

TO-92 Plastic-Encapsulate Transistors

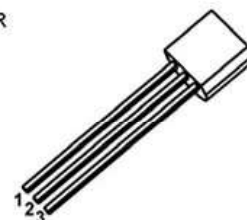
BC337/BC338 TRANSISTOR (NPN)

FEATURES

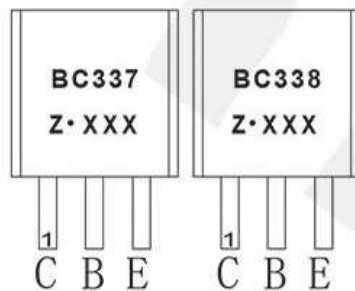
- Power dissipation

TO-92

1. COLLECTOR
2. BASE
3. EMITTER



MARKING



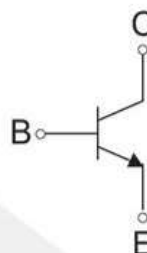
BC337,BC338=Device code

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
BC337	TO-92	Bulk	1000pcs/Bag
BC337-TA	TO-92	Tape	2000pcs/Box
BC338	TO-92	Bulk	1000pcs/Bag
BC338-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	BC337	50	V
		BC338	30	
V_{CEO}	Collector-Emitter Voltage	BC337	45	V
		BC338	25	
V_{EBO}	Emitter-Base Voltage		5	V
I_C	Collector Current -Continuous		800	mA
P_D	Total Device Dissipation		625	mW
T_j	Junction Temperature		150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature		-55-150	$^{\circ}\text{C}$

BC337-40

ELECTRICAL CHARACTERISTICS

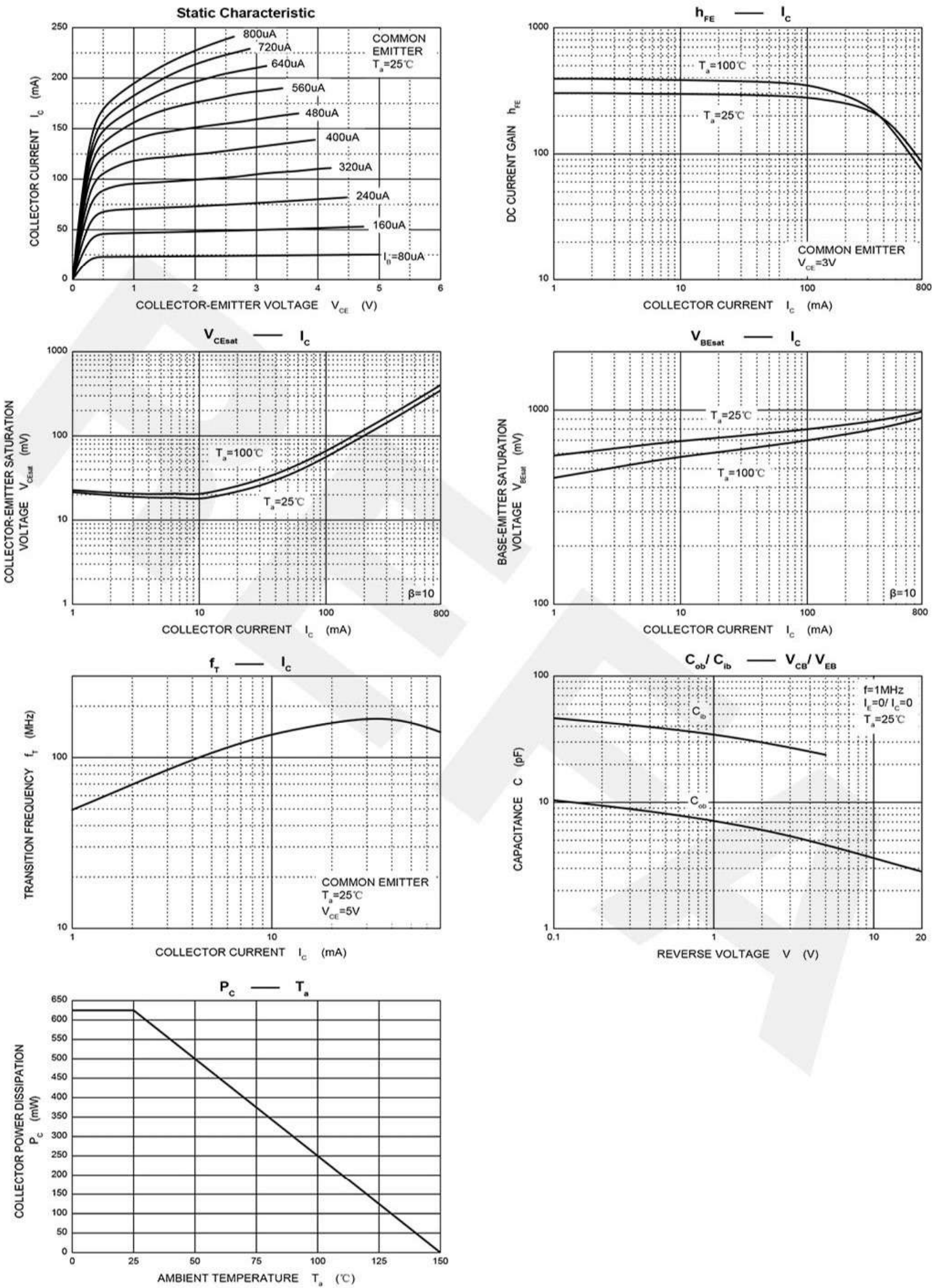
T_a=25 °C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage BC337 BC338	V _{CBO}	I _C = 100uA, I _E =0	50 30			V V
