

2N3117

NPN SILICON TRANSISTOR



TO-18 CASE

**Central**  
Semiconductor Corp.

[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N3117 type is an NPN silicon transistor designed for general purpose amplifier applications.

**MARKING: FULL PART NUMBER**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$ )

Collector-Base Voltage  
Collector-Emitter Voltage  
Emitter-Base Voltage  
Continuous Collector Current  
Power Dissipation  
Operating and Storage Junction Temperature

**SYMBOL**

$V_{CB0}$  60  
 $V_{CEO}$  60  
 $V_{EBO}$  6.0  
 $I_C$  50  
 $P_D$  360  
 $T_J, T_{stg}$  -65 to +200

**UNITS**

V  
V  
V  
mA  
mW  
 $^\circ\text{C}$

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

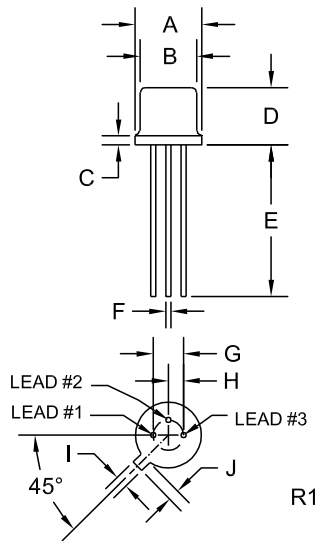
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$I_{CBO}$	$V_{CB}=45\text{V}$		10	nA
$I_{CBO}$	$V_{CB}=45\text{V}, T_A=150^\circ\text{C}$		10	$\mu\text{A}$
$I_{EBO}$	$V_{EB}=5.0\text{V}$		10	nA
$BV_{CBO}$	$I_C=10\mu\text{A}$	60		V
$BV_{CEO}$	$I_C=10\text{mA}$	60		V
$BV_{EBO}$	$I_E=10\mu\text{A}$	6.0		V
$V_{CE(SAT)}$	$I_C=1.0\text{mA}, I_B=100\mu\text{A}$		0.35	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}$		0.7	V
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=1.0\mu\text{A}$	100		
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}$	250	500	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}, T_A=-55^\circ\text{C}$	50		
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}$	300		
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	400		
$h_{fe}$	$V_{CE}=5.0\text{V}, I_C=0.5\text{mA}, f=30\text{MHz}$	2.0		
$C_{ob}$	$V_{CB}=5.0\text{V}, I_E=0$		4.5	pF
$C_{ib}$	$V_{EB}=0.5\text{V}, I_C=0$		6.0	pF
NF	$V_{CE}=5.0\text{V}, I_C=5.0\mu\text{A}, f=10\text{kHz}$ $BW=1.0\text{kHz}, R_S=50\text{k}\Omega$		1.0	dB

R0 (4-September 2012)

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**TO-18 CASE - MECHANICAL OUTLINE**



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.209	0.230	5.31	5.84
B (DIA)	0.178	0.195	4.52	4.95
C	-	0.030	-	0.76
D	0.170	0.210	4.32	5.33
E	0.500	-	12.70	-
F (DIA)	0.016	0.019	0.41	0.48
G (DIA)	0.100		2.54	
H	0.050		1.27	
I	0.036	0.046	0.91	1.17
J	0.028	0.048	0.71	1.22

TO-18 (REV: R1)

**LEAD CODE:**

- 1) Emitter
- 2) Base
- 3) Collector

**MARKING:**

**FULL PART NUMBER**

R0 (4-September 2012)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### CONTACT US

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