

TO-92 Plastic-Encapsulate Transistors

BC337/BC338 TRANSISTOR (NPN)

FEATURES

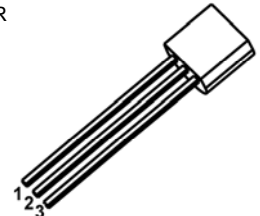
Power dissipation

MAXIMUM RATINGS (T_a=25°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	°C
T _{stg}	Storage Temperature	-55-150	°C

TO-92

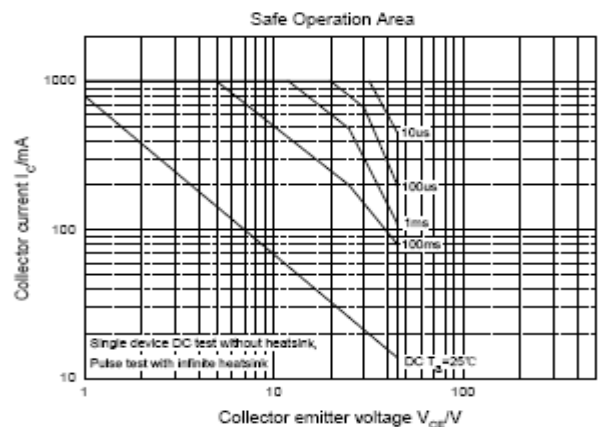
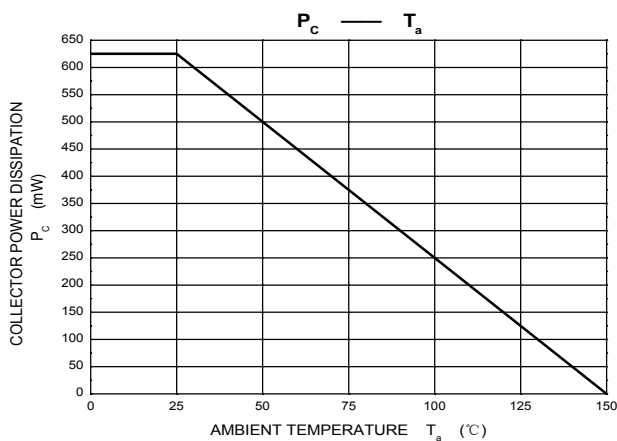
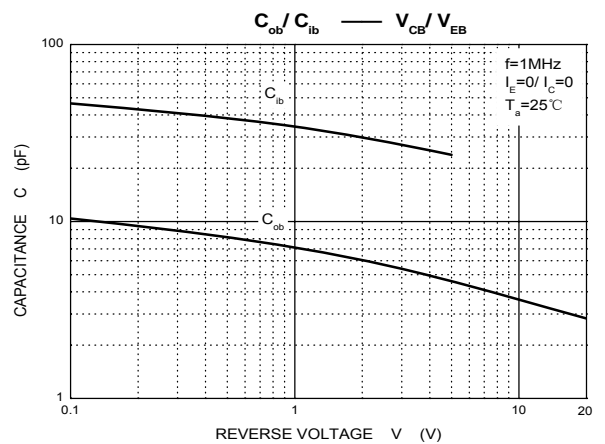
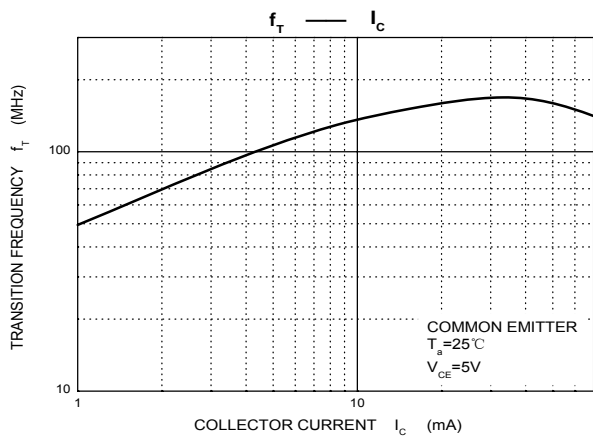
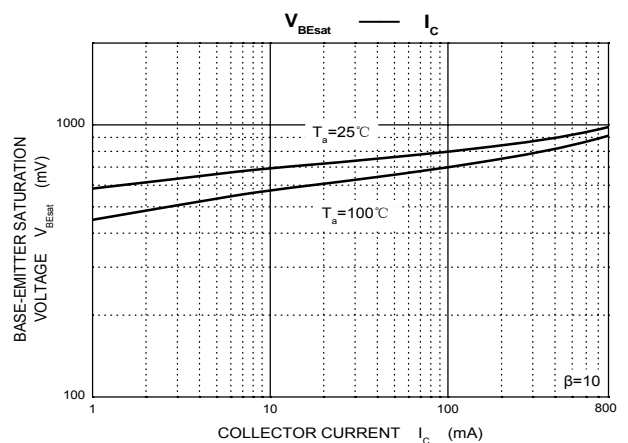
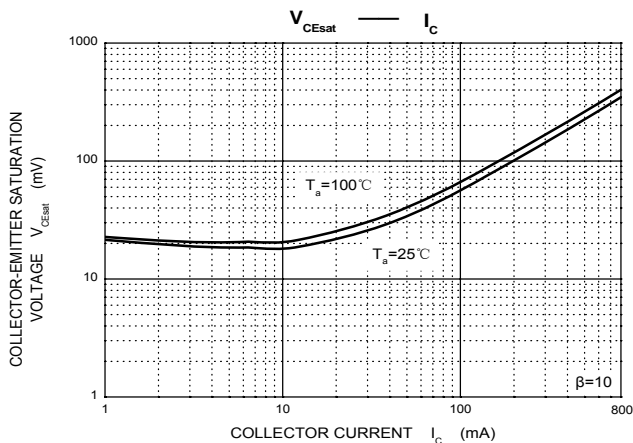
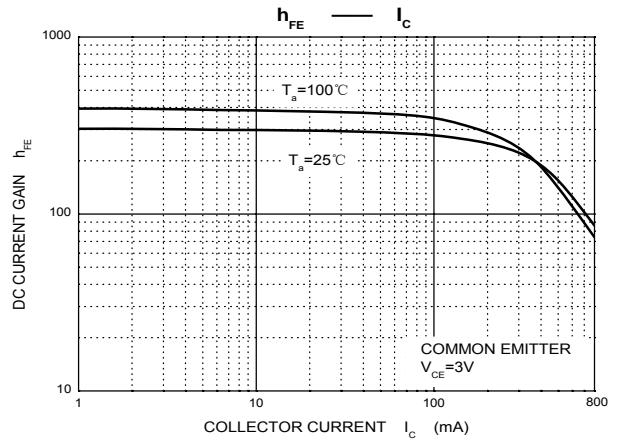
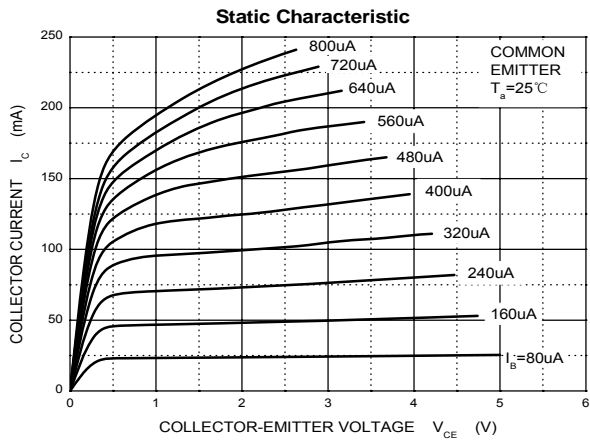
1. COLLECTOR
2. BASE
3. EMITTER



