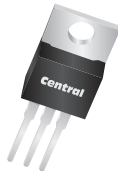


2N6486 2N6487 2N6488 NPN  
2N6489 2N6490 2N6491 PNP

**COMPLEMENTARY SILICON  
POWER TRANSISTORS**



**TO-220 CASE**



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

|                                              | SYMBOL         | 2N6486<br>2N6489 | 2N6487<br>2N6490 | 2N6488<br>2N6491 | UNITS              |
|----------------------------------------------|----------------|------------------|------------------|------------------|--------------------|
| 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:** ( $T_C=25^\circ\text{C}$ )

| SYMBOL        | TEST CONDITIONS                             | 2N6486<br>2N6489 |     | 2N6487<br>2N6490 |     | 2N6488<br>2N6491 |     | UNITS         |
|---------------|---------------------------------------------|------------------|-----|------------------|-----|------------------|-----|---------------|
|               |                                             | MIN              | MAX | MIN              | MAX | MIN              | MAX |               |
| $I_{CEV}$     | $V_{CE}=45V, V_{EB}=1.5V$                   | -                | 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 | $\mu\text{A}$ |
| $I_{CEO}$     | $V_{CE}=\frac{1}{2} \text{ Rated } V_{CEO}$ | -                | 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           |

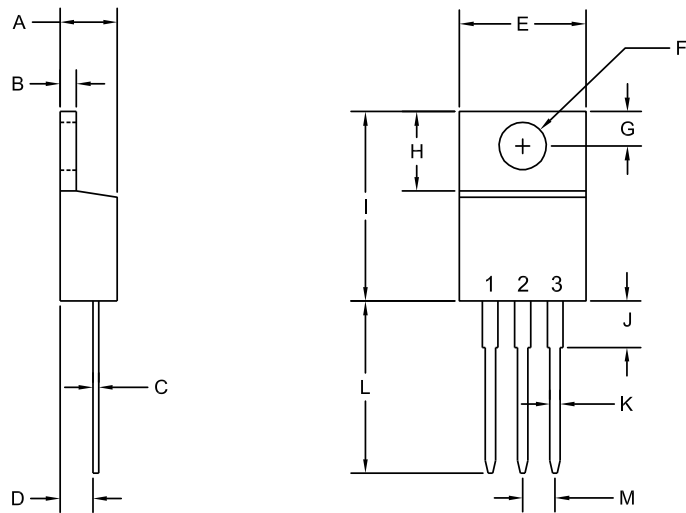
R1 (11-September 2012)

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

**COMPLEMENTARY SILICON  
POWER TRANSISTORS**



**TO-220 CASE - MECHANICAL OUTLINE**



R2

**LEAD CODE:**

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

**MARKING:**

**FULL PART NUMBER**

| SYMBOL  | DIMENSIONS |       |             |       |
|---------|------------|-------|-------------|-------|
|         | 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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### 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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