

PMD18K SERIES NPN  
PMD19K SERIES PNP

**COMPLEMENTARY SILICON  
DARLINGTON POWER  
TRANSISTORS**



**TO-3 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR PMD18K, PMD19K series types are complementary silicon Darlington power transistors, manufactured by the epitaxial base process, designed for power switching applications. These devices are designed to be electrical/mechanical equivalents to Lambda part numbers.

**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 ( $T_C=50^\circ\text{C}$ )  
Operating and Storage Junction Temperature  
Thermal Resistance

| SYMBOL         | PMD18K80    | PMD18K100 | UNITS                     |
|----------------|-------------|-----------|---------------------------|
|                | PMD19K80    | PMD19K100 |                           |
| $V_{CBO}$      | 80          | 100       | V                         |
| $V_{CER}$      | 80          | 100       | V                         |
| $V_{CEO}$      | 80          | 100       | V                         |
| $V_{EBO}$      |             | 5.0       | V                         |
| $I_C$          |             | 30        | A                         |
| $I_{CM}$       |             | 60        | A                         |
| $I_B$          |             | 750       | mA                        |
| $P_D$          |             | 240       | W                         |
| $T_J, T_{stg}$ | -65 to +200 |           | $^\circ\text{C}$          |
| $\theta_{JC}$  | 0.625       |           | $^\circ\text{C}/\text{W}$ |

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

| SYMBOL        | TEST CONDITIONS  | MIN  | MAX | UNITS |
|---------------|--|------|-----|-------|
| $I_{CER}$     | $V_{CE}=54\text{V}, R_{BE}=2.2\text{k}\Omega$ (PMD18K, 19K80)  |      | 10  | mA    |
| $I_{CER}$     | $V_{CE}=67\text{V}, R_{BE}=2.2\text{k}\Omega$ (PMD18K, 19K100) |      | 10  | mA    |
| $I_{EBO}$     | $V_{EB}=5.0\text{V}$   |      | 3.0 | mA    |
| $BV_{CER}$    | $I_C=100\text{mA}, R_{BE}=2.2\text{k}\Omega$ (PMD18K, 19K80)   | 80   |     | V     |
| $BV_{CER}$    | $I_C=100\text{mA}, R_{BE}=2.2\text{k}\Omega$ (PMD18K, 19K100)  | 100  |     | V     |
| $BV_{CEO}$    | $I_C=100\text{mA}$ (PMD18K, 19K80)                             | 80   |     | V     |
| $BV_{CEO}$    | $I_C=100\text{mA}$ (PMD18K, 19K100)                            | 100  |     | V     |
| $V_{CE(SAT)}$ | $I_C=15\text{A}, I_B=60\text{mA}$                              |      | 2.0 | V     |
| $V_{BE(SAT)}$ | $I_C=15\text{A}, I_B=60\text{mA}$                              |      | 2.8 | V     |
| $V_{BE(ON)}$  | $V_{CE}=3.0\text{V}, I_C=15\text{A}$                           |      | 2.8 | V     |
| $h_{FE}$      | $V_{CE}=3.0\text{V}, I_C=15\text{A}$ (PMD18K series)           | 1.0K | 20K |       |
| $h_{FE}$      | $V_{CE}=3.0\text{V}, I_C=15\text{A}$ (PMD19K series)           | 800  | 20K |       |
| $h_{fe}$      | $V_{CE}=3.0\text{V}, I_C=9.0\text{A}, f=1.0\text{kHz}$         | 300  |     |       |
| $f_T$         | $V_{CE}=3.0\text{V}, I_C=9.0\text{A}, f=1.0\text{MHz}$         | 4.0  |     | MHz   |
| $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$                    |      | 600 | pF    |

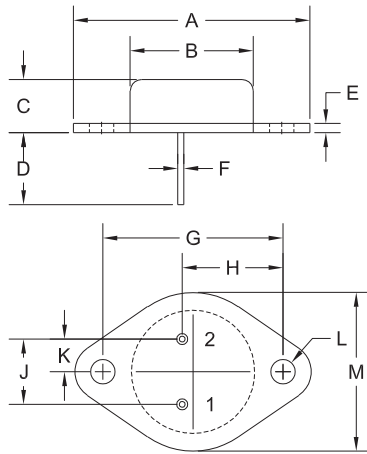
R1 (2-October 2012)

