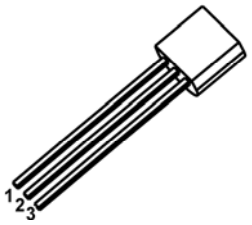
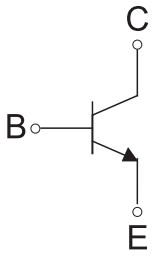
TO-92 Plastic-Encapsulate Transistors

TO-92

1. COLLECTOR
2.BASE
3. EMITTER



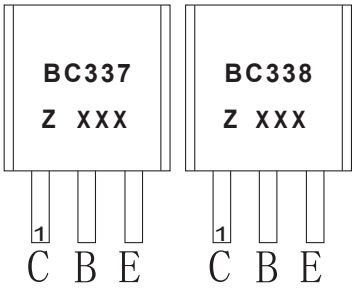
Equivalent Circuit



FEATURES

- Power dissipation

MARKING



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℃ 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,T_{stg}	Operation Junction and Storage Temperature Range		-55-150	℃

ELECTRICAL CHARACTERISTICS

T_a=25℃ unless otherwise specified

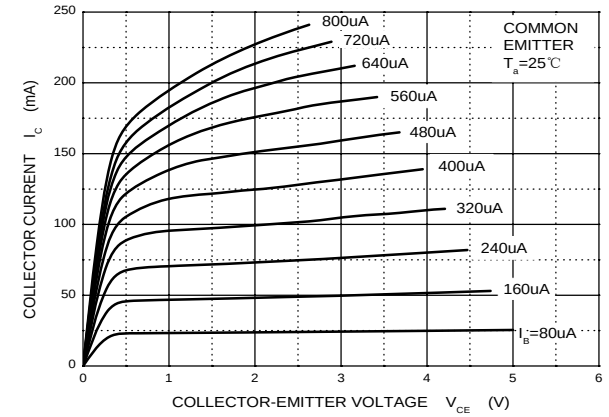
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V_{CBO}	I_C= 100uA, I_E=0				
BC337			50			V
BC338			30			V
Collector-emitter breakdown voltage	V_{CEO}	I_C= 10mA , I_B=0				
BC337			45			V
BC338			25			V
Emitter-base breakdown voltage	V_{EBO}	I_E= 10uA, I_C=0	5			V
Collector cut-off current BC337	I_{CBO}	V_{CB}= 45V, I_E=0			0.1	uA
BC338		V_{CB}= 25V, I_E=0			0.1	
Collector cut-off current BC337	I_{CEO}	V_{CE}= 40V, I_B=0			0.2	uA
BC338		V_{CE}= 20V, I_B=0			0.2	
Emitter cut-off current	I_{EBO}	V_{EB}= 4 V, I_C=0			0.1	uA
BC337/BC338	$h_{FE(1)}$	V_{CE}=1V, I_C= 100mA	100		630	
BC337-16/BC338-16			100		250	
BC337-25/BC338-25			160		400	
BC337-40/BC338-40			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	Cob	V_{CB}=10V,I_E=0 f=1MHZ		15		pF

CLASSIFICATION OF $h_{FE(1)}$

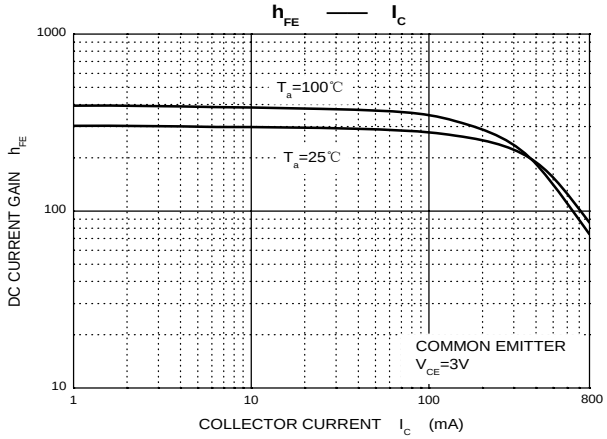
	BC337-16/BC338-16	BC337-25/BC338-25	BC337-40/BC338-40
RANK	A	B	C
RANGE	100-250	160-400	250-630