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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage BC337 BC338	V _{CBO}	I _C = 100uA, I _E =0	50			V
			30			V
Collector-emitter breakdown voltage BC337 BC338	V _{CEO}	I _C = 10mA, I _B =0	45			V
			25			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	uA
					0.1	
Collector cut-off current BC337 BC338	I _{CEO}	V _{CE} = 40V, I _B =0 V _{CE} = 20V, I _B =0			0.2	uA
					0.2	
Emitter cut-off current	I _{EBO}	V _{EB} = 4 V, I _C =0			0.1	uA
DC current gain BC337-16/BC338-16 BC337-25/BC338-25 BC337-40/BC338-40	h _{FE(1)}	V _{CE} =1V, I _C = 100mA	100		630	
			100		250	
			160		400	
			250		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	C _{ob}	V _{CB} =10V, I _E =0 f=1MHz		15		pF

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.

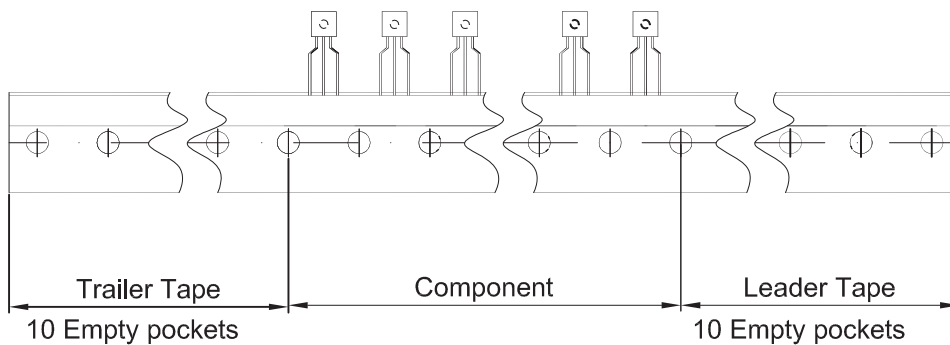
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TO-92 PACKAGE TAPEING DIMENSION



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

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