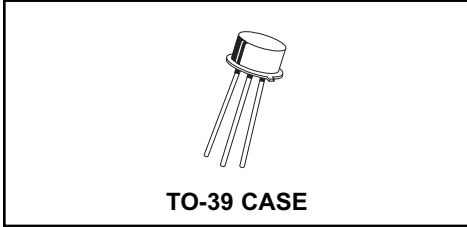


**2N5333**  
**PNP SILICON POWER TRANSISTOR**



# Central<sup>TM</sup>

**Semiconductor Corp.**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N5333 is a PNP Silicon Power Transistor manufactured by the epitaxial planar process, mounted in a hermetically sealed metal case, designed for amplifier and switching applications.

**MARKING: FULL PART NUMBER**

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

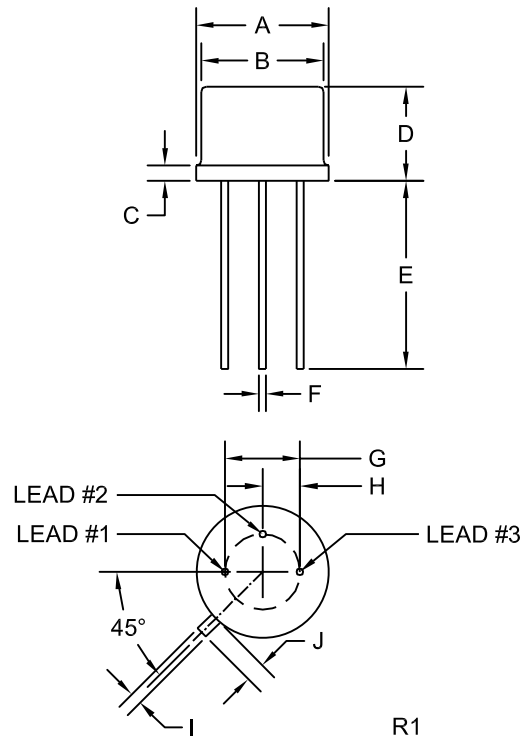
Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Peak Collector Current ( $t_p \leq 0.3\text{ms}$ )
Continuous Base Current
Power Dissipation ( $T_A=25^\circ\text{C}$ )
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL		UNITS
$V_{CBO}$	100	V
$V_{CEO}$	80	V
$V_{EBO}$	6.0	V
$I_C$	2.0	A
$I_{CM}$	5.0	A
$I_B$	1.0	A
$P_D$	1.0	W
$T_J, T_{stg}$	-65 to +200	$^\circ\text{C}$
$\Theta_{JA}$	175	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{CES}$	$V_{CE}=90\text{V}$			10	$\mu\text{A}$
$I_{CES}$	$V_{CE}=50\text{V}$ ( $T_C=150^\circ\text{C}$ )			500	$\mu\text{A}$
$I_{CEO}$	$V_{CE}=40\text{V}$			50	$\mu\text{A}$
$I_{EBO}$	$V_{EB}=4.0\text{V}$			1.0	$\mu\text{A}$
$I_{EBO}$	$V_{EB}=6.0\text{V}$			100	$\mu\text{A}$
$BV_{CEO}$	$I_C=30\text{mA}$	80			V
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$			0.45	V
$V_{CE(SAT)}$	$I_C=2.0\text{A}, I_B=400\text{mA}$			1.0	V
$V_{BE(ON)}$	$V_{CE}=4.0\text{V}, I_C=2.0\text{A}$			1.5	V
$h_{FE}$	$V_{CE}=4.0\text{V}, I_C=1.0\text{A}$	30		120	
$h_{FE}$	$V_{CE}=4.0\text{V}, I_C=2.0\text{A}$	10			
$h_{fe}$	$V_{CE}=10\text{V}, I_C=1.0\text{A}, f=1\text{KHz}$	30			
$f_T$	$V_{CE}=10\text{V}, I_C=1.0\text{A}$	30			MHz
$t_{on}$	{ $I_C=1.0\text{A}, I_{B1}=I_{B2}=100\text{mA}$ $V_{BE(OFF)}=3.7\text{V}, R_L=20\Omega$ }		150		ns
$t_{off}$			450		ns

TO-39 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	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)

**LEAD CODE:**

- 1) EMITTER
- 2) BASE
- 3) COLLECTOR (case)

**MARKING: FULL PART NUMBER**

## 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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