PMD18K SERIES NPN  
PMD19K SERIES PNP

COMPLEMENTARY SILICON  
DARLINGTON POWER  
TRANSISTORS



TO-3 CASE - MECHANICAL OUTLINE



R2

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

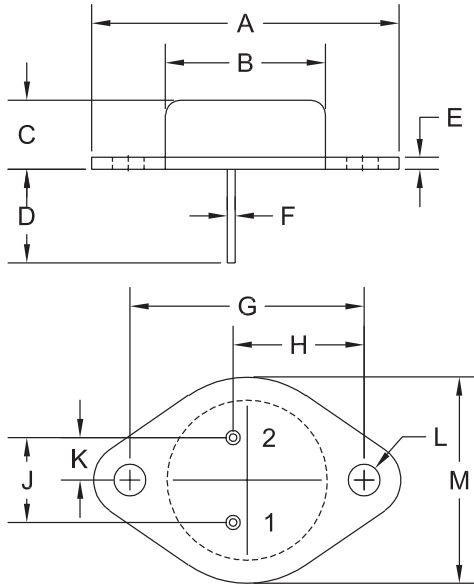
MARKING:

FULL PART NUMBER

R1 (2-October 2012)

# Package Details - TO-3

## Mechanical Drawing



R2

| SYMBOL  | DIMENSIONS |       | DIMENSIONS  |       |
|---------|------------|-------|-------------|-------|
|         | 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 |
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| M       | 0.984      | 1.050 | 25.00       | 26.67 |

TO-3 (REV: R2)

### Lead Code:

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

### Packing Code: C

C = Antistatic coated plastic sleeves  
(surface resistivity of  $>10^9$  and  $<10^{13}$  ohms per square).

Standard Packing Quantity: 20

Sleeve Packing Quantity: 20



TO-3  
Antistatic Sleeve

# Material Composition Specification

## TO-3 Case



Device average mass ..... 11.7 g  
 Fluctuation margin ..... +/-10%

| Component        | Material                | Material |       | Substance                      | CAS No.    | Substance |       |         |
|------------------|-------------------------|----------|-------|--------------------------------|------------|-----------|-------|---------|
|                  |                         | (%wt)    | (mg)  |                                |            | (%wt)     | (mg)  | (ppm)   |
| active device    | doped Si                | 0.043%   | 5.0   | Si                             | 7440-21-3  | 0.043%    | 5.0   | 426     |
| bond wire        | aluminum                | 0.019%   | 2.2   | Al                             | 7429-90-5  | 0.019%    | 2.2   | 187     |
| die attach       | high temperature solder | 0.037%   | 4.28  | Pb                             | 7439-92-1  | 0.034%    | 3.98  | 339     |
|                  |                         |          |       | Sn                             | 7440-31-5  | 0.002%    | 0.2   | 17      |
|                  |                         |          |       | Ag                             | 7440-22-4  | 0.001%    | 0.1   | 9       |
| die coating*     | silicone                | 4.9%     | 575   | Al <sub>2</sub> O <sub>3</sub> | 1344-28-1  | 3.56%     | 418   | 35,570  |
|                  |                         |          |       | poly-methylsiloxane            | 63148-62-9 | 1.34%     | 157   | 13,392  |
| header           | nickel plated iron      | 66.2%    | 7,745 | Fe                             | 7439-89-6  | 65.54%    | 7,668 | 655,385 |
|                  |                         |          |       | Ni                             | 7440-02-0  | 0.62%     | 72    | 6,154   |
|                  |                         |          |       | P                              | 7723-14-0  | 0.05%     | 5.4   | 462     |
| can              | nickel plated iron      | 21.79%   | 2,550 | Fe                             | 7439-89-6  | 21.57%    | 2,524 | 215,726 |
|                  |                         |          |       | Ni                             | 7440-02-0  | 0.2%      | 23.7  | 2,026   |
|                  |                         |          |       | P                              | 7723-14-0  | 0.02%     | 1.8   | 154     |
| terminal plating | 100% tin solder         | 7.36%    | 864   | Sn                             | 7440-31-5  | 7.36%     | 864   | 73,591  |

\*Die coating is not used on devices with a V<sub>CEO</sub> of less than 150 volts.

