

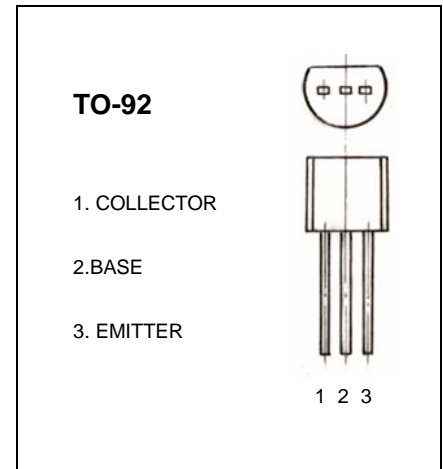
BC337/BC338 TRANSISTOR (NPN)

FEATURES

Power dissipation

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	BC337	50
		BC338	30
V_{CEO}	Collector-Emitter Voltage	BC337	45
		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	$^{\circ}\text{C}$



ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V_{CBO}	$I_C=100\mu\text{A}, I_E=0$	50			V
			30			V
Collector-emitter breakdown voltage	V_{CEO}	$I_C=10\text{mA}, I_B=0$	45			V
			25			V
Emitter-base breakdown voltage	V_{EBO}	$I_E=10\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=45\text{V}, I_E=0$ $V_{CB}=25\text{V}, I_E=0$			0.1	μA
					0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=40\text{V}, I_B=0$ $V_{CE}=20\text{V}, I_B=0$			0.2	μA
					0.2	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=1\text{V}, I_C=100\text{mA}$	100		630	
			100		250	
			160		400	
			250		630	
DC current gain	$h_{FE(2)}$	$V_{CE}=1\text{V}, I_C=300\text{mA}$	60			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.7	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			1.2	V
Base-emitter voltage	V_{BE}	$V_{CE}=1\text{V}, I_C=300\text{mA}$			1.2	V
Transition frequency	f_T	$V_{CE}=5\text{V}, I_C=10\text{mA}$ $f=100\text{MHz}$	210			MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0$ $f=1\text{MHz}$		15		pF

