

2N3117

NPN SILICON TRANSISTOR



TO-18 CASE

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		UNITS
V_{CB0}	60	V
V_{CEO}	60	V
V_{EBO}	6.0	V
I_C	50	mA
P_D	360	mW
T_J, T_{stg}	-65 to +200	$^\circ\text{C}$

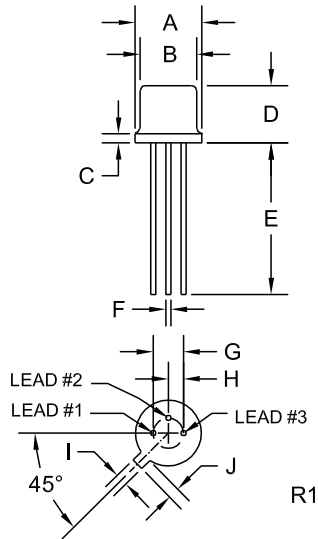
ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

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	μA
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

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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



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

DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2nd 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

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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