



**THE DATASHEET OF  
BC33725TAR**



# NPN Epitaxial Silicon Transistor

## BC337

### Features

- Switching and Amplifier Applications
- Suitable for AF-Driver Stages and Low-Power Output Stages
- Complement to BC327/BC328

### ABSOLUTE MAXIMUM RATINGS

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

Symbol	Parameter	Value	Unit
$V_{CES}$	Collector-Emitter Voltage	50	V
$V_{CEO}$	Collector-Emitter Voltage	45	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current (DC)	800	mA
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 to +150	$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

### THERMAL CHARACTERISTICS

( $T_A = 25^\circ\text{C}$  unless otherwise noted.) (Note 1)

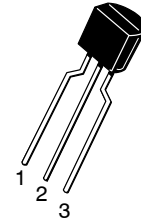
Symbol	Characteristic	Value	Unit
$P_D$	Power Dissipation Derate Above $25^\circ\text{C}$	625 5.0	mW mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	$^\circ\text{C}/\text{W}$

1. PCB size: FR-4, 76 mm  $\times$  114 mm  $\times$  1.57 mm (3.0 inch  $\times$  4.5 inch  $\times$  0.062 inch) with minimum land pattern size.

1. Collector  
2. Base  
3. Emitter

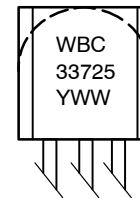


TO-92 3  
CASE 135AN



TO-92 3 LF  
CASE 135AR

### MARKING DIAGRAM



WBC = Assembly Location  
33725 = Specific Device Code  
Y = Year  
WW = Work Week

### ORDERING INFORMATION

Device	Package	Shipping <sup>†</sup>
BC33740BU	TO-92 3 (Pb-Free)	10,000 Units / BLKBG
BC33725BU	TO-92 3 (Pb-Free)	10,000 Units / BLKBG
BC33716BU	TO-92 3 (Pb-Free)	10,000 Units / BLKBG
BC33740TA	TO-92 3 LF (Pb-Free)	2,000 Units / FNFLD
BC33725TA	TO-92 3 LF (Pb-Free)	2,000 Units / FNFLD
BC33725TAR	TO-92 3 LF (Pb-Free)	2,000 Units / FNFLD
BC33716TA	TO-92 3 LF (Pb-Free)	2,000 Units / FNFLD
BC33725TF	TO-92 3 LF (Pb-Free)	2,000 / Tape & Reel
BC33725TFR	TO-92 3 LF (Pb-Free)	2,000 / Tape & Reel
BC33716TFR	TO-92 3 LF (Pb-Free)	2,000 / Tape & Reel

<sup>†</sup>For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

# BC337

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 10\text{ mA}, I_B = 0$	45	-	-	V
$BV_{CES}$	Collector-Emitter Breakdown Voltage	$I_C = 0.1\text{ mA}, V_{BE} = 0$	50	-	-	V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = 0.1\text{ mA}, I_C = 0$	5	-	-	V
$I_{CES}$	Collector Cut-Off Current	$V_{CE} = 45\text{ V}, I_B = 0$	-	2	100	nA
$h_{FE1}$	DC Current Gain	$V_{CE} = 1\text{ V}, I_C = 100\text{ mA}$	100	-	630	
$h_{FE2}$		$V_{CE} = 1\text{ V}, I_C = 300\text{ mA}$	60	-		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 500\text{ mA}, I_B = 50\text{ mA}$	-	-	0.7	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = 1\text{ V}, I_C = 300\text{ mA}$	-	-	1.2	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = 5\text{ V}, I_C = 10\text{ mA}, f = 50\text{ MHz}$	-	100	-	MHz
$C_{ob}$	Output Capacitance	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	-	12	-	pF