Collector-emitter breakdown voltage BC337 BC338	V _{CEO}	I _C = 10mA , I _B =0	45 25			V V
Emitter-base breakdown voltage	V _{EBO}	I _E = 10uA, I _C =0	5			V
Collector cut-off current BC337 BC338	I _{CBO}	V _{CB} = 45V, I _E =0 V _{CB} = 25V, I _E =0			0.1 0.1	uA
Collector cut-off current BC337 BC338	I _{CEO}	V _{CE} = 40V, I _B =0 V _{CE} = 20V, I _B =0			0.2 0.2	uA
Emitter cut-off current	I _{EBO}	V _{EB} = 4 V, I _C =0			0.1	uA
BC337/BC338 BC337-16/BC338-16 BC337-25/BC338-25 BC337-40/BC338-40	h _{FE(1)}	V _{CE} =1V, I _C = 100mA	100 100 160 250		630 250 400 630	
DC current gain	h _{FE(2)}	V _{CE} =1V, I _C = 300mA	60			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =500mA, I _B = 50mA			0.7	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C = 500mA, I _B =50mA			1.2	V
Base-emitter voltage	V _{BE}	V _{CE} =1V, I _C = 300mA			1.2	V
Transition frequency	f _T	V _{CE} = 5V, I _C = 10mA f = 100MHz	210			MHz
Collector Output Capacitance	Cob	V _{CB} =10V,I _E =0 f=1MHZ		15		pF