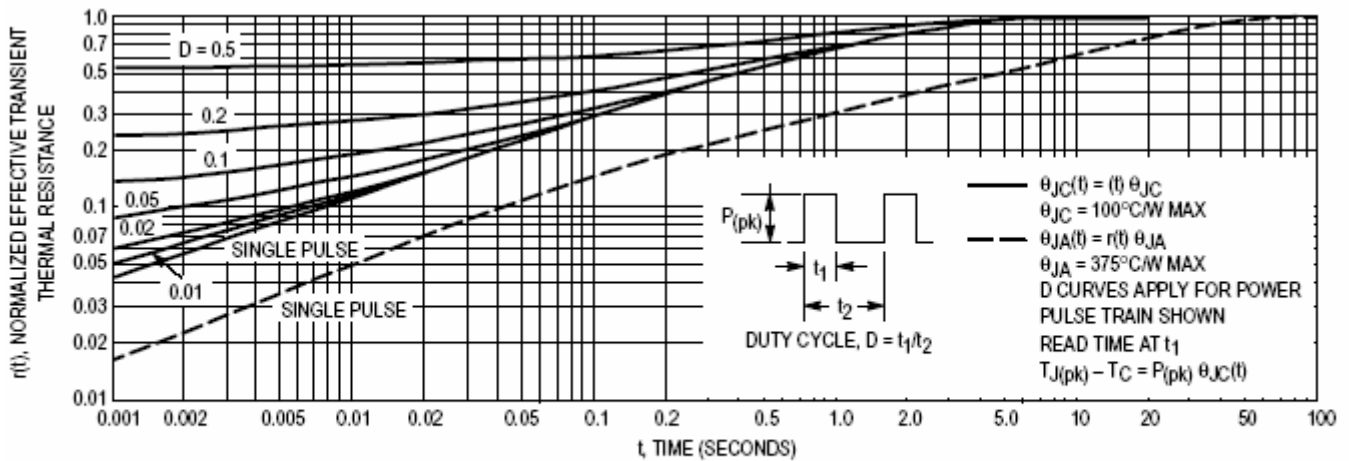


Figure 1. Thermal Response

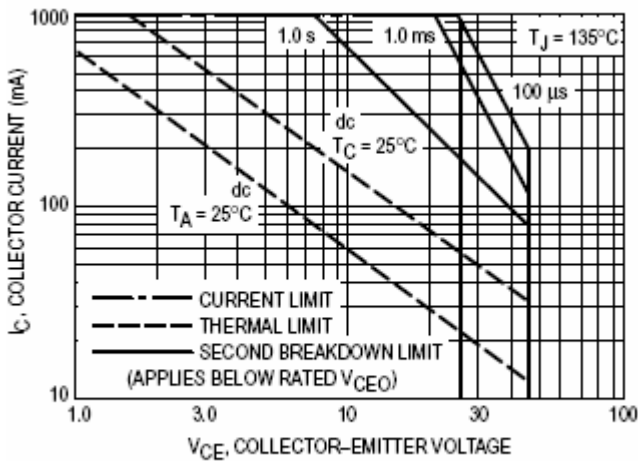


Figure 2. Active Region — Safe Operating Area

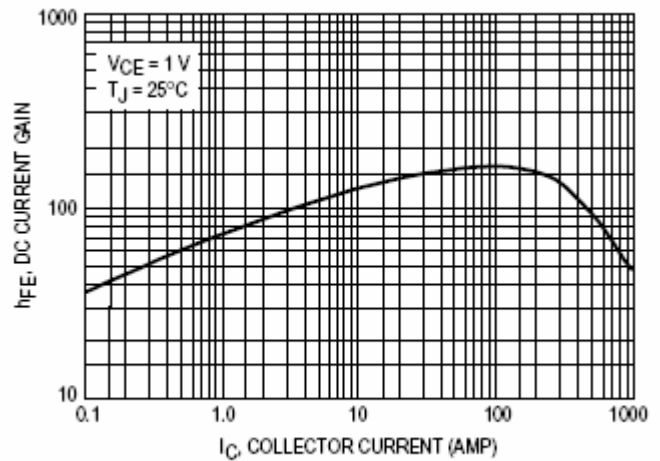


Figure 3. DC Current Gain

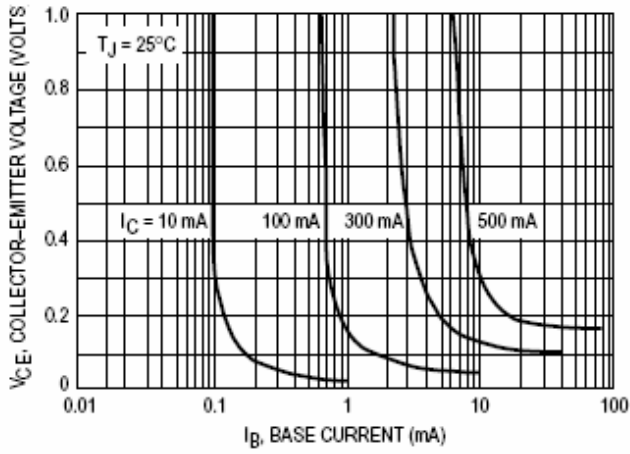


Figure 4. Saturation Region

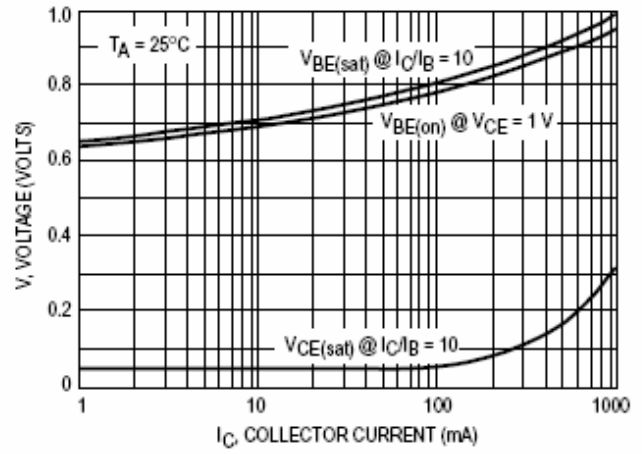


Figure 5. "On" Voltages

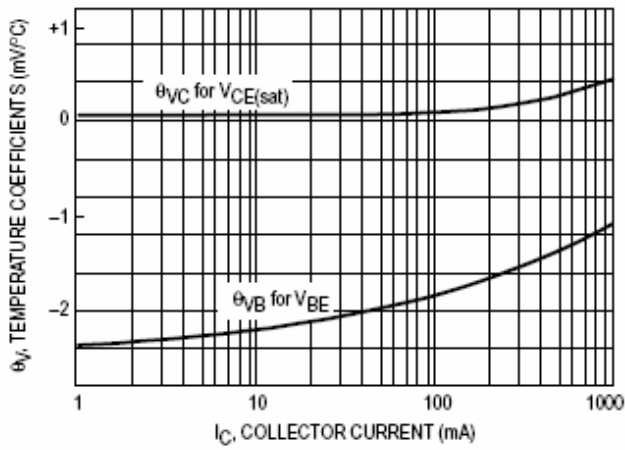


Figure 6. Temperature Coefficients

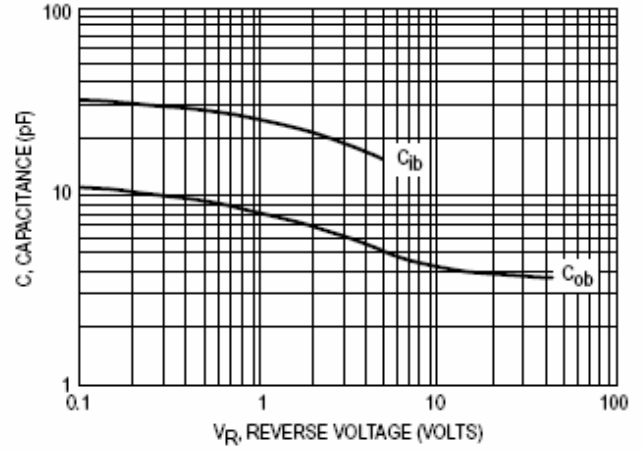


Figure 7. Capacitances