

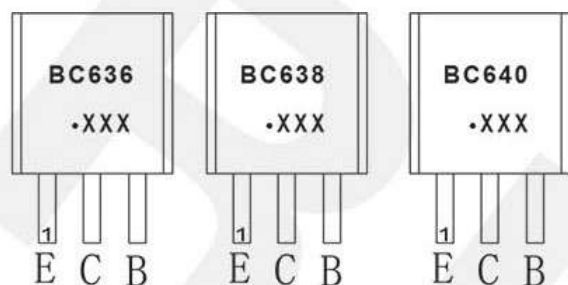
TO-92 Plastic-Encapsulate Transistors

BC636 / BC638 / BC640 TRANSISTOR (PNP)

FEATURES

High current transistors

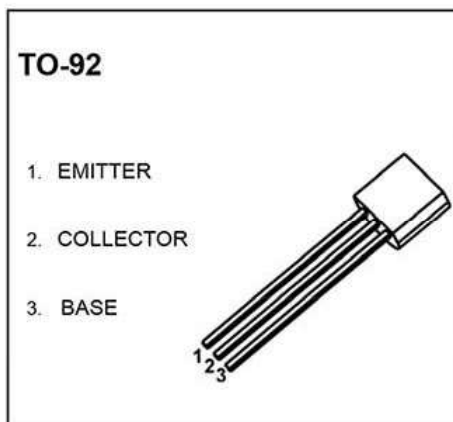
MARKING



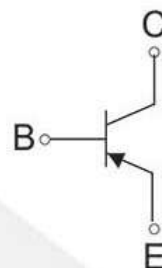
BC636,BC638,BC640=Device code

Solid dot=Green molding compound device,
if none,the normal device

XXX=Code



Equivalent Circuit



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
BC636	TO-92	Bulk	1000pcs/Bag
BC636-TA	TO-92	Tape	2000pcs/Box
BC638	TO-92	Bulk	1000pcs/Bag
BC638-TA	TO-92	Tape	2000pcs/Box
BC640	TO-92	Bulk	1000pcs/Bag
BC640-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	BC636	-45
		BC638	-60
		BC640	-100
V_{CEO}	Collector-Emitter Voltage	BC636	-45
		BC638	-60
		BC640	-80
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-1	A
P_C	Collector Power Dissipation	0.83	W
$R_{\theta JA}$	Thermal Resistance, junction to Ambient	150	$^{\circ}\text{C}/\text{W}$
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

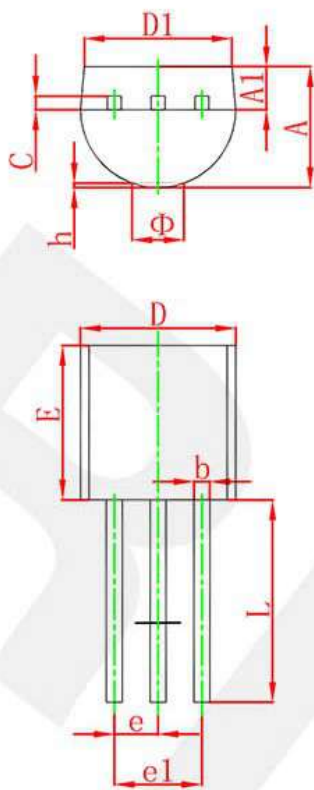
T_a=25 °C unless otherwise specified

Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-100µA, I _E =0	BC636	-45			V
			BC638	-60			
			BC640	-100			
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =-1mA, I _B =0	BC636	-45			V
			BC638	-60			
			BC640	-80			
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-100µA, I _C =0		-5			V
Collector cut-off current	I _{CBO}	V _{CB} =-30V, I _E =0				-0.1	µA
Emitter cut-off current	I _{EBO}	V _{EB} = -5V, I _C =0				- 0.1	µA
DC current gain	h _{FE(1)}	V _{CE} = -2V, I _C =- 5mA		40			
	h _{FE(2)}	V _{CE} = -2V, I _C =- 150mA		63		250	
	h _{FE(3)}	V _{CE} = -2V, I _C =- 500mA		25			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =- 500mA, I _B = -50mA				-0.5	V
Base-emitter voltage	V _{BE}	V _{CE} = -2V, I _C = -500mA				- 1	V
Transition frequency	f _T	V _{CE} = -5V, I _C =- 50mA, f=100MHz		100			MHz

CLASSIFICATION OF h_{FE(2)}

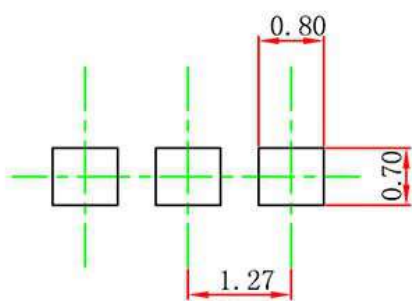
Rank	BC636-10	BC636-16, BC638-16, BC640-16
Range	63-160	100-250