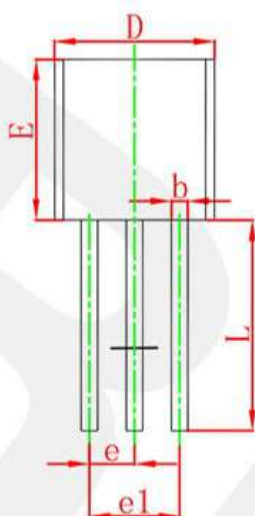
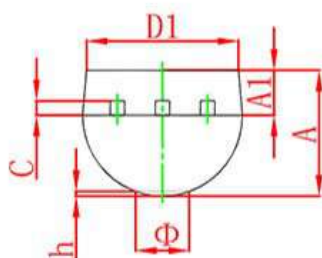
CLASSIFICATION OF h_{FE(1)}

	BC337-16/BC338-16	BC337-25/BC338-25	BC337-40/BC338-40
RANK	A	B	C
RANGE	100-250	160-400	250-630

Typical Characteristics

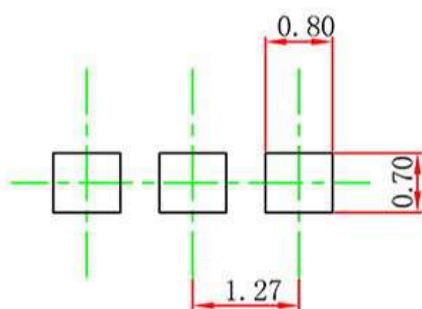


TO-92 Package Outline Dimensions



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



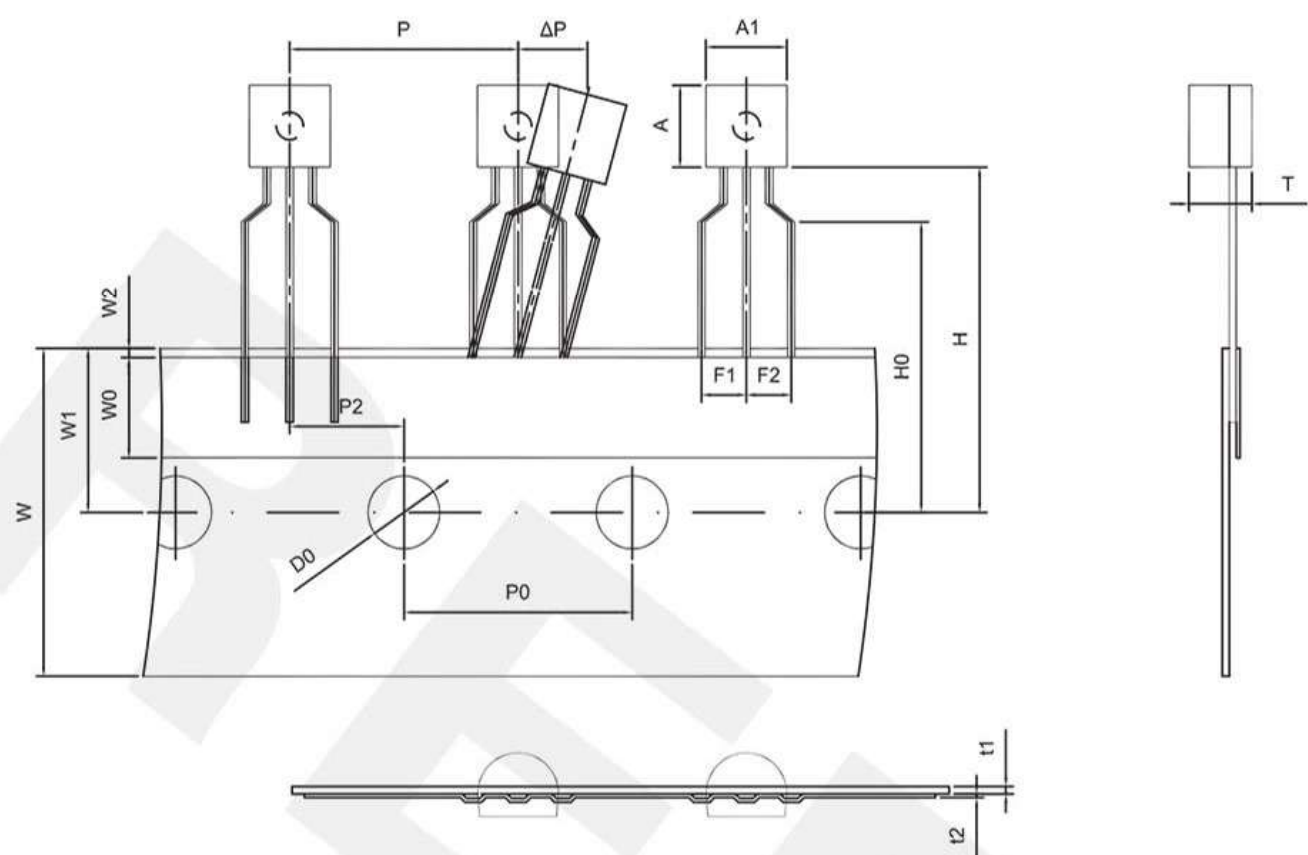
- Note:
- 1. Controlling dimension: in millimeters.
 - 2. General tolerance: $\pm 0.05\text{mm}$.
 - 3. The pad layout is for reference purposes only.

NOTICE

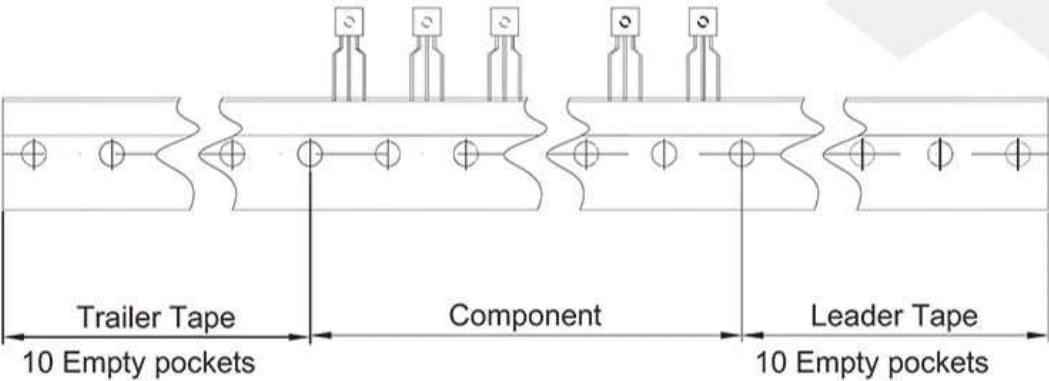
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TO-92 Tape and Reel

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