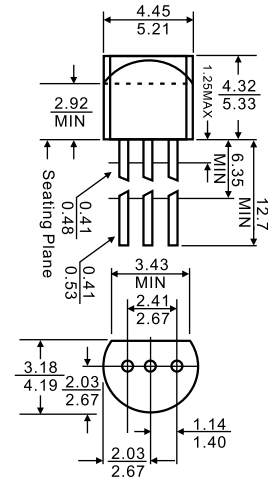




1. COLLECTOR
2. BASE
3. EMITTER

TO-92



Dimensions in inches and (millimeters)

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	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	$^{\circ}\text{C}$
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	
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	
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



Typical Characteristics

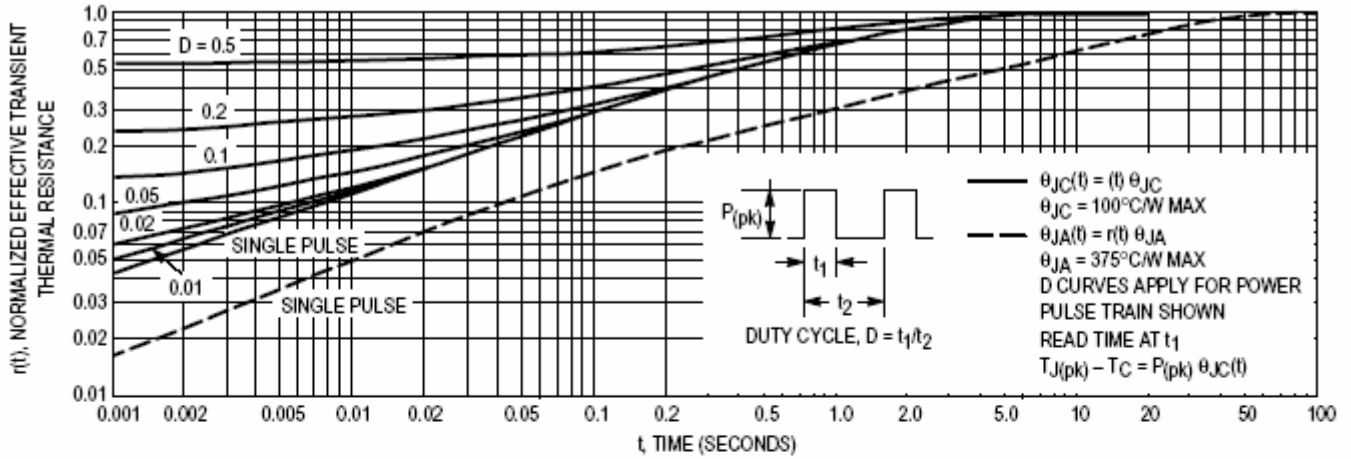


Figure 1. Thermal Response

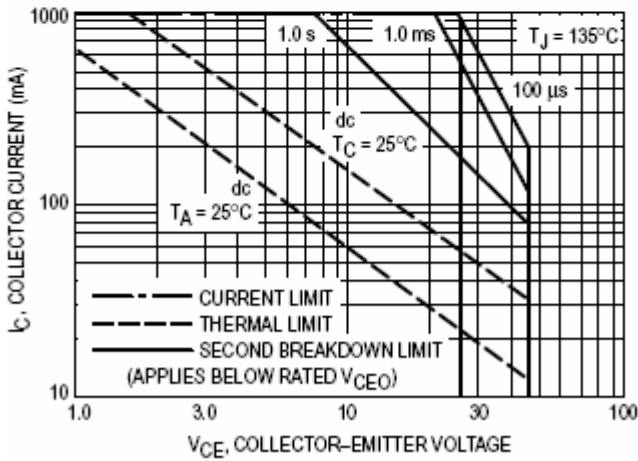


