

2N3789 2N3791  
2N3790 2N3792

**SILICON  
PNP POWER TRANSISTORS**



**TO-3 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N3789, 2N3790, 2N3791, and 2N3792 are silicon PNP power transistors, manufactured by the epitaxial planar process, designed for medium speed switching and amplifier 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  
Continuous Base Current  
Power Dissipation  
Operating and Storage Junction Temperature  
Thermal Resistance

| SYMBOL         | 2N3789 | 2N3790      | UNITS              |
|----------------|--------|-------------|--------------------|
|                | 2N3791 | 2N3792      |                    |
| $V_{CBO}$      | 60     | 80          | V                  |
| $V_{CEO}$      | 60     | 80          | V                  |
| $V_{EBO}$      |        | 7.0         | V                  |
| $I_C$          |        | 10          | A                  |
| $I_B$          |        | 4.0         | A                  |
| $P_D$          |        | 150         | W                  |
| $T_J, T_{stg}$ |        | -65 to +200 | $^\circ\text{C}$   |
| $\theta_{JC}$  |        | 1.17        | $^\circ\text{C/W}$ |

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

| SYMBOL        | TEST CONDITIONS                                                           | 2N3789 |        | 2N3790 |        | UNITS |
|---------------|---------------------------------------------------------------------------|--------|--------|--------|--------|-------|
|               |                                                                           | 2N3791 | 2N3792 | 2N3791 | 2N3792 |       |
| $I_{CEV}$     | $V_{CE}=\text{Rated } V_{CEO}, V_{EB}=1.5\text{V}$                        | -      | 1.0    | -      | 1.0    | mA    |
| $I_{CEV}$     | $V_{CE}=\text{Rated } V_{CEO}, V_{EB}=1.5\text{V}, T_C=150^\circ\text{C}$ | -      | 5.0    | -      | 5.0    | mA    |
| $I_{EBO}$     | $V_{EB}=7.0\text{V}$                                                      | -      | 5.0    | -      | 5.0    | mA    |
| $BV_{CEO}$    | $I_C=200\text{mA}$                                                        | 60     | -      | 80     | -      | V     |
| $V_{CE(SAT)}$ | $I_C=4.0\text{A}, I_B=400\text{mA}$ (2N3789, 2N3790)                      | -      | 1.0    | -      | 1.0    | V     |
| $V_{CE(SAT)}$ | $I_C=5.0\text{A}, I_B=500\text{mA}$ (2N3791, 2N3792)                      | -      | 1.0    | -      | 1.0    | V     |
| $V_{BE(ON)}$  | $V_{CE}=2.0\text{V}, I_C=5.0\text{A}$ (2N3789, 2N3790)                    | -      | 2.0    | -      | 2.0    | V     |
| $V_{BE(ON)}$  | $V_{CE}=2.0\text{V}, I_C=5.0\text{A}$ (2N3791, 2N3792)                    | -      | 1.8    | -      | 1.8    | V     |
| $V_{BE(ON)}$  | $V_{CE}=4.0\text{V}, I_C=10\text{A}$                                      | -      | 4.0    | -      | 4.0    | V     |
| $h_{FE}$      | $V_{CE}=2.0\text{V}, I_C=1.0\text{A}$ (2N3789, 2N3790)                    | 25     | 90     | 25     | 90     |       |
| $h_{FE}$      | $V_{CE}=2.0\text{V}, I_C=1.0\text{A}$ (2N3791, 2N3792)                    | 50     | 180    | 50     | 180    |       |
| $h_{FE}$      | $V_{CE}=2.0\text{V}, I_C=3.0\text{A}$ (2N3789, 2N3790)                    | 15     | -      | 15     | -      |       |
| $h_{FE}$      | $V_{CE}=2.0\text{V}, I_C=3.0\text{A}$ (2N3791, 2N3792)                    | 30     | -      | 30     | -      |       |
| $f_T$         | $V_{CE}=10\text{V}, I_C=500\text{mA}, f=1.0\text{MHz}$                    | 4.0    | -      | 4.0    | -      | MHz   |

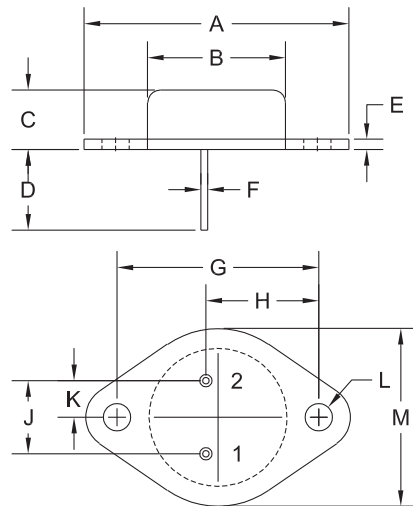
R2 (31-July 2013)

2N3789 2N3791  
2N3790 2N3792

SILICON  
PNP POWER TRANSISTORS



### TO-3 CASE - MECHANICAL OUTLINE



R2

| DIMENSIONS |        |       |             |       |
|------------|--------|-------|-------------|-------|
| SYMBOL     | INCHES |       | MILLIMETERS |       |
|            | MIN    | MAX   | MIN         | MAX   |
| A          | 1.516  | 1.573 | 38.50       | 39.96 |
| B (DIA)    | 0.748  | 0.875 | 19.00       | 22.23 |
| C          | 0.250  | 0.450 | 6.35        | 11.43 |
| D          | 0.433  | 0.516 | 11.00       | 13.10 |
| E          | 0.054  | 0.065 | 1.38        | 1.65  |
| F          | 0.035  | 0.045 | 0.90        | 1.15  |
| G          | 1.177  | 1.197 | 29.90       | 30.40 |
| H          | 0.650  | 0.681 | 16.50       | 17.30 |
| J          | 0.420  | 0.440 | 10.67       | 11.18 |
| K          | 0.205  | 0.225 | 5.21        | 5.72  |
| L (DIA)    | 0.151  | 0.172 | 3.84        | 4.36  |
| M          | 0.984  | 1.050 | 25.00       | 26.67 |

TO-3 (REV: R2)

#### LEAD CODE:

- 1) Base
- 2) Emitter
- Case) Collector

#### MARKING:

FULL PART NUMBER

R2 (31-July 2013)

## 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 (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

---

### 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).

---

### CONTACT US

#### Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centrasemi.com](http://www.centrasemi.com)

**Worldwide Field Representatives:**  
[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

**Worldwide Distributors:**  
[www.centrasemi.com/wwdistributors](http://www.centrasemi.com/wwdistributors)

---

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: [www.centrasemi.com/terms](http://www.centrasemi.com/terms)