

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

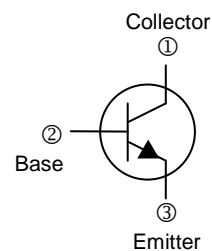
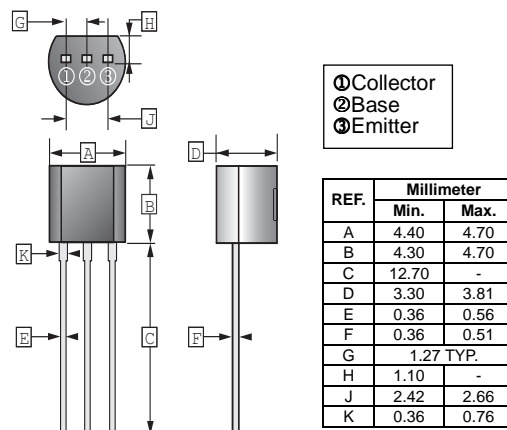
FEATURE

- Power Dissipation

CLASSIFICATION OF h_{FE}

Product-Rank	BC337-16	BC337-25	BC337-40
Product-Rank	BC338-16	BC338-25	BC338-40
Range	100~250	160~400	250~630

TO-92



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

Parameter	Symbol	Ratings	Unit
Collector to Base Voltage	V_{CBO}	BC337	50
		BC338	30
Collector to Emitter Voltage	V_{CEO}	BC337	45
		BC338	25
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current - Continuous	I_C	800	mA
Total Device Dissipation	P_D	625	mW
Junction, Storage Temperature	T_J, T_{STG}	150, -55~150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector to Base Breakdown Voltage	BC337	50	-	-	V	$I_C=100\mu\text{A}, I_E=0$
	BC338	30	-	-		
Collector to Emitter Breakdown Voltage	BC337	45	-	-	V	$I_C=10\text{mA}, I_B=0$
	BC338	25	-	-		
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	5	-	-	V	$I_E=10\mu\text{A}, I_C=0$
Collector Cut-Off Current	BC337	-	-	0.1	μA	$V_{CB}=45\text{V}, I_E=0$
	BC338	-	-	0.1		$V_{CB}=25\text{V}, I_E=0$
Collector Cut-Off Current	BC337	-	-	0.2	μA	$V_{CE}=40\text{V}, I_B=0$
	BC338	-	-	0.2		$V_{CE}=20\text{V}, I_B=0$
Emitter Cut-Off Current	I_{EBO}	-	-	0.1	μA	$V_{EB}=4\text{V}, I_C=0$
DC Current Gain	$h_{FE(1)}$	100	-	630		$V_{CE}=1\text{V}, I_C=100\text{mA}$
	$h_{FE(2)}$	60	-	-		$V_{CE}=1\text{V}, I_C=300\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	0.7	V	$I_C=500\text{mA}, I_B=50\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	-	-	1.2	V	$I_C=500\text{mA}, I_B=50\text{mA}$
Base-Emitter Voltage	V_{BE}	-	-	1.2	V	$V_{CE}=1\text{V}, I_C=300\text{mA}$
Transition Frequency	f_T	210	-	-	MHz	$V_{CE}=5\text{V}, I_C=10\text{mA}, f=100\text{MHz}$
Collector Output Capacitance	C_{ob}	-	15	-	pF	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$

