

RoHS Compliant Product

TO-92

FEATURES

A suffix of "-C" specifies halogen & lead-free

Power dissipation

$$P_{CM} : 0.625 \text{ W (Tamb=25 } ^\circ\text{C)}$$

Collector current

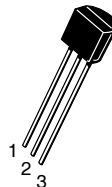
$$I_{CM} : 0.8 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : \begin{matrix} \text{BC337} & 50 & \text{V} \\ \text{BC338} & 30 & \end{matrix}$$

Operating and storage junction temperature range

$$T_J, T_{stg}: -55 \text{ } ^\circ\text{C to } +150 \text{ } ^\circ\text{C}$$



- 1. COLLECTOR
- 2. BASE
- 3. EMITTER

ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V_{CBO}	$I_C = -100\mu\text{A}, I_E = 0$				
			BC337	50		V
BC338	30		V			
Collector-emitter breakdown voltage	V_{CEO}	$I_C = -10 \text{ mA}, I_B = 0$				
			BC337	45		V
BC338	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}	$V_{CB} = -45\text{V}, I_E = 0$			0.1	μA
			BC338			0.1
Collector cut-off current	I_{CEO}	$V_{CE} = -40\text{V}, I_B = 0$			0.2	μA
			BC338			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	
	$h_{FE(2)}$	$V_{CE} = -1\text{V}, I_C = -300\text{mA}$	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

