BC546/BC547/BC548

TRANSISTOR(NPN)

Package TO-92

FEATURE

- High Voltage
- Complement to BC556, BC557, BC558

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

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

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

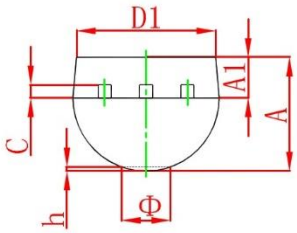
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

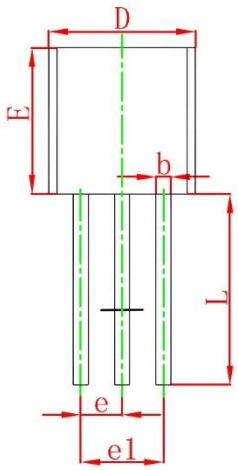
Parameter	Symbol	Test conditions		MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=0.1mA, I_E=0	BC546	80			V
			BC547	50			
			BC548	30			
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	BC546	65			V
			BC547	45			
			BC548	30			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	BC546	6			V
			BC547	6			
			BC548	5			
Collector cut-off current	I_{CBO}	V_{CB}=70V, I_E=0	BC546			0.1	μA
		V_{CB}=50V, I_E=0	BC547			0.1	
		V_{CB}=30V, I_E=0	BC548			0.1	
Collector cut-off current	I_{CEO}	V_{CE}=60V, I_B=0	BC546			0.1	μA
		V_{CE}=45V, I_B=0	BC547			0.1	
		V_{CE}=30V, I_B=0	BC548			0.1	
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
Transition frequency	f_T	V_{CE}=5V, I_C=10mA, f=100MHz		150			MHz
Collector output capacitance	C_{OB}	V_{CB}=10V, I_E=0, f=1MHz				4.5	pF

CLASSIFICATION OF h_{FE}

Rank	A	B	C
Range	110-220	200-450	420-800

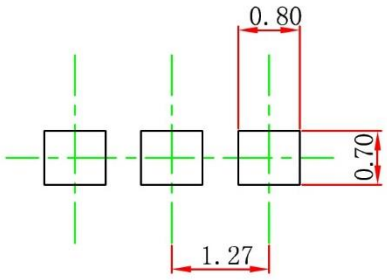
TO-92 Package Outline Dimensions





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

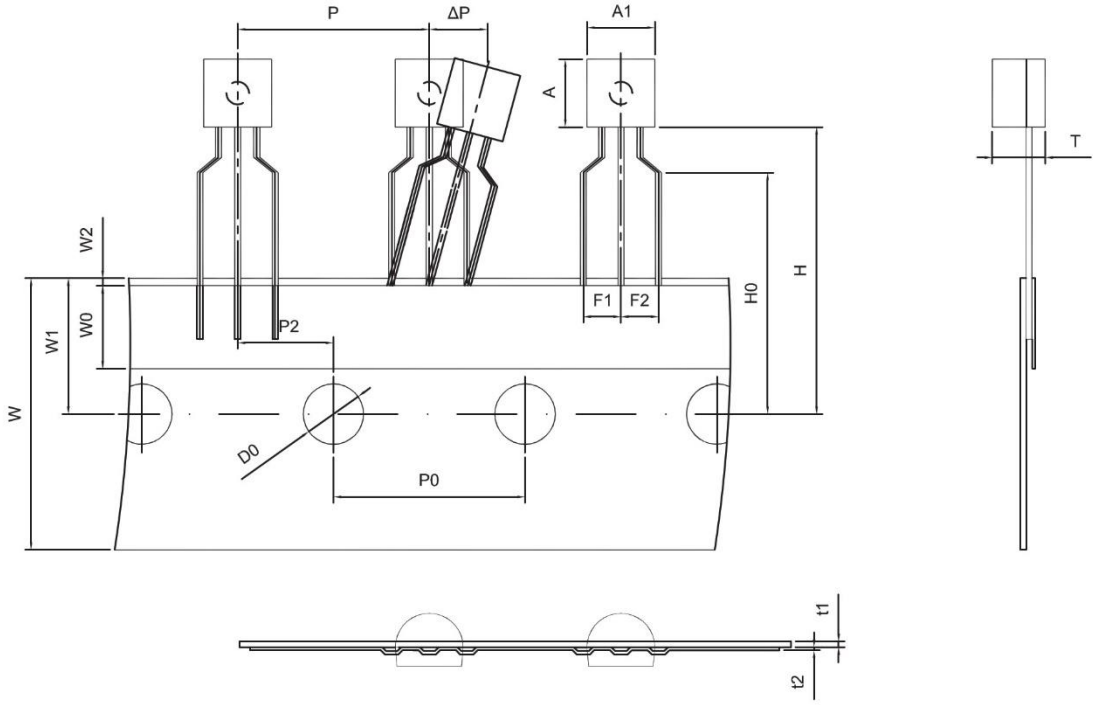
TO-92 Suggested Pad Layout



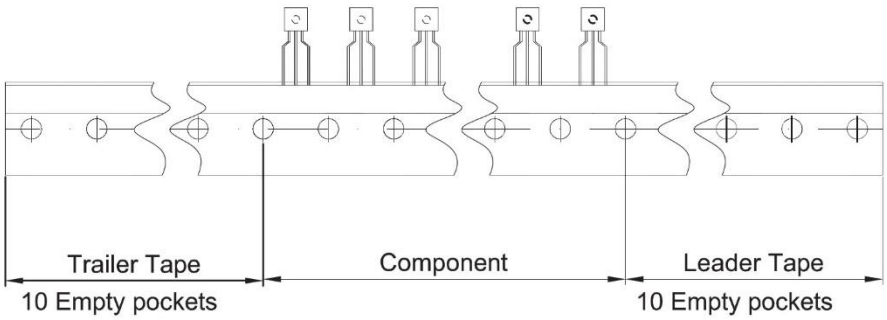
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

TO-92 Tape and Reel

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