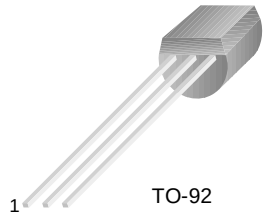
FAIRCHILD
SEMICONDUCTOR®

BC516

PNP Darlington Transistor

- This device is designed for applications reguiring extremely high current gain at currents to 1mA.
- Sourced from process 61.



TO-92

1. Collector 2. Base 3. Emitter

Absolute Maximum Ratings T_A=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	30	V
V_{CBO}	Collector-Base Voltage	40	V
V_{EBO}	Emitter-Base Voltage	10	V
I_C	Collector Current - Continuous	1	A
P_D	Total Power Dissipation T_A = 25°C	625	mW
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 ~ +150	°C

Electrical Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
V_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 2mA, I_B = 0	30			V
V_{CBO}	Collector-Base Breakdown Voltage	I_C = 100µA, I_E = 0	40			V
V_{EBO}	Emitter-Base Breakdown Voltage	I_E = 10µA, I_C = 0	10			V
I_{CBO}	Collector Cutoff Current	V_{CB} = 30V, I_E = 0			100	nA
h_{FE}	DC Current Gain	I_C = 20mA, V_{CE} = 2V	30,000			
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 100mA, I_B = 0.1mA			1	V
V_{BE}(on)	Base-Emitter On Voltage	I_C = 10mA, V_{CE} = 5V			1.4	V
f_T	Current Gain Bandwidth Product (2)	I_C = 10mA, V_{CE} = 5V, f = 100MHz		200		MHz

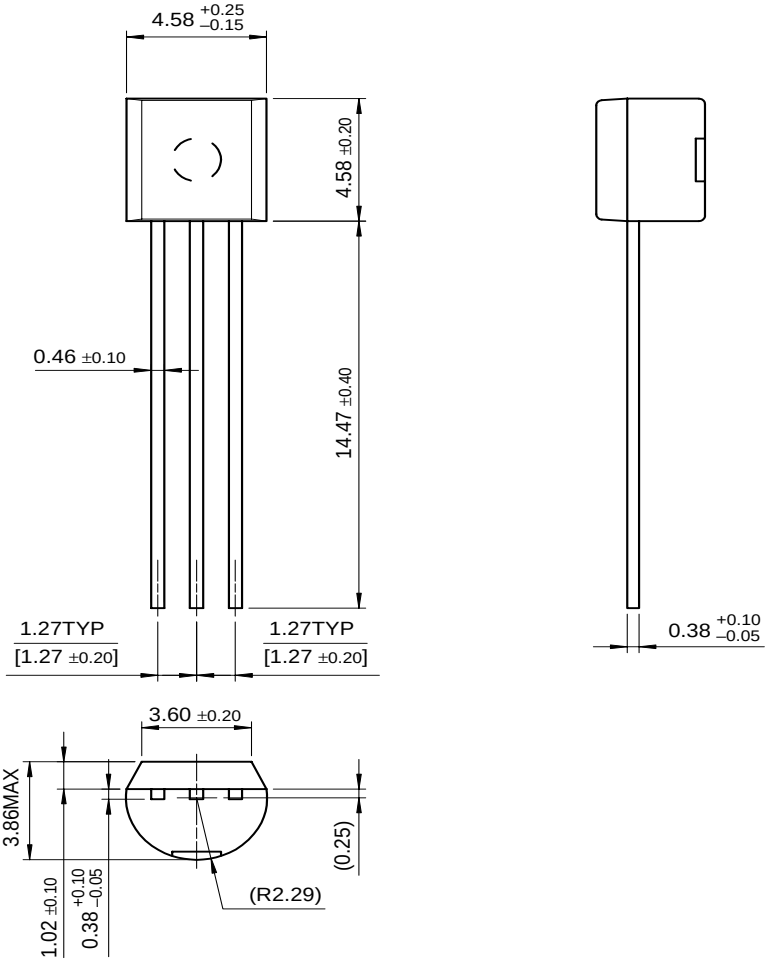
NOTES:
1. Pulse Test Pulse Width ≤ 2%
2. $f_T = |h_{fe}| \cdot f_{test}$

Thermal Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Max.	Units
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	°C/W
$R_{\theta JC}$	Thermal Resistance, Junction to Case	83.3	°C/W

Package Dimensions

TO-92



Dimensions in Millimeters

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