CHARACTERISTIC CURVES

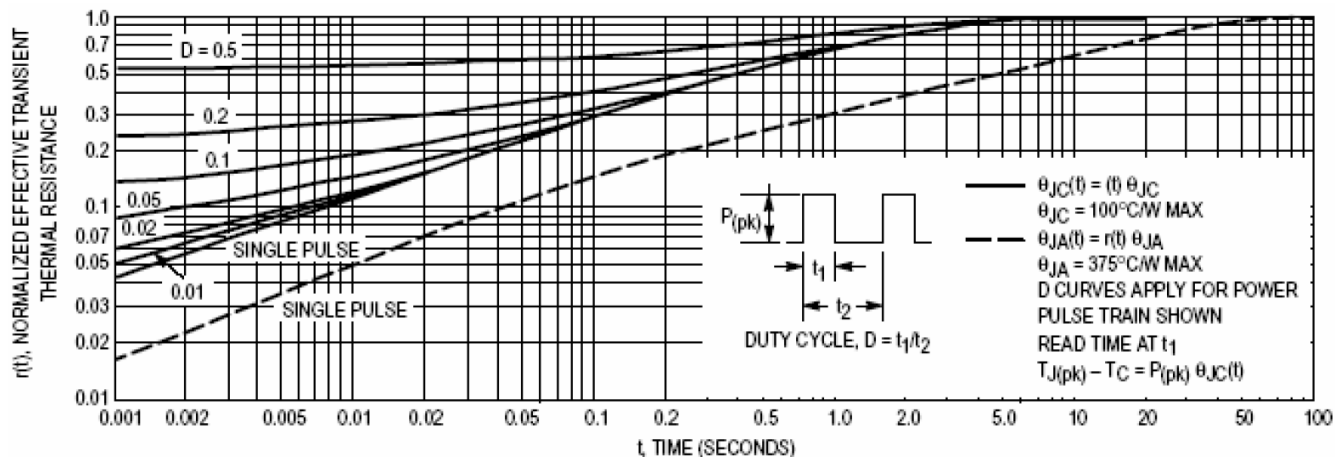


Figure 1. Thermal Response

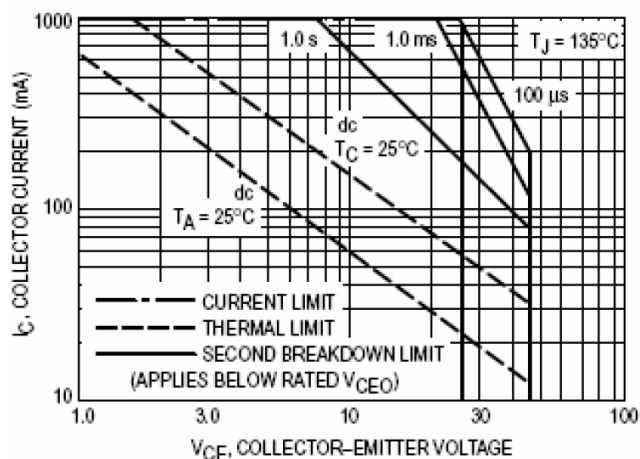


Figure 2. Active Region — Safe Operating Area

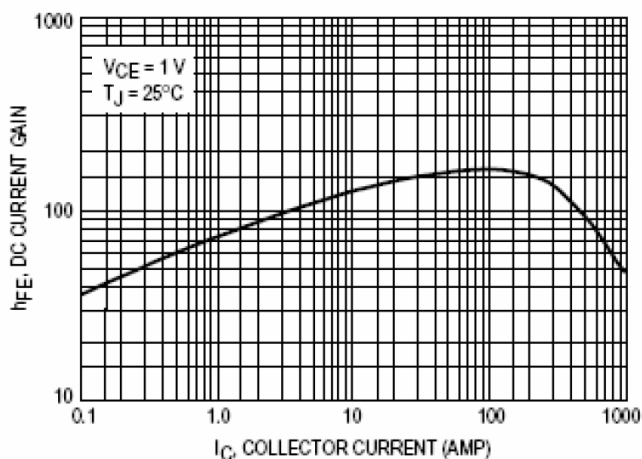


Figure 3. DC Current Gain

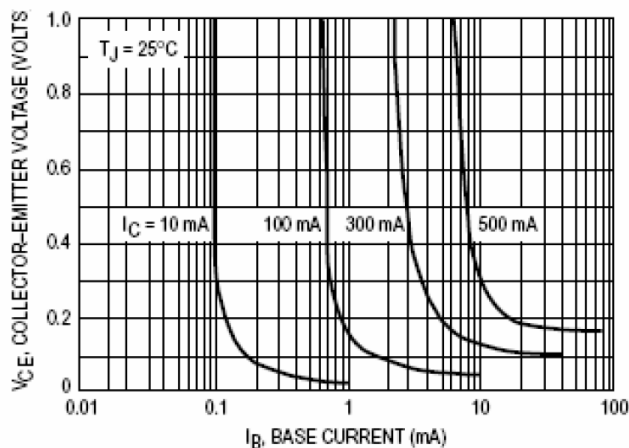


Figure 4. Saturation Region

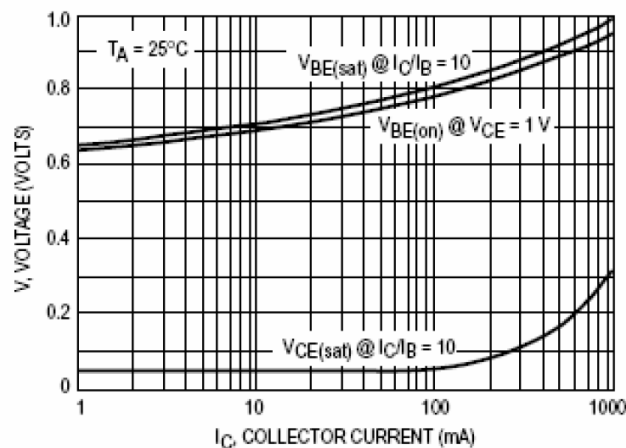


Figure 5. "On" Voltages

CHARACTERISTIC CURVES

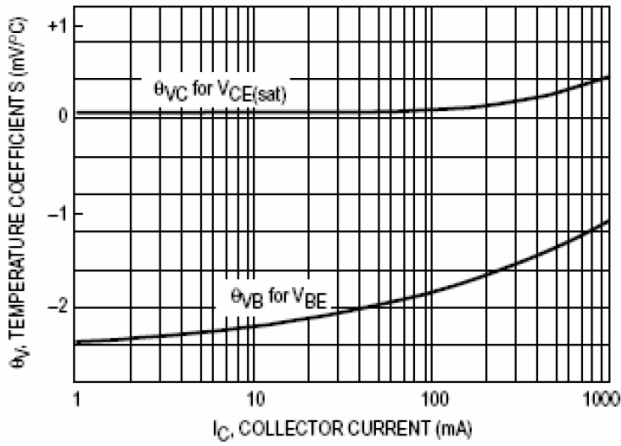


Figure 6. Temperature Coefficients

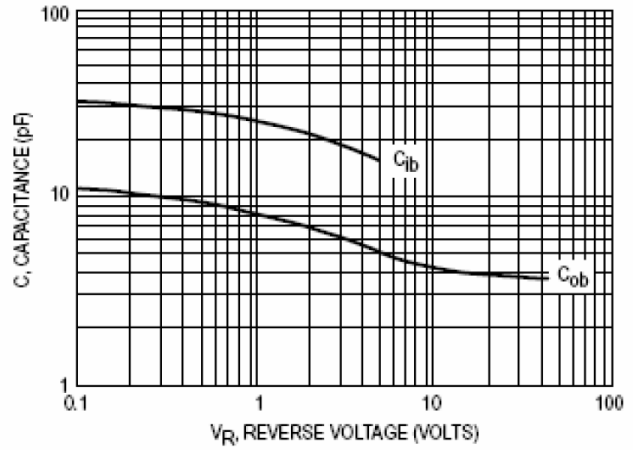


Figure 7. Capacitances