

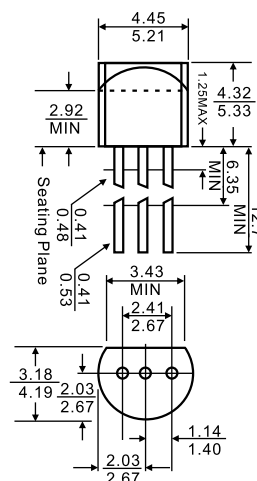
BC337/338(NPN)

TO-92 Bipolar Transistors



1. COLLECTOR
2. BASE
3. EMITTER

TO-92



Dimensions in inches and (millimeters)

Features

- ◇ Power dissipation

MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
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

ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V _{CBO}	I _C = 100uA, I _E =0	50			V
			30			V
Collector-emitter breakdown voltage	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	I _{CBO}	V _{CB} = 45V, I _E =0 V _{CB} = 25V, I _E =0			0.1	uA
					0.1	
Collector cut-off current	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	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

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Typical Characteristics

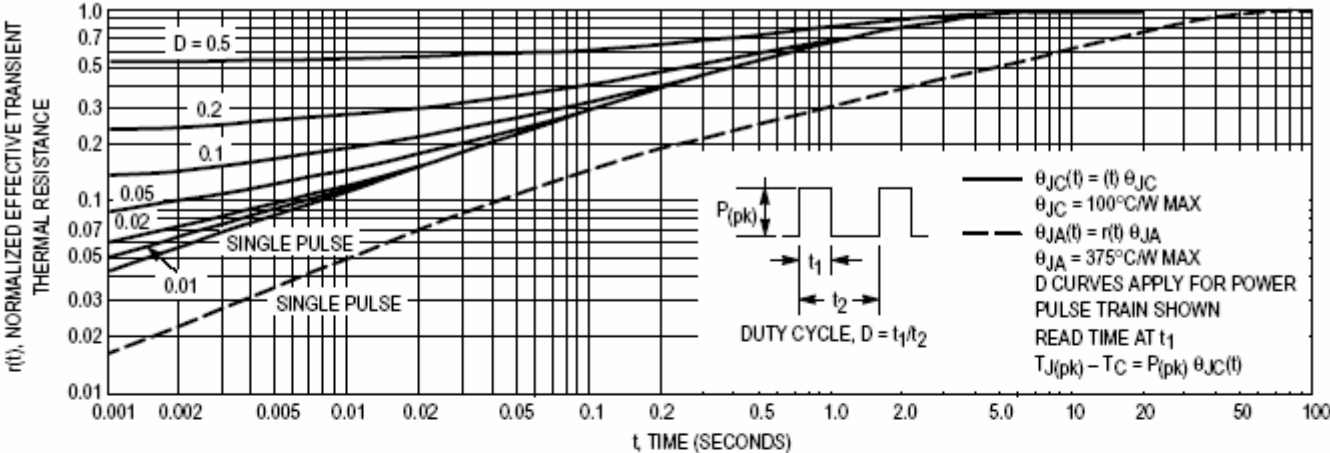


Figure 1. Thermal Response

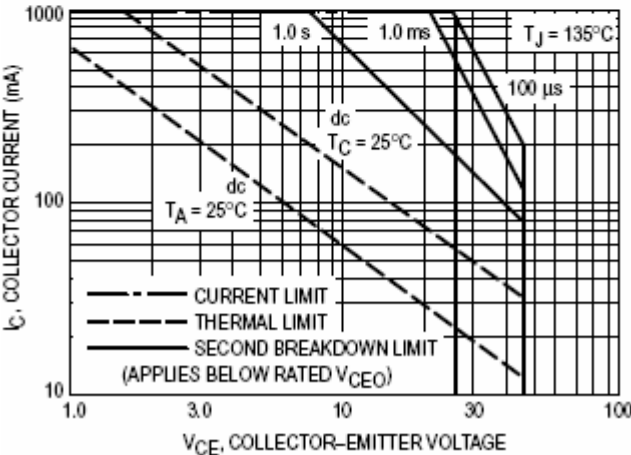


Figure 2. Active Region — Safe Operating Area

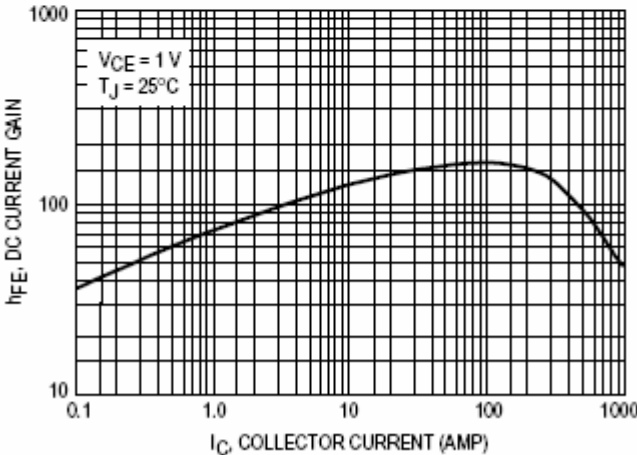


Figure 3. DC Current Gain

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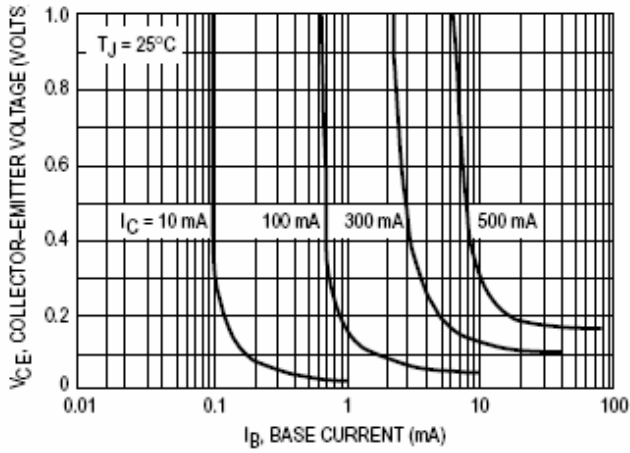


Figure 4. Saturation Region

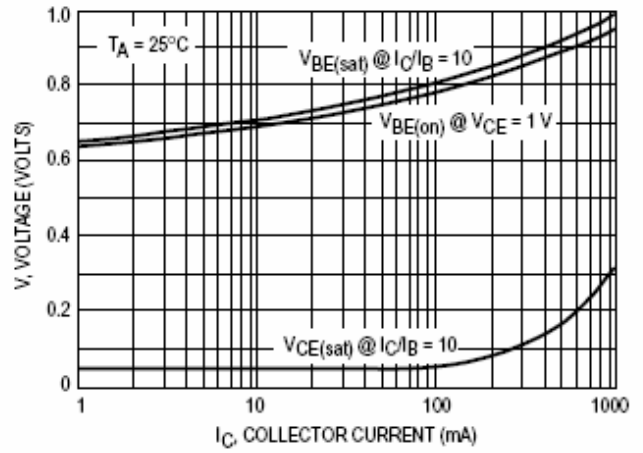


Figure 5. "On" Voltages

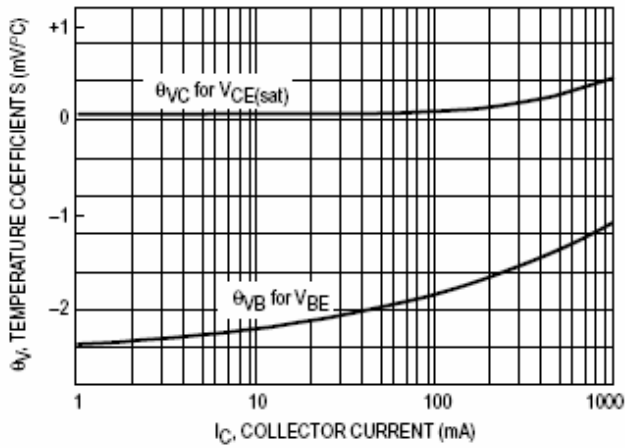


Figure 6. Temperature Coefficients

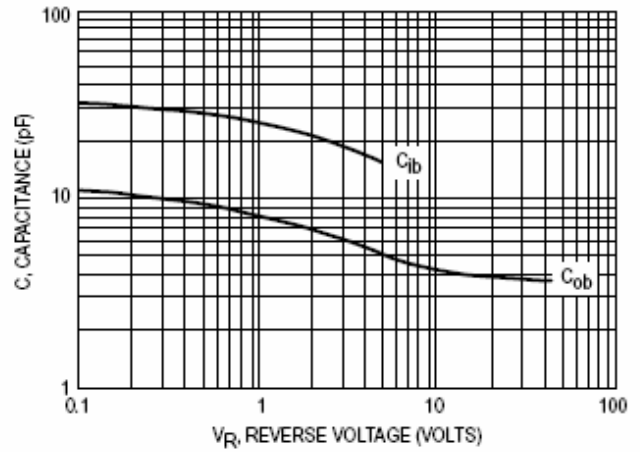


Figure 7. Capacitances

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