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



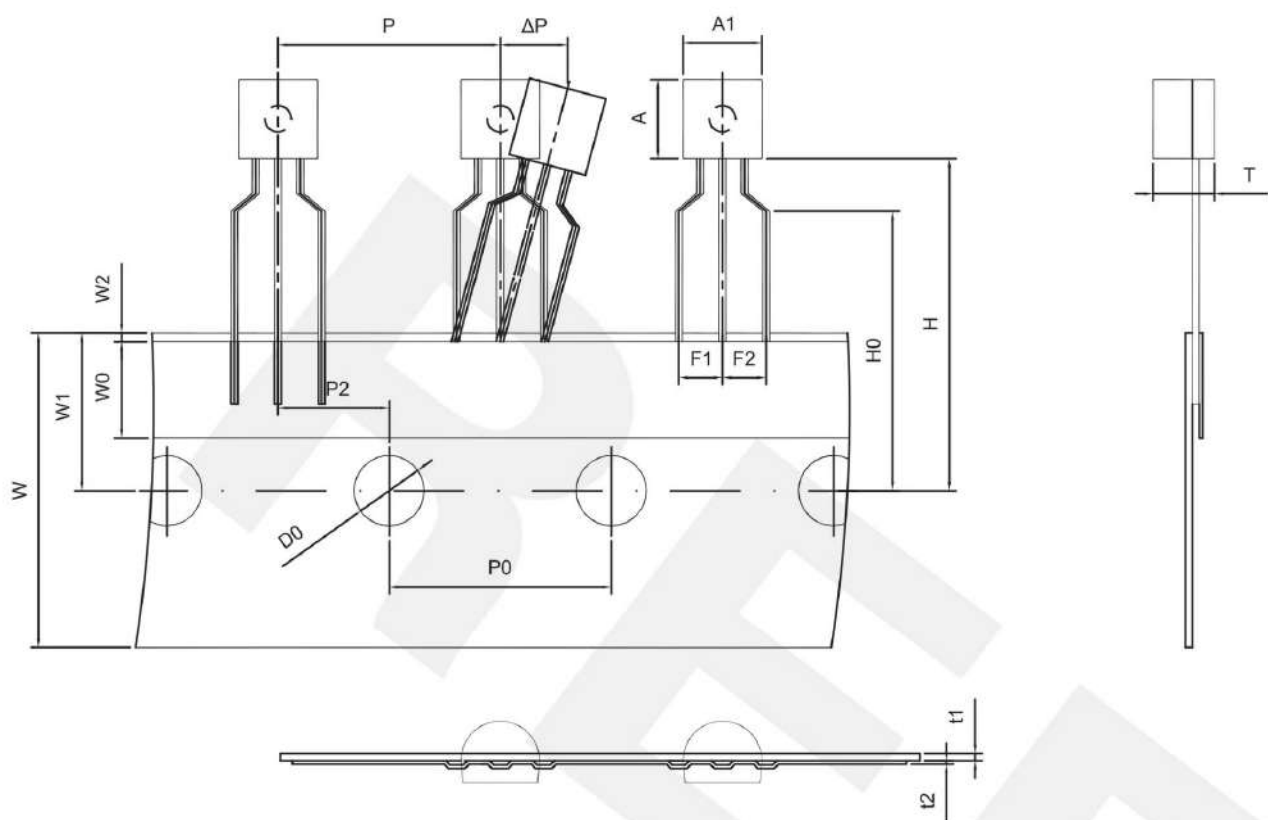
- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.

NOTICE

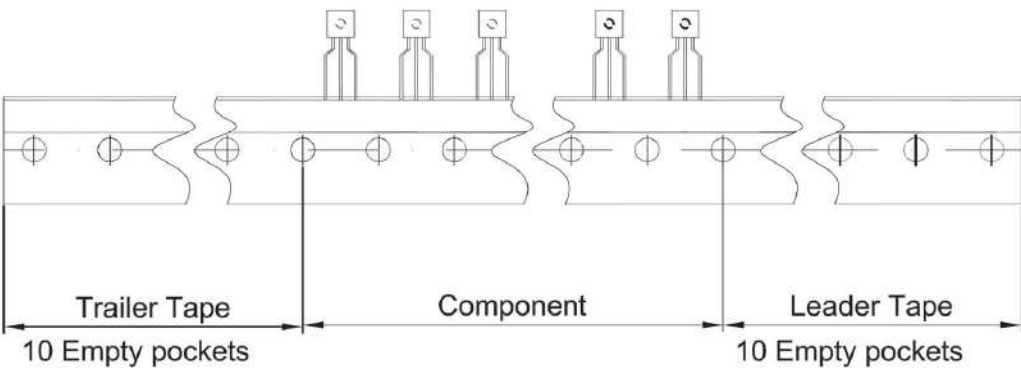
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TO-92 Tape and Reel

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