

2N6486 2N6487 2N6488 NPN  
2N6489 2N6490 2N6491 PNP

**COMPLEMENTARY SILICON  
POWER TRANSISTORS**



**TO-220 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N6486, 2N6489 series types are complementary silicon power transistors designed for general purpose switching and amplifier applications.

**MARKING: FULL PART NUMBER**

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

|  | <b>2N6486</b>  | <b>2N6487</b> | <b>2N6488</b> |              |                    |
|--|----------------|---------------|---------------|--------------|--------------------|
| <b>SYMBOL</b>                                | <b>2N6489</b>  | <b>2N6490</b> | <b>2N6491</b> | <b>UNITS</b> |                    |
| Collector-Base Voltage                       | $V_{CBO}$      | 50            | 70            | 90           | V                  |
| Collector-Emitter Voltage                    | $V_{CEO}$      | 40            | 60            | 80           | V                  |
| Emitter-Base Voltage                         | $V_{EBO}$      |               | 5.0           |              | V                  |
| Continuous Collector Current                 | $I_C$          |               | 15            |              | A                  |
| Continuous Base Current                      | $I_B$          |               | 5.0           |              | A                  |
| Power Dissipation                            | $P_D$          |               | 75            |              | W                  |
| Power Dissipation ( $T_A=25^\circ\text{C}$ ) | $P_D$          |               | 1.8           |              | W                  |
| Operating and Storage Junction Temperature   | $T_J, T_{stg}$ |               | -65 to +150   |              | $^\circ\text{C}$   |
| Thermal Resistance                           | $\theta_{JC}$  |               | 1.67          |              | $^\circ\text{C/W}$ |

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

| <b>SYMBOL</b> | <b>TEST CONDITIONS</b>                   | <b>2N6486</b> |               | <b>2N6487</b> |               | <b>2N6488</b> |               | <b>UNITS</b>  |
|---------------|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|               |  | <b>2N6489</b> | <b>2N6489</b> | <b>2N6490</b> | <b>2N6490</b> | <b>2N6491</b> | <b>2N6491</b> |               |
|               |  | <b>MIN</b>    | <b>MAX</b>    | <b>MIN</b>    | <b>MAX</b>    | <b>MIN</b>    | <b>MAX</b>    |               |
| $I_{CEV}$     | $V_{CE}=45V, V_{EB}=1.5V$                | -             | 500           | -             | -             | -             | -             | $\mu\text{A}$ |
| $I_{CEV}$     | $V_{CE}=65V, V_{EB}=1.5V$                | -             | -             | -             | 500           | -             | -             | $\mu\text{A}$ |
| $I_{CEV}$     | $V_{CE}=85V, V_{EB}=1.5V$                | -             | -             | -             | -             | -             | 500           | $\mu\text{A}$ |
| $I_{CEO}$     | $V_{CE}=\frac{1}{2}$ Rated $V_{CEO}$     | -             | 1.0           | -             | 1.0           | -             | 1.0           | mA            |
| $I_{EBO}$     | $V_{EB}=5.0V$                            | -             | 1.0           | -             | 1.0           | -             | 1.0           | mA            |
| $BV_{CEV}$    | $V_{BE}=1.5V, I_C=200\text{mA}$          | 50            | -             | 70            | -             | 90            | -             | V             |
| $BV_{CEO}$    | $I_C=200\text{mA}$                       | 40            | -             | 60            | -             | 80            | -             | V             |
| $V_{CE(SAT)}$ | $I_C=5.0A, I_B=0.5A$                     | -             | 1.3           | -             | 1.3           | -             | 1.3           | V             |
| $V_{CE(SAT)}$ | $I_C=15A, I_B=5.0A$                      | -             | 3.5           | -             | 3.5           | -             | 3.5           | V             |
| $V_{BE(ON)}$  | $V_{CE}=4.0V, I_C=5.0A$                  | -             | 1.3           | -             | 1.3           | -             | 1.3           | V             |
| $V_{BE(ON)}$  | $V_{CE}=4.0V, I_C=15A$                   | -             | 3.5           | -             | 3.5           | -             | 3.5           | V             |
| $h_{FE}$      | $V_{CE}=4.0V, I_C=5.0A$                  | 20            | 150           | 20            | 150           | 20            | 150           |               |
| $h_{FE}$      | $V_{CE}=4.0V, I_C=15A$                   | 5.0           | -             | 5.0           | -             | 5.0           | -             |               |
| $h_{fe}$      | $V_{CE}=4.0V, I_C=1.0A, f=1.0\text{kHz}$ | 25            | -             | 25            | -             | 25            | -             |               |
| $f_T$         | $V_{CE}=4.0V, I_C=1.0A, f=1.0\text{MHz}$ | 5.0           | -             | 5.0           | -             | 5.0           | -             | MHz           |

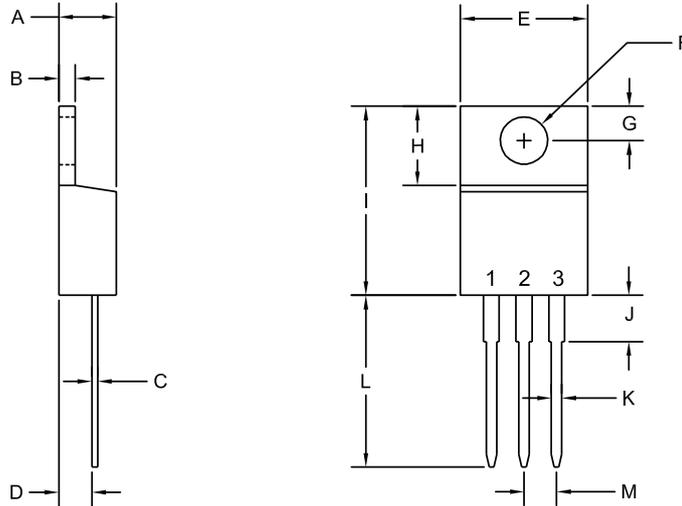
R1 (11-September 2012)

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**TO-220 CASE - MECHANICAL OUTLINE**



R2

**LEAD CODE:**

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

**MARKING:**

**FULL PART NUMBER**

| SYMBOL  | INCHES |       | MILLIMETERS |       |
|---------|--------|-------|-------------|-------|
|         | MIN    | MAX   | MIN         | MAX   |
| A       | 0.170  | 0.190 | 4.31        | 4.82  |
| B       | 0.045  | 0.055 | 1.15        | 1.39  |
| C       | 0.013  | 0.026 | 0.33        | 0.65  |
| D       | 0.083  | 0.107 | 2.10        | 2.72  |
| E       | 0.394  | 0.417 | 10.01       | 10.60 |
| F (DIA) | 0.140  | 0.157 | 3.55        | 4.00  |
| G       | 0.100  | 0.118 | 2.54        | 3.00  |
| H       | 0.230  | 0.270 | 5.85        | 6.85  |
| I       | 0.560  | 0.625 | 14.23       | 15.87 |
| J       | -      | 0.250 | -           | 6.35  |
| K       | 0.025  | 0.038 | 0.64        | 0.96  |
| L       | 0.500  | 0.579 | 12.70       | 14.70 |
| M       | 0.090  | 0.110 | 2.29        | 2.79  |

TO-220 (REV: R2)

R1 (11-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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