### Disclaimer

The information provided in this Material Composition data sheet is, to the best of our knowledge, correct. However, there is no guarantee to completeness or accuracy, as some information is derived from data sources outside the company.

R3 (20-September 2018)

# Material Composition Specification

## TO-3 Case



Device average mass ..... 11.7 g  
 Fluctuation margin ..... +/-10%

| Component        | Material                | Material |       | Substance                      | CAS No.    | Substance |       |         |
|------------------|-------------------------|----------|-------|--------------------------------|------------|-----------|-------|---------|
|                  |                         | (%wt)    | (mg)  |                                |            | (%wt)     | (mg)  | (ppm)   |
| active device    | doped Si                | 0.043%   | 5.0   | Si                             | 7440-21-3  | 0.043%    | 5.0   | 426     |
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|                  |                         |          |       | Sn                             | 7440-31-5  | 0.002%    | 0.2   | 17      |
|                  |                         |          |       | Ag                             | 7440-22-4  | 0.001%    | 0.1   | 9       |
| die coating*     | silicone                | 4.9%     | 575   | Al <sub>2</sub> O <sub>3</sub> | 1344-28-1  | 3.56%     | 418   | 35,570  |
|                  |                         |          |       | poly-methylsiloxane            | 63148-62-9 | 1.34%     | 157   | 13,392  |
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|                  |                         |          |       | P                              | 7723-14-0  | 0.05%     | 5.4   | 462     |
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|                  |                         |          |       | Ni                             | 7440-02-0  | 0.2%      | 23.7  | 2,026   |
|                  |                         |          |       | P                              | 7723-14-0  | 0.02%     | 1.8   | 154     |
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## 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

#### 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)

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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)



# Product End of Life Notification

|                           |            |
|---------------------------|------------|
| <b>PDN ID:</b>            | PDN01250   |
| <b>Notification Date:</b> | 2/10/23    |
| <b>Last Buy Date:</b>     | Stock Only |
| <b>Last Shipment Date</b> | Stock Only |

<https://www.centrasemi.com>

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, LLC

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DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor 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.



https://www.centalsemi.com

# Product End of Life Notification

|                           |            |
|---------------------------|------------|
| <b>PDN ID:</b>            | PDN01250   |
| <b>Notification Date:</b> | 2/10/23    |
| <b>Last Buy Date:</b>     | Stock Only |
| <b>Last Shipment Date</b> | Stock Only |

Summary: The following power transistors are discontinued and now classified as of End of Life (EOL). NOTE: If inventory has been depleted, some devices may be available on special order; please contact your Central salesperson, manufacturer's rep, franchised distributor, or inquiry@centalsemi.com.

Although Central Semiconductor 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.**

| <b>Central Part Number</b> | <b>Suggested Replacement</b> |
|----------------------------|------------------------------|
| BDW51                      | N/A                          |
| BDW51A                     | N/A                          |
| BDW51B                     | N/A                          |
| BDW51C                     | N/A                          |
| BDW52                      | N/A                          |
| BDW52A                     | N/A                          |
| BDW52B                     | N/A                          |
| BDW52C                     | N/A                          |
| BDW94B                     | N/A                          |
| BDX20                      | N/A                          |
| BDX54                      | N/A                          |
| BDX54B                     | N/A                          |
| BDX54C                     | N/A                          |
| BDX54E                     | N/A                          |
| BDX85                      | N/A                          |
| BDX85A                     | N/A                          |
| BDX85B                     | N/A                          |
| BDX85C                     | N/A                          |
| BDX87                      | N/A                          |
| BDX87A                     | N/A                          |
| BDX87B                     | N/A                          |
| BDX87C                     | N/A                          |
| BDY90                      | N/A                          |
| BD135                      | N/A                          |
| BD135 SL                   | N/A                          |
| BD135-10 SL                | N/A                          |
| BD135-16                   | N/A                          |
| BD135-16 SL                | N/A                          |
| BD136                      | N/A                          |
| BD136-10                   | N/A                          |
| BD136-10 SL                | N/A                          |
| BD136-16                   | N/A                          |
| BD136-16 SL                | N/A                          |
| BD137                      | N/A                          |

