



**THE DATASHEET OF  
2N4037 PBFREE**



2N4036  
2N4037

**PNP SILICON TRANSISTOR**



**TO-39 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N4036, 2N4037 are epitaxial planar PNP Silicon Transistors designed for small signal, medium power, general purpose industrial applications.

**MARKING: FULL PART NUMBER**

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

Collector-Base Voltage	$V_{CBO}$	90	60	V
Collector-Emitter Voltage	$V_{CEO}$	65	40	V
Emitter-Base Voltage	$V_{EBO}$	7.0	7.0	V
Continuous Collector Current	$I_C$		1.0	A
Continuous Base Current	$I_B$		0.5	A
Power Dissipation	$P_D$		5.0	W
Power Dissipation ( $T_A=25^\circ\text{C}$ )	$P_D$		1.0	W
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 to +200		$^\circ\text{C}$
Thermal Resistance	$\theta_{JC}$		35	$^\circ\text{C/W}$

SYMBOL	2N4036	2N4037	UNITS
$V_{CBO}$	90	60	V
$V_{CEO}$	65	40	V
$V_{EBO}$	7.0	7.0	V
$I_C$		1.0	A
$I_B$		0.5	A
$P_D$		5.0	W
$P_D$		1.0	W
$T_J, T_{stg}$	-65 to +200		$^\circ\text{C}$
$\theta_{JC}$		35	$^\circ\text{C/W}$

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

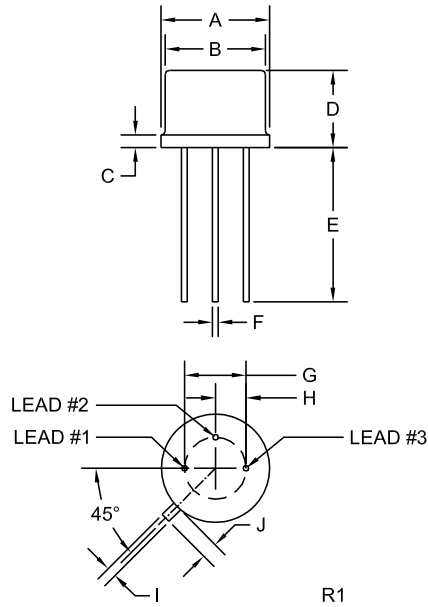
SYMBOL	TEST CONDITIONS	2N4036		2N4037		UNITS
		MIN	MAX	MIN	MAX	
$I_{CBO}$	$V_{CB}=90\text{V}$	-	1.0	-	-	$\mu\text{A}$
$I_{CBO}$	$V_{CB}=60\text{V}$	-	-	-	0.25	$\mu\text{A}$
$I_{CEX}$	$V_{CE}=85\text{V}, V_{EB}=1.5\text{V}$	-	100	-	-	$\mu\text{A}$
$I_{CEX}$	$V_{CE}=30\text{V}, V_{EB}=1.5\text{V}, T_C=150^\circ\text{C}$	-	-	-	100	mA
$I_{EBO}$	$V_{EB}=7.0\text{V}$	-	10	-	-	$\mu\text{A}$
$I_{EBO}$	$V_{EB}=5.0\text{V}$	-	-	-	1.0	$\mu\text{A}$
$BV_{CEO}$	$I_C=100\text{mA}$	65	-	40	-	V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$	-	0.65	-	1.4	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$	-	1.4	-	-	V
$V_{BE(ON)}$	$V_{CE}=10\text{V}, I_C=150\text{mA}$	-	-	-	1.5	V
$h_{FE}$	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	20	-	-	-	
$h_{FE}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	-	-	15	-	
$h_{FE}$	$V_{CE}=10\text{V}, I_C=150\text{mA}$	40	140	50	250	
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=150\text{mA}$	20	200	-	-	
$h_{FE}$	$V_{CE}=10\text{V}, I_C=500\text{mA}$	20	-	-	-	
$f_T$	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=20\text{MHz}$	60	-	60	-	MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$	-	30	-	30	pF
$t_{on}$	$V_{CE}=30\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$	-	110	-	-	ns
$t_{off}$	$V_{CE}=30\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$	-	700	-	-	ns

R1 (1-April 2010)

2N4036  
2N4037  
  
PNP SILICON TRANSISTOR



**TO-39 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING: FULL PART NUMBER**

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.335	0.370	8.51	9.40
B (DIA)	0.315	0.335	8.00	8.51
C	-	0.040	-	1.02
D	0.240	0.260	6.10	6.60
E	0.500	-	12.70	-
F (DIA)	0.016	0.021	0.41	0.53
G (DIA)	0.200		5.08	
H	0.100		2.54	
I	0.028	0.034	0.71	0.86
J	0.029	0.045	0.74	1.14

TO-39 (REV: R1)

R1 (1-April 2010)

## 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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### 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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### CONTACT US

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