Figure 2. Active Region — Safe Operating Area

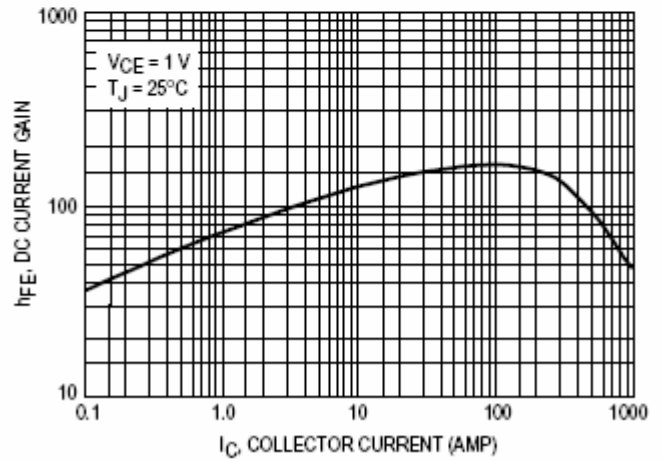


Figure 3. DC Current Gain

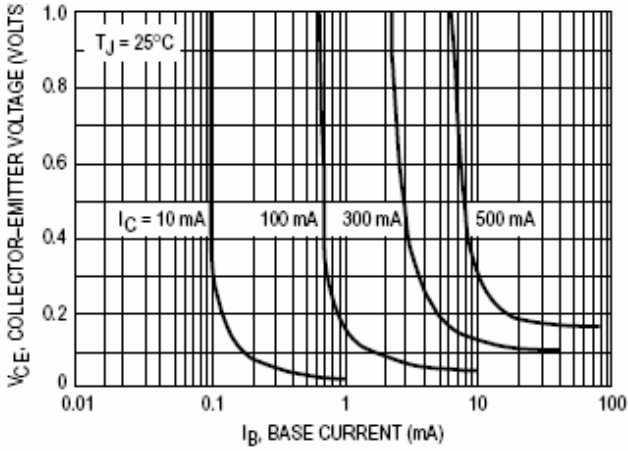


Figure 4. Saturation Region

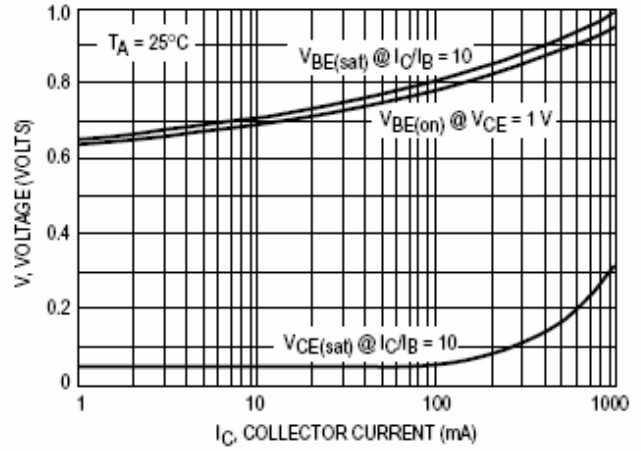


Figure 5. "On" Voltages

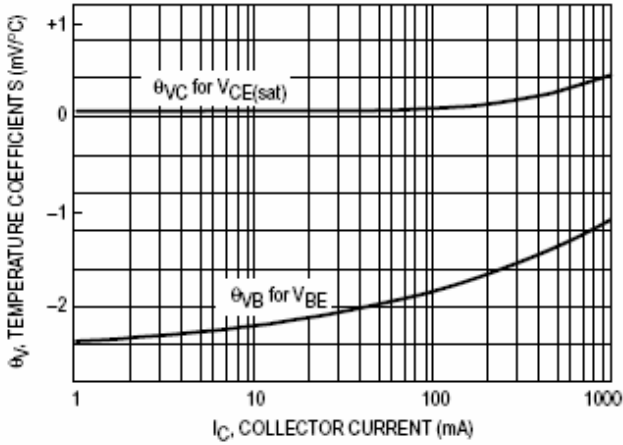


Figure 6. Temperature Coefficients

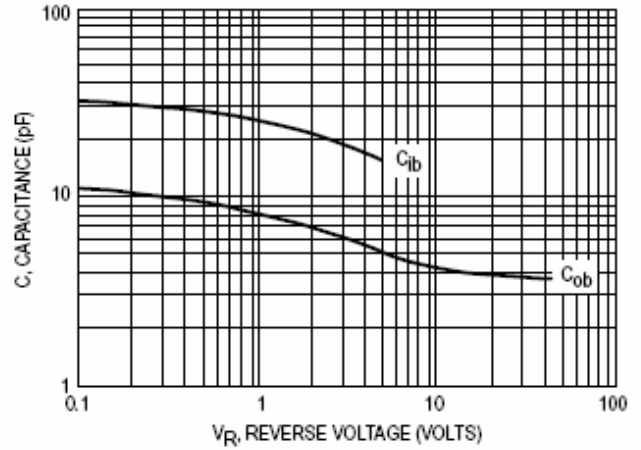


Figure 7. Capacitances

Package	Packing	Quantity	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	Bulk	1000pcs/BP	10,000pcs	245×170×100	100,000pcs	525×375×270
TO-92	Tape	2000pcs/TP	2000pcs	333×162×43	20,000pcs	350×340×250