\*\*\* CONTINUED \*\*\*

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https://www.centalsemi.com

# Product End of Life Notification

|                           |            |
|---------------------------|------------|
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| <b>Last Shipment Date</b> | Stock Only |

\*\*\* CONTINUED FROM PRIOR PAGE \*\*\*

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

| <u>Central Part Number</u> | <u>Suggested Replacement</u> |
|----------------------------|------------------------------|
| BD137-10                   | N/A                          |
| BD137-10 SL                | N/A                          |
| BD137-16                   | N/A                          |
| BD138                      | N/A                          |
| BD138-10                   | N/A                          |
| BD138-10 SL                | N/A                          |
| BD138-16                   | N/A                          |
| BD138-16 SL                | N/A                          |
| BD139                      | N/A                          |
| BD139-10                   | N/A                          |
| BD139-10 SL                | N/A                          |
| BD139-16                   | N/A                          |
| BD139-16 SL                | N/A                          |
| BD140                      | N/A                          |
| BD140-10                   | N/A                          |
| BD140-10 SL                | N/A                          |
| BD140-16                   | N/A                          |
| BD140-16 SL                | N/A                          |
| BD157                      | N/A                          |
| BD158                      | N/A                          |
| BD159                      | N/A                          |
| BD175                      | N/A                          |
| BD176                      | N/A                          |
| BD177                      | N/A                          |
| BD178                      | N/A                          |
| BD179                      | N/A                          |
| BD180                      | N/A                          |
| BD201                      | N/A                          |
| BD204                      | N/A                          |
| BD233                      | N/A                          |
| BD234                      | N/A                          |
| BD235                      | N/A                          |
| BD236                      | N/A                          |
| BD237                      | N/A                          |
| BD238                      | N/A                          |
| BD238 SL                   | N/A                          |
| BD433                      | N/A                          |
| BD434                      | N/A                          |
| BD437                      | N/A                          |
| BD438                      | N/A                          |
| BD439                      | N/A                          |
| BD440                      | N/A                          |
| BD441                      | N/A                          |

\*\*\* CONTINUED \*\*\*

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\*\*\* CONTINUED FROM PRIOR PAGE \*\*\*

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

| Central Part Number | Suggested Replacement |
|---------------------|-----------------------|
| BD442               | N/A                   |
| BD537               | N/A                   |
| BD538               | N/A                   |
| BD675               | N/A                   |
| BD675A              | N/A                   |
| BD676               | N/A                   |
| BD676A              | N/A                   |
| BD676A SL           | N/A                   |
| BD677               | N/A                   |
| BD677A              | N/A                   |
| BD678               | N/A                   |
| BD678A              | N/A                   |
| BD679               | N/A                   |
| BD679A              | N/A                   |
| BD679A SL           | N/A                   |
| BD680               | N/A                   |
| BD680A              | N/A                   |
| BD680A SL           | N/A                   |
| BD681               | N/A                   |
| BD681 SL            | N/A                   |
| BD682               | N/A                   |
| BD682 SL            | N/A                   |
| BD683               | N/A                   |
| BD683 SL            | N/A                   |
| BD908               | N/A                   |
| BF457               | N/A                   |
| BF458               | N/A                   |
| BF459               | N/A                   |
| BF459 SL            | N/A                   |
| BF469               | N/A                   |
| BF471               | N/A                   |
| BF472               | N/A                   |
| BUW34               | N/A                   |
| BUW35               | N/A                   |
| BUW36               | N/A                   |
| BUW44               | N/A                   |
| BUW45               | N/A                   |
| BUW46               | N/A                   |
| BUX43               | N/A                   |
| BUX44               | N/A                   |
| BUX47               | N/A                   |
| BUX48               | N/A                   |
| BUX80               | N/A                   |

