC current gain		h_{FE} *	V_{CE}=5V, I_C=2mA	110		800	
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=100mA,I_B=5mA			0.3	V
Base-emitter saturation voltage		$V_{BE(sat)}$	I_C=100mA,I_B=5mA			1.1	V
Base-emitter voltage		V_{BE}	V_{CE}=5V, I_C=2mA	0.58		0.7	V
			V_{CE}=5V, I_C=10mA			0.75	V
Collector output capacitance		C_{ob}	V_{CB}=10V,I_E=0, f=1MHz			4.5	pF
Transition frequency		f_T	V_{CE}=5V,I_C=10mA, f=100MHz	150			MH

CLASSIFICATION of h_{FE}

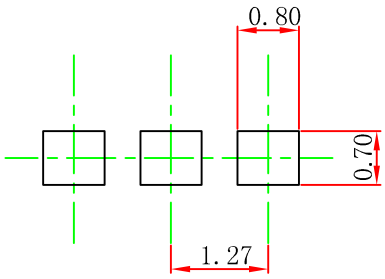
RANK	A	B	C
RANGE	110-220	200-450	420-800

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

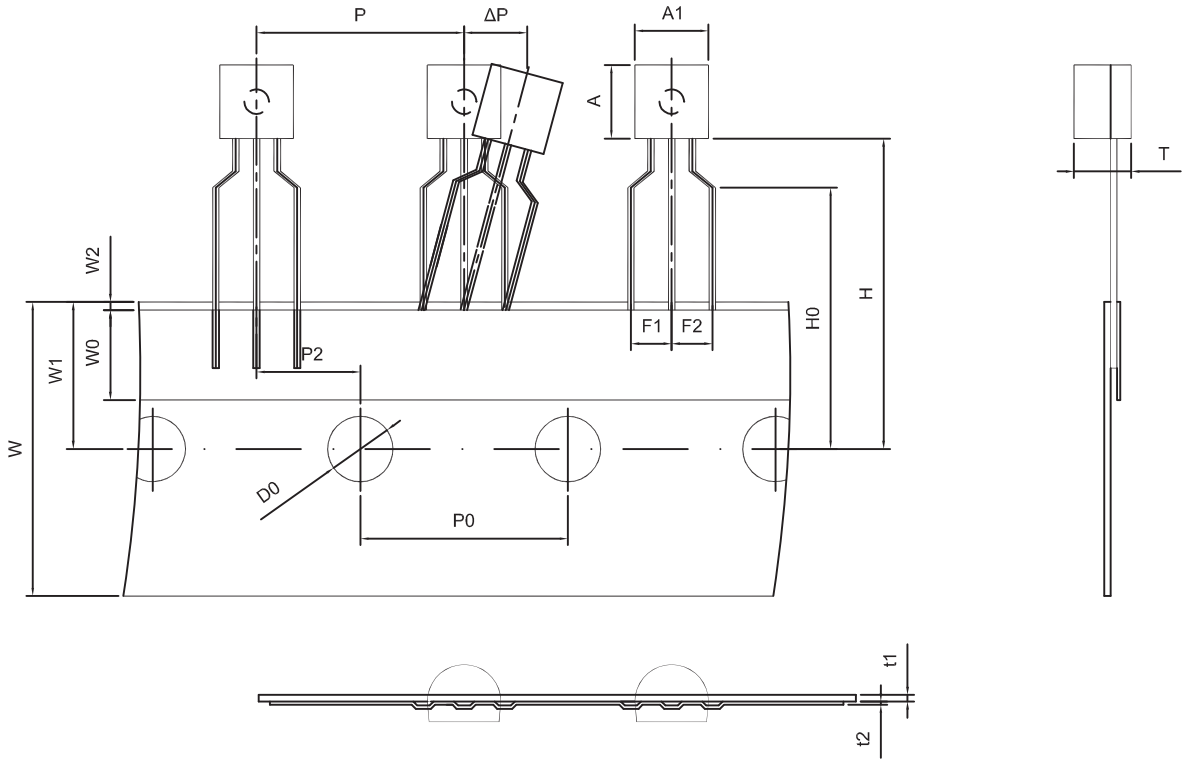


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

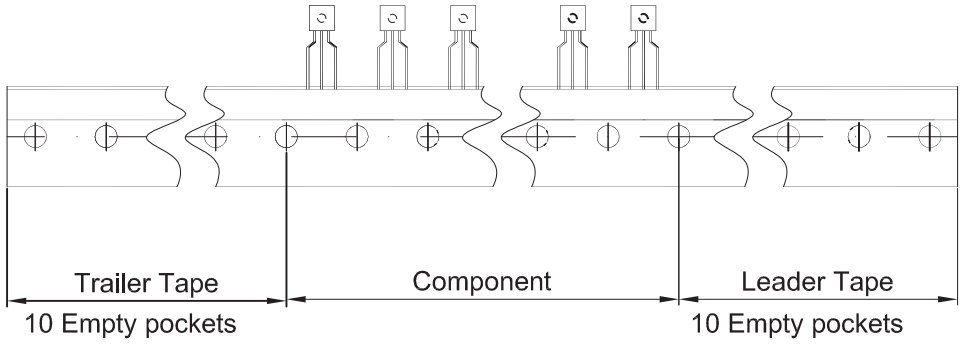
NOTICE

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