



TO-92 Plastic-Encapsulate Transistors

BC546/BC547/BC548 TRANSISTOR (NPN)

FEATURES

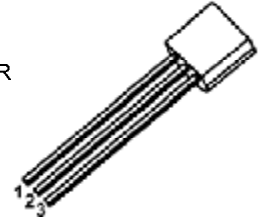
- High Voltage
- Complement to BC556,BC557,BC558

MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ 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	$^{\circ}\text{C}/\text{W}$
T_j	Junction Temperature		150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature		-55~+150	$^{\circ}\text{C}$

TO - 92

1. COLLECTOR
2. BASE
3. EMITTER



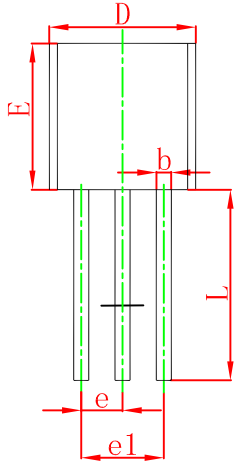
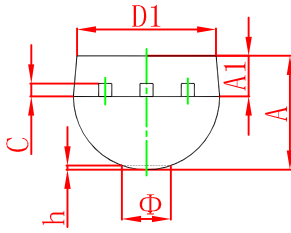
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

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 _{cb}	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}

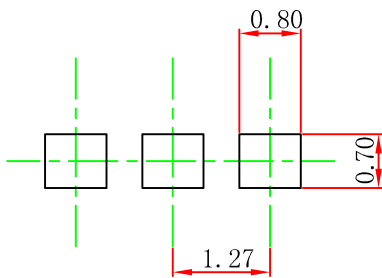
RANK	A	B	C
RANGE	110-220	200-450	420-800

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

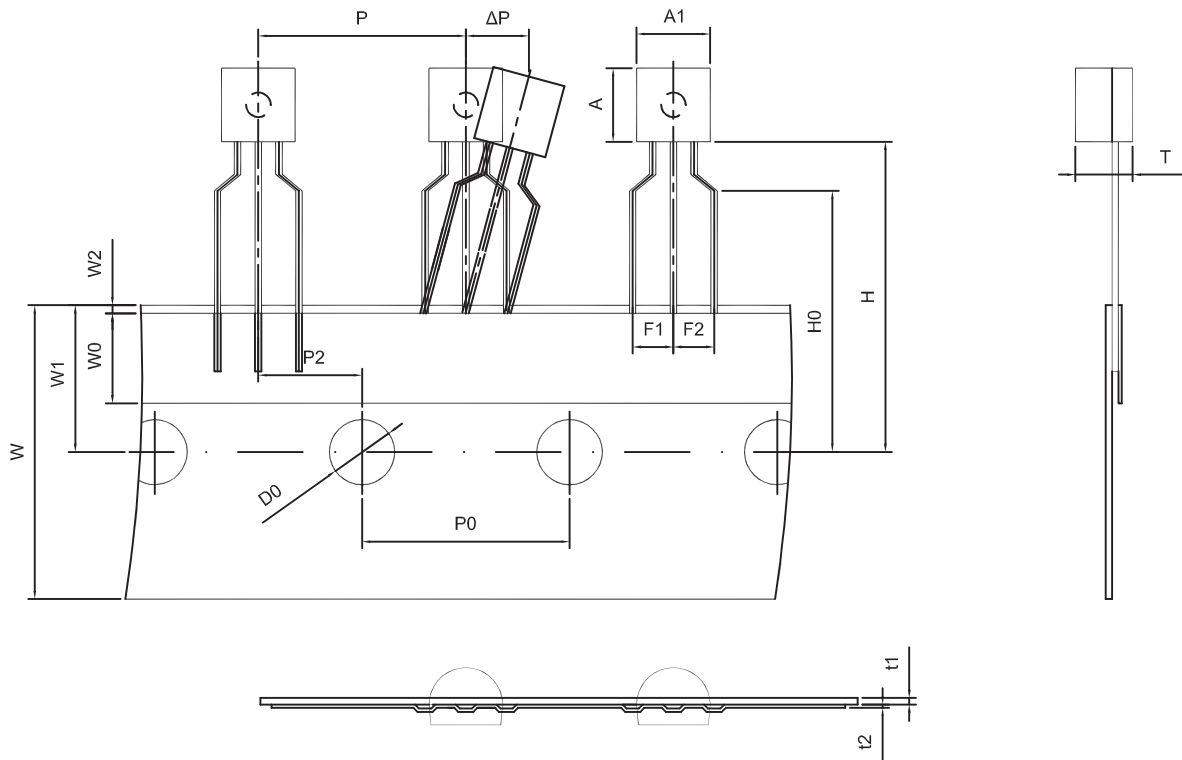
TO-92 Suggested Pad Layout



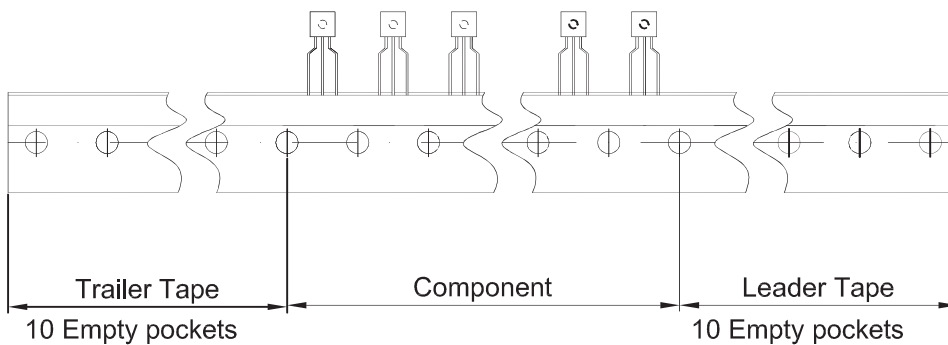
Note:

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

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