h_{FE} CLASSIFICATION

Classification	16	25	40
h_{FE1}	100-250	160-400	250-630

Typical Characteristics

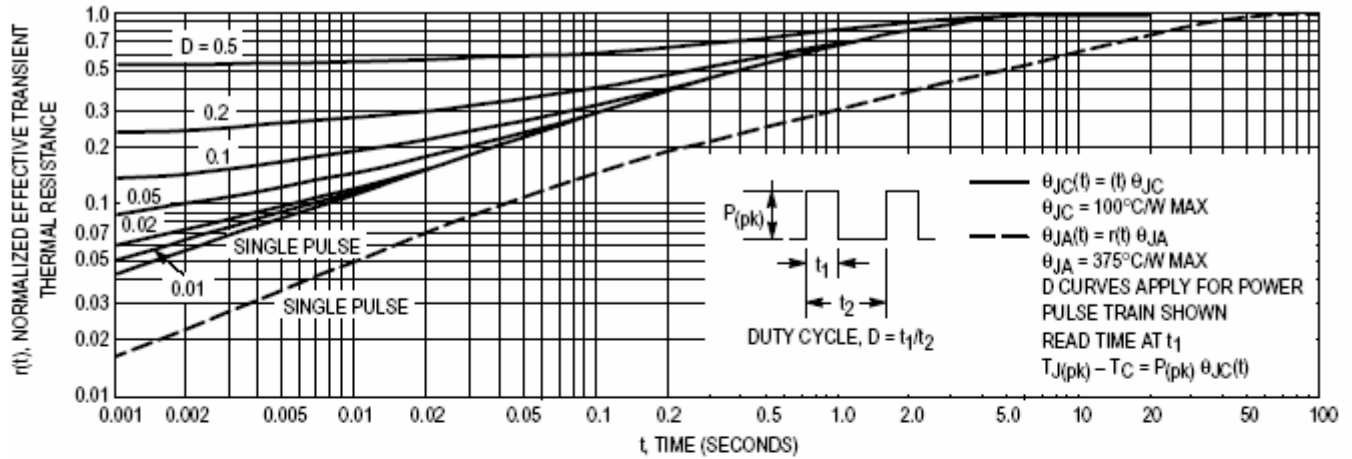


Figure 1. Thermal Response

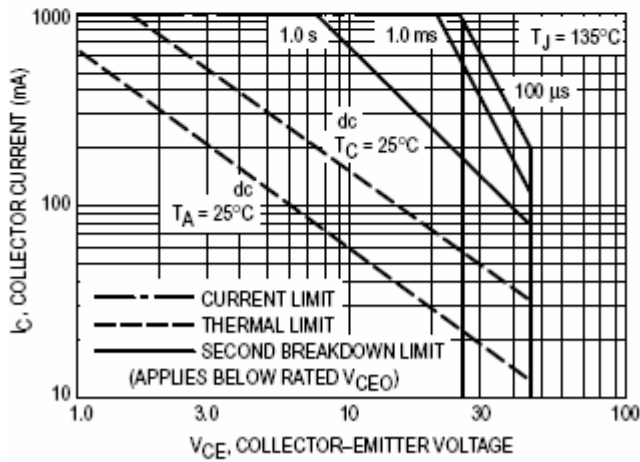


Figure 2. Active Region — Safe Operating Area

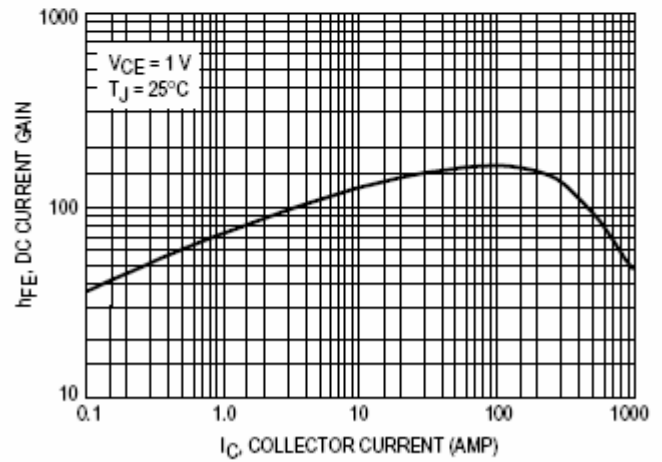


Figure 3. DC Current Gain

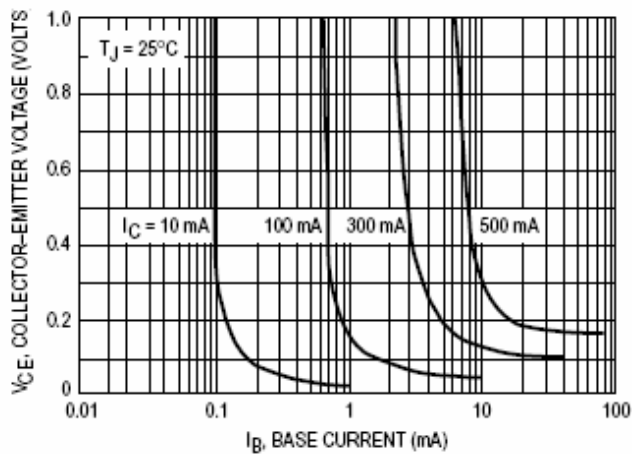


Figure 4. Saturation Region

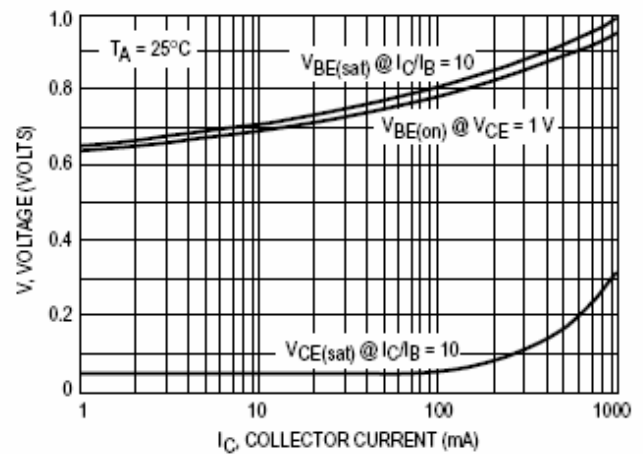


Figure 5. "On" Voltages

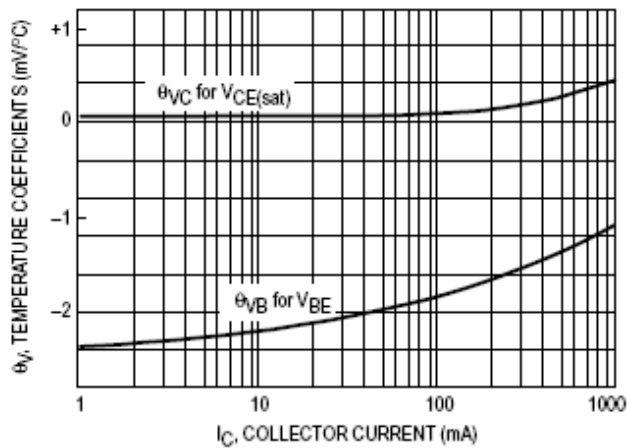


Figure 6. Temperature Coefficients

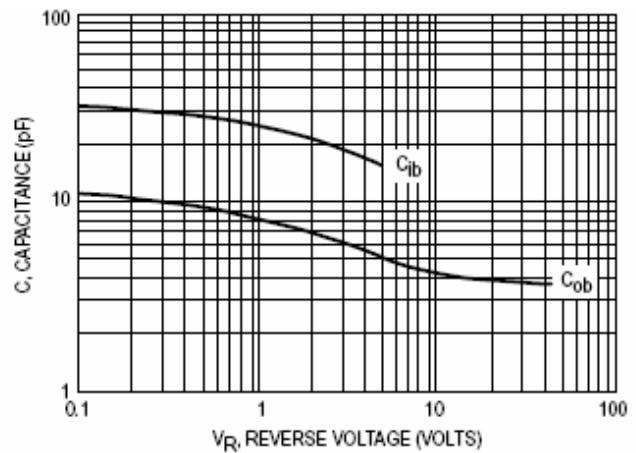
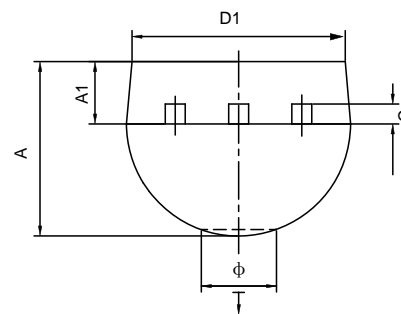
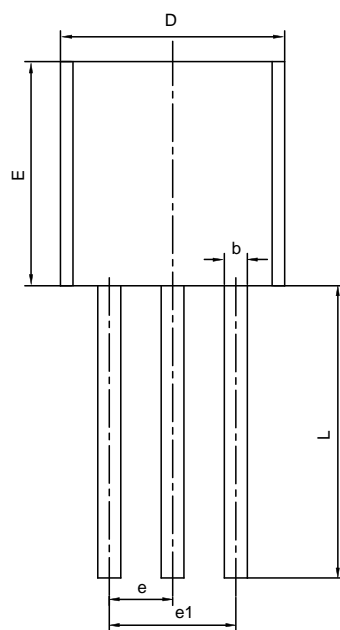


Figure 7. Capacitances



TO-92 PACKAGE OUTLINE DIMENSIONS

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	4.400	4.700	0.173	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270TYP		0.050TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Ö		1.600		0.063
↓	0.000	0.380	0.000	0.015