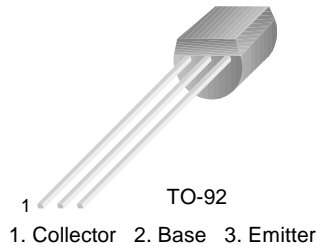


# BC517

## NPN Darlington Transistor

- This device is designed for applications requiring extremely high current gain at currents to 1.0A.
- Sourced from process 05.



### Absolute Maximum Ratings \* T<sub>a</sub> = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>CEO</sub>	Collector-Emitter Voltage	30	V
V <sub>CBO</sub>	Collector-Base Voltage	40	V
V <sub>EBO</sub>	Emitter-Base Voltage	10	V
I <sub>C</sub>	Collector Current - Continuous	1.2	A
T <sub>J</sub> , T <sub>STG</sub>	Operating and Storage Junction Temperature Range	-55 ~ 150	°C

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

#### NOTES:

1. These ratings are based on a maximum junction temperature of 150 degrees C.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Electrical Characteristics T<sub>a</sub> = 25°C unless otherwise noted

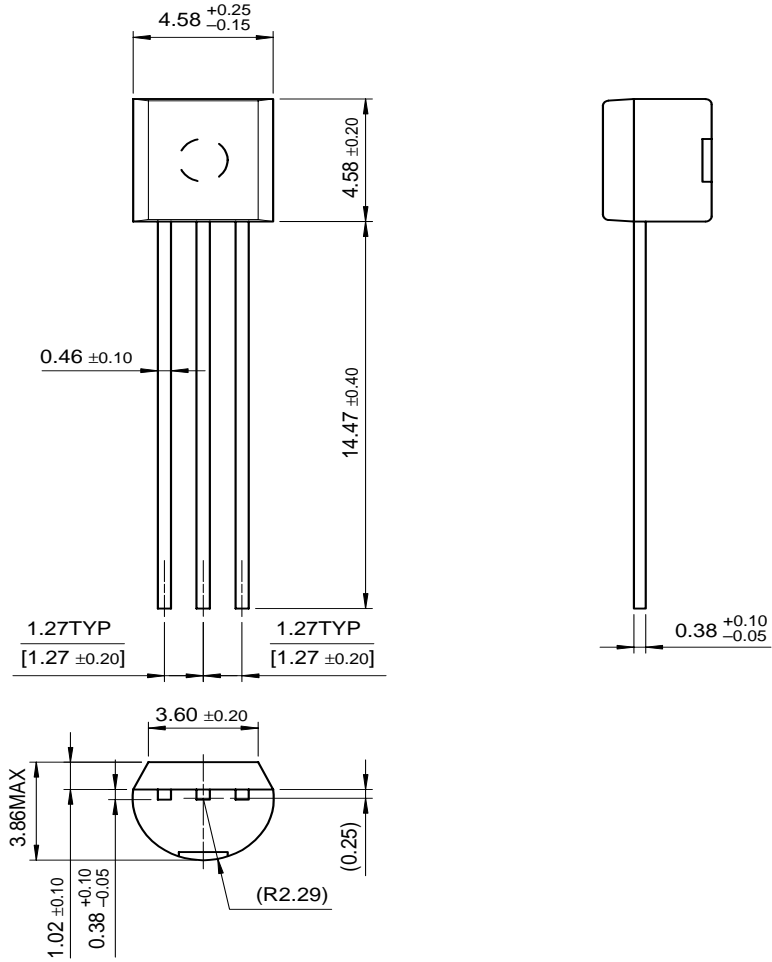
Symbol	Parameter	Conditions	Min.	Max	Units
<b>Off Characteristics</b>					
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage *	I <sub>C</sub> = 2.0mA, I <sub>B</sub> = 0	30		V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 10μA, I <sub>E</sub> = 0	40		V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 100nA, I <sub>C</sub> = 0	10		V
I <sub>CBO</sub>	Collector Cut-off Current	V <sub>CB</sub> = 30V, I <sub>E</sub> = 0		100	nA
<b>On Characteristics *</b>					
h <sub>FE</sub>	DC Current Gain	V <sub>CE</sub> = 2.0V, I <sub>C</sub> = 20mA	30,000		
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 100mA, I <sub>B</sub> = 0.1mA		1	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 10mA, V <sub>CE</sub> = 5.0V		1.4	V

### Thermal Characteristics T<sub>a</sub> = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
P <sub>D</sub>	Total Device Dissipation Derate above 25°C	625 5.0	mW mW/°C
R <sub>θJC</sub>	Thermal Resistance, Junction to Case	83.3	°C/W
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	200	°C/W

Mechanical Dimensions

TO-92



Dimensions in Millimeters

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DOMET™	GTO™	MicroPak™	QFET®	SuperSOT™-8
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E <sup>2</sup> C MOS™	ꝑC™	MSX™	QT Optoelectronics™	TinyLogic®
EnSigna™	i-Lo™	MSXPro™	Quiet Series™	TINYOPTO™
FACT™	ImpliedDisconnect™	OCX™	RapidConfigure™	TruTranslation™
FACT Quiet Series™		OCXPro™	RapidConnect™	UHC™
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## PRODUCT STATUS DEFINITIONS

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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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