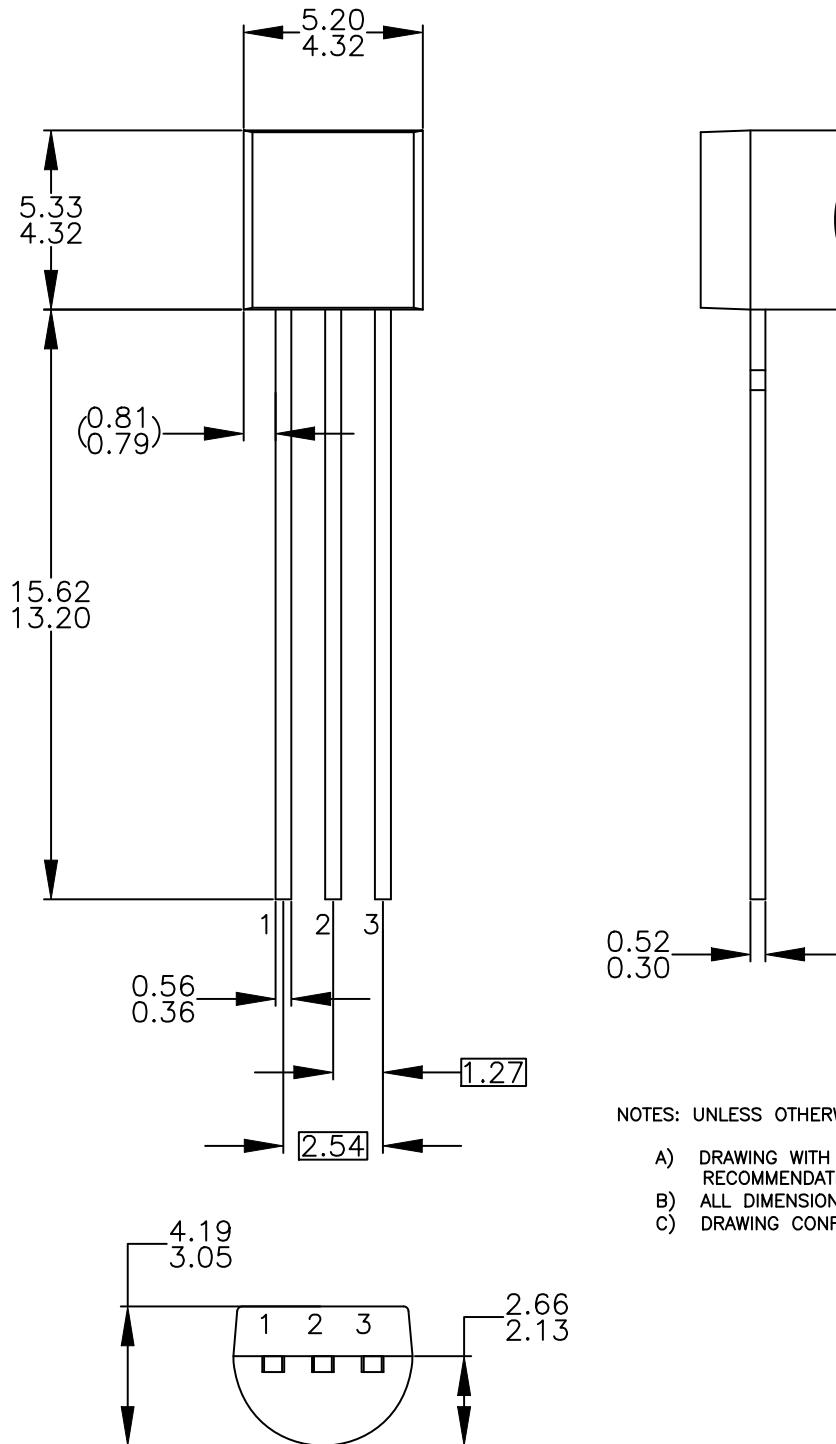
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

### $h_{FE}$ Classification

Classification	16	25	40
$h_{FE1}$	100 ~ 250	160 ~ 400	250 ~ 630
$h_{FE2}$	60 ~	100 ~	170 ~

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DATE 31 JUL 2016



NOTES: UNLESS OTHERWISE SPECIFIED

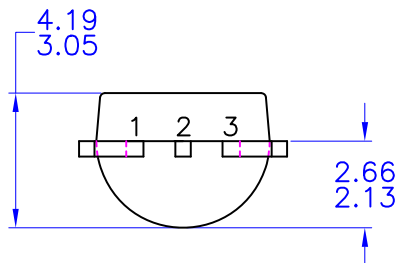
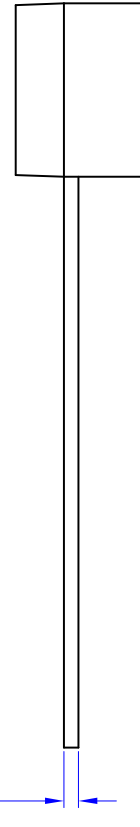
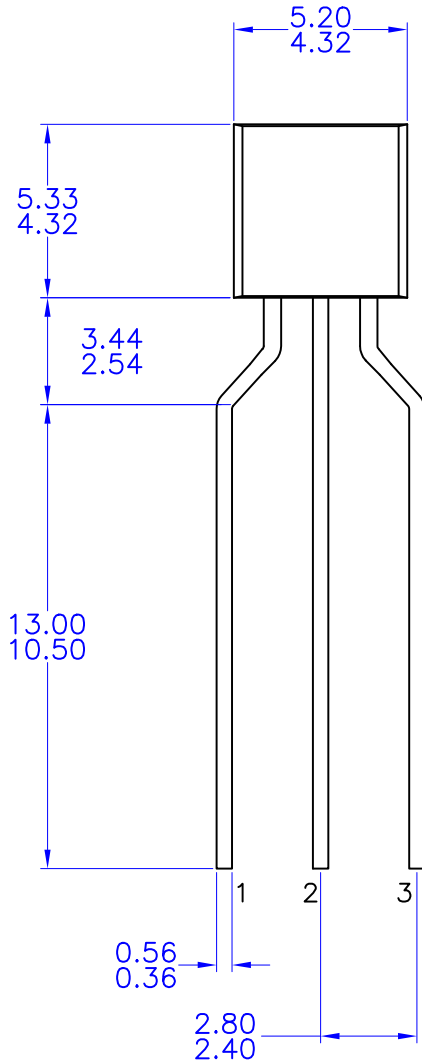
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