

**BU806
BU807**

**NPN SILICON
DARLINGTON TRANSISTOR**



TO-220 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BU806 and BU807 types are NPN Silicon Darlington Transistors designed for high voltage, high current, fast switching applications.

MARKING: FULL PART NUMBER

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

| |
|--|
| Collector-Base Voltage |
| Collector-Emitter Voltage |
| Collector-Emitter Voltage |
| Emitter-Base Voltage |
| Continuous Collector Current |
| Peak Collector Current |
| Continuous Base Current |
| Power Dissipation |
| Operating and Storage Junction Temperature |
| Thermal Resistance |
| Thermal Resistance |

| SYMBOL | BU806 | BU807 | UNITS |
|----------------|-------|-------------|-----------------------------|
| V_{CBO} | 400 | 330 | V |
| V_{CEV} | 400 | 330 | V |
| V_{CEO} | 200 | 150 | V |
| V_{EBO} | | 6.0 | V |
| I_C | | 8.0 | A |
| I_{CM} | | 15 | A |
| I_B | | 2.0 | A |
| P_D | | 60 | W |
| T_J, T_{stg} | | -65 to +150 | $^{\circ}\text{C}$ |
| Θ_{JA} | | 70 | $^{\circ}\text{C}/\text{W}$ |
| Θ_{JC} | | 2.08 | $^{\circ}\text{C}/\text{W}$ |

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

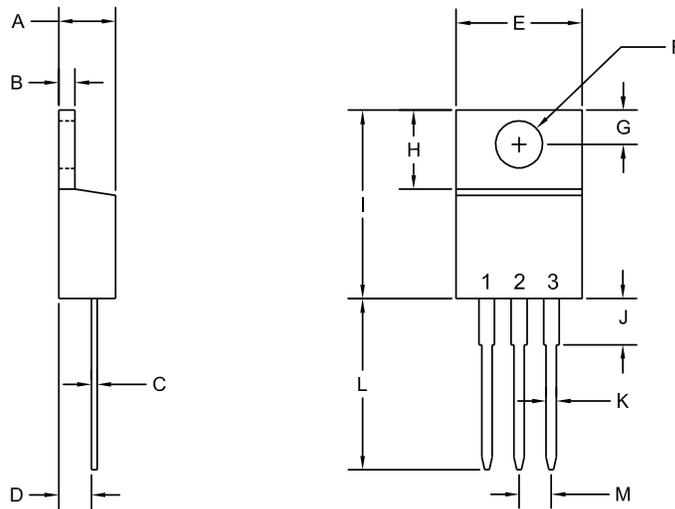
| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|---------------|--|-----|------|-----|---------------|
| I_{CES} | $V_{CE}=400\text{V}$ (BU806) | | | 100 | μA |
| I_{CES} | $V_{CE}=330\text{V}$ (BU807) | | | 100 | μA |
| I_{CEV} | $V_{CE}=400\text{V}, V_{EB}=6.0\text{V}$ (BU806) | | | 100 | μA |
| I_{CEV} | $V_{CE}=330\text{V}, V_{EB}=6.0\text{V}$ (BU807) | | | 100 | μA |
| I_{EBO} | $V_{EB}=6.0\text{V}$ | | | 3.5 | mA |
| BV_{CEO} | $I_C=100\text{mA}$ (BU806) | 200 | | | V |
| BV_{CEO} | $I_C=100\text{mA}$ (BU807) | 150 | | | V |
| $V_{CE(SAT)}$ | $I_C=5.0\text{A}, I_B=50\text{mA}$ | | | 1.5 | V |
| $V_{BE(SAT)}$ | $I_C=5.0\text{A}, I_B=50\text{mA}$ | | | 2.4 | V |
| V_F | $I_F=4.0\text{A}$ | | | 2.0 | V |
| t_{on} | $V_{CC}=100\text{V}, I_C=5.0\text{A}, I_{B1}=50\text{mA}, I_{B2}=500\text{mA}$ | | 0.35 | | μs |
| t_{off} | $V_{CC}=100\text{V}, I_C=5.0\text{A}, I_{B1}=50\text{mA}, I_{B2}=500\text{mA}$ | | 0.4 | 1.0 | μs |

R0 (4-August 2011)

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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 | 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)

R0 (4-August 2011)

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 (2nd 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.
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Hauppauge, NY 11788 USA
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Main Fax: (631) 435-1824
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www.centrasemi.com

Worldwide Field Representatives:
www.centrasemi.com/wwreps

Worldwide Distributors:
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

Product End of Life Notification

| | |
|---------------------------|----------|
| PDN ID: | PDN01226 |
| Notification Date: | 4/21/22 |
| Last Buy Date: | 10/21/22 |
| Last Shipment Date | 4/21/23 |

Summary: The BU806 power transistor is discontinued and now classified as End Life (EOL).

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by other manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's ongoing Product Portfolio Management. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

*** All Plating types (PBFREE,TIN/LEAD) for each item listed are included in this notice.**

| <u>Central Part Number</u> | <u>Suggested Replacement</u> |
|----------------------------|------------------------------|
| BU806 | N/A |
| BU806 W/DC | N/A |

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. If you would like assistance, please visit <https://my.centrasemi.com/submit-inquiry?type=ER> to submit an online inquiry.

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.



<http://www.centrasemi.com>

Product End of Life Notification

| | |
|---------------------------|------------|
| PDN ID: | PDN01199 |
| Notification Date: | 11/16/21 |
| Last Buy Date: | Stock Only |
| Last Shipment Date | Stock Only |

Please be advised that Central Semiconductor must immediately discontinue the product(s) listed in the attached PDN notice. Orders can only be accepted for products with available inventory on hand.

You may have purchased one or more of the products listed. Please do not hesitate to contact your local Central Semiconductor sales representative with any questions or needs you may have. Central regrets any inconvenience this may cause.

Sincerely,

Central Semiconductor Corp.

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.



http://www.centrasemi.com

Product End of Life Notification

| | |
|---------------------------|------------|
| PDN ID: | PDN01199 |
| Notification Date: | 11/16/21 |
| Last Buy Date: | Stock Only |
| Last Shipment Date | Stock Only |

Summary: The following power transistor is discontinued and now classified as End of Life (EOL).

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*** All Plating types (PBFREE,TIN/LEAD) for each item listed are included in this notice.**

| <u>Central Part Number</u> | <u>Suggested Replacement</u> |
|----------------------------|------------------------------|
| BU807 | N/A |

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. If you would like assistance, please visit <https://my.centrasemi.com/submit-inquiry?type=ER> to submit an online inquiry.

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