Typical Characteristics

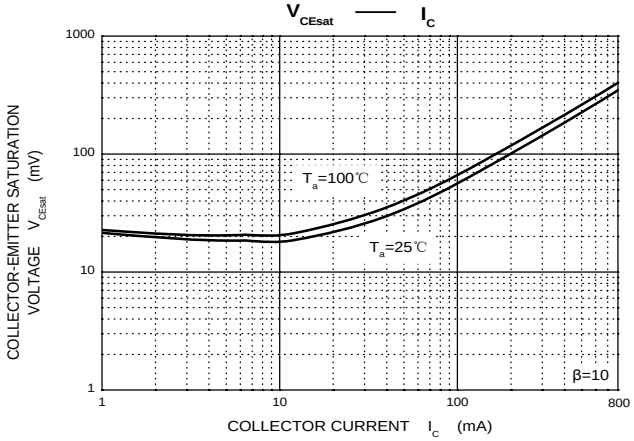
Static Characteristic



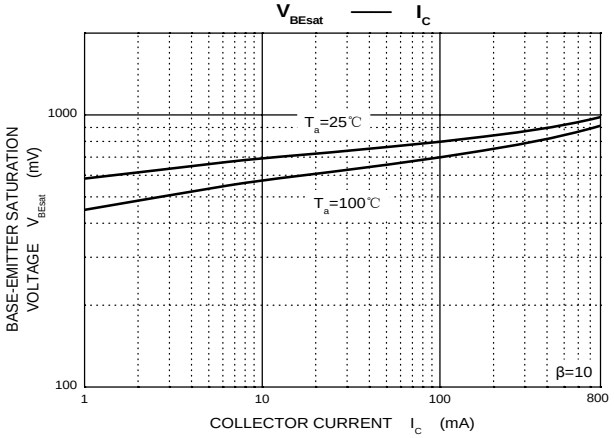
h_{FE} —— I_C



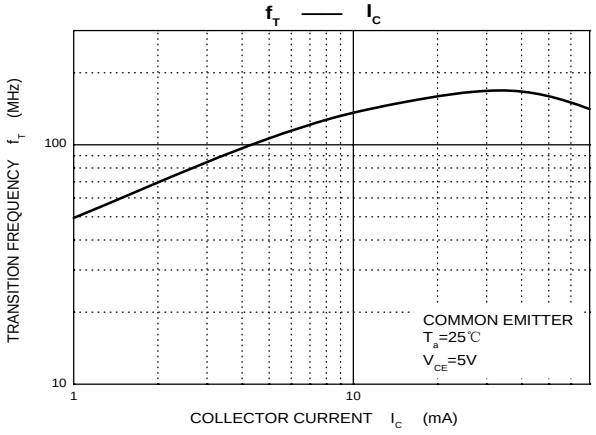
V_{CEsat} —— I_C



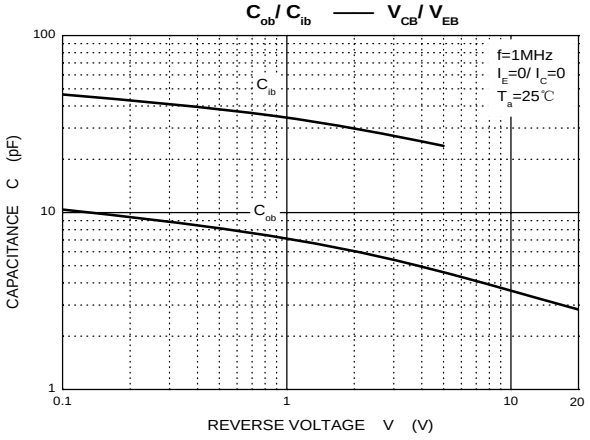
V_{BEsat} —— I_C



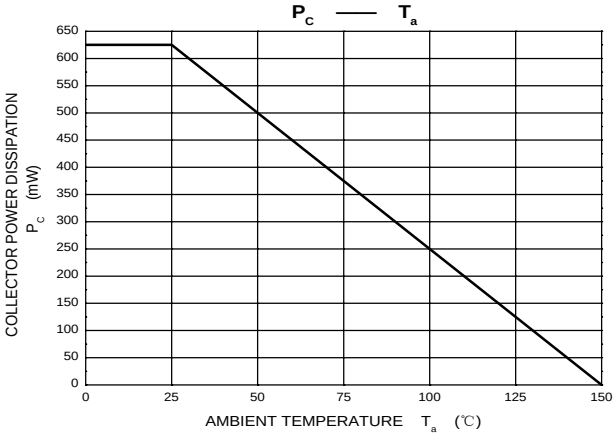
f_T —— I_C

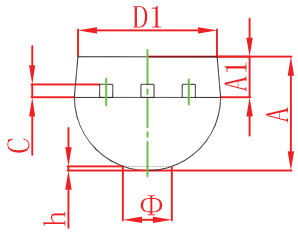


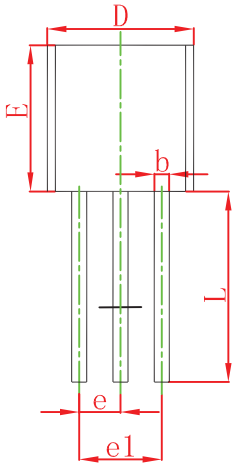
C_{ob}/ C_{ib} —— V_{CB}/ V_{EB}



P_C —— T_a

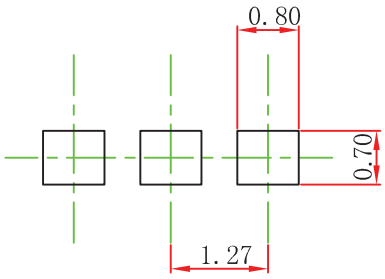






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.:$$	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	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.