\*\*\* CONTINUED \*\*\*

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|                    |            |
|--------------------|------------|
| PDN ID:            | PDN01250   |
| Notification Date: | 2/10/23    |
| Last Buy Date:     | Stock Only |
| Last Shipment Date | Stock Only |

\*\*\* CONTINUED FROM PRIOR PAGE \*\*\*

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

| Central Part Number | Suggested Replacement |
|---------------------|-----------------------|
| BUY69A              | N/A                   |
| BUY69B              | N/A                   |
| BUY69C              | N/A                   |
| BU408               | N/A                   |
| BU409               | N/A                   |
| CEN1025             | N/A                   |
| CEN1037             | N/A                   |
| CEN1063             | N/A                   |
| CEN1092             | N/A                   |
| CEN1102             | N/A                   |
| CEN1111             | N/A                   |
| CEN1177             | N/A                   |
| CEN1247             | N/A                   |
| CEN1306             | N/A                   |
| CEN1323             | N/A                   |
| CEN1328             | N/A                   |
| CEN1364 SL          | N/A                   |
| CEN1378 SL          | N/A                   |
| CEN1391             | N/A                   |
| CEN1396             | N/A                   |
| CEN1406             | N/A                   |
| CEN1416             | N/A                   |
| CEN1439             | N/A                   |
| CEN1450             | N/A                   |
| CEN496              | N/A                   |
| CEN537              | N/A                   |
| CEN591              | N/A                   |
| CEN596              | N/A                   |
| CEN644              | N/A                   |
| CEN671              | N/A                   |
| CEN698-1            | N/A                   |
| CEN698-2            | N/A                   |
| CEN774              | N/A                   |
| CEN821              | N/A                   |
| CEN844              | N/A                   |
| CEN925              | N/A                   |
| CEN951              | N/A                   |
| CEN961              | N/A                   |
| CEN972              | N/A                   |
| CEN992              | N/A                   |
| CM3441              | N/A                   |
| CP166-BUP54-WN      | N/A                   |
| CZT122 BK           | N/A                   |

\*\*\* CONTINUED \*\*\*

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# Product End of Life Notification

|                    |            |
|--------------------|------------|
| PDN ID:            | PDN01250   |
| Notification Date: | 2/10/23    |
| Last Buy Date:     | Stock Only |
| Last Shipment Date | Stock Only |

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

| Central Part Number | Suggested Replacement |
|---------------------|-----------------------|
| CZT122 TR           | N/A                   |
| CZT31C BK           | N/A                   |
| CZT31C TR           | N/A                   |
| D44C12              | N/A                   |
| D44E1               | N/A                   |
| D44E3               | N/A                   |
| D45E3               | N/A                   |
| D45H8               | N/A                   |
| MJE13003            | N/A                   |
| MJE13003 SL         | N/A                   |
| MJE13005            | N/A                   |
| MJE13005 SL         | N/A                   |
| MJE13006            | N/A                   |
| MJE13008            | N/A                   |
| MJE13009            | N/A                   |
| MJE15030            | N/A                   |
| MJE15031            | N/A                   |
| MJE170              | N/A                   |
| MJE171              | N/A                   |
| MJE172              | N/A                   |
| MJE180              | N/A                   |
| MJE181              | N/A                   |
| MJE182              | N/A                   |
| MJE200              | N/A                   |
| MJE210              | N/A                   |
| MJE220              | N/A                   |
| MJE221              | N/A                   |
| MJE222              | N/A                   |
| MJE223              | N/A                   |
| MJE224              | N/A                   |
| MJE225              | N/A                   |
| MJE230              | N/A                   |
| MJE231              | N/A                   |