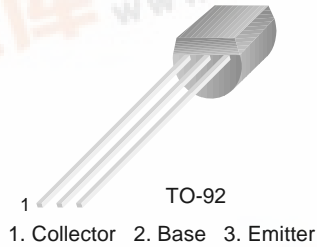


**FAIRCHILD**  
SEMICONDUCTOR®

## BC337/338

### Switching and Amplifier Applications

- Suitable for AF-Driver stages and low power output stages
- Complement to BC327/BC328



### NPN Epitaxial Silicon Transistor

#### Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CES}$	Collector-Emitter Voltage		
	: BC337	50	V
	: BC338	30	V
$V_{CEO}$	Collector-Emitter Voltage		
	: BC337	45	V
	: BC338	25	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current (DC)	800	mA
$P_C$	Collector Power Dissipation	625	mW
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

#### Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}, I_B=0$				
			: BC337	45		
	: BC338		25			V
$BV_{CES}$	Collector-Emitter Breakdown Voltage	$I_C=0.1\text{mA}, V_{BE}=0$				
			: BC337	50		
	: BC338		30			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
			: BC338		2	100
$h_{FE1}$	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			
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C=500\text{mA}, I_B=50\text{mA}$			0.7	V
$V_{BE}(\text{on})$	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

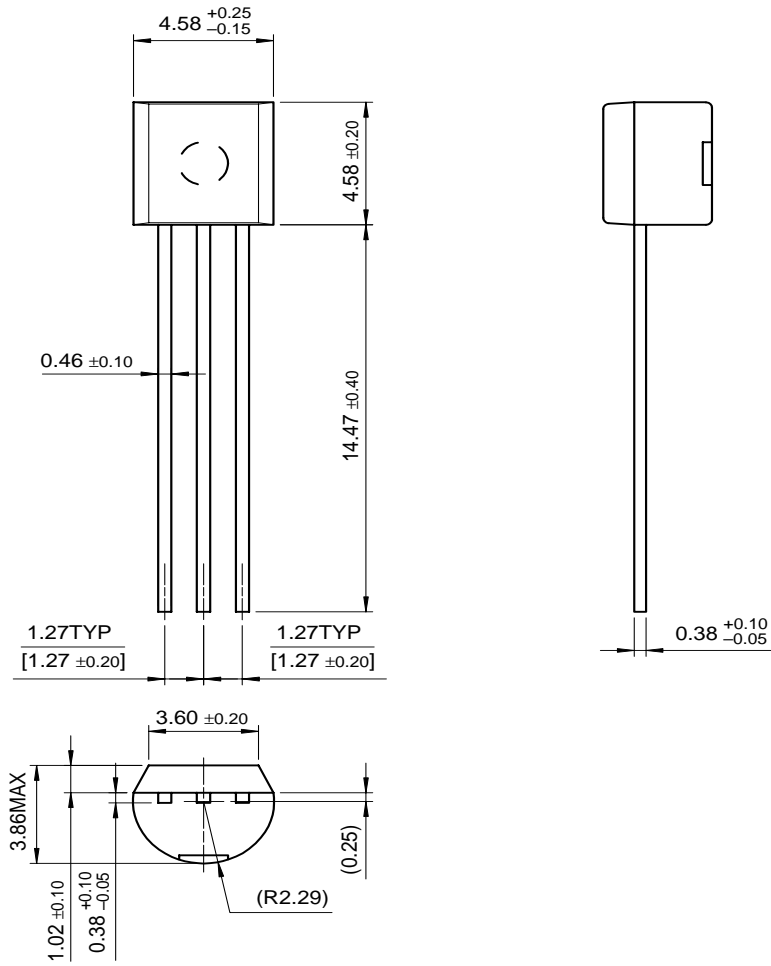
#### $h_{FE}$ Classification

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



# Package Dimensions

## TO-92



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
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EnSigna™	I <sup>2</sup> C™	OCX™	RapidConfigure™	UHC™
Across the board. Around the world.™		OCXPro™	RapidConnect™	UltraFET®
The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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## PRODUCT STATUS DEFINITIONS

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Datasheet Identification	Product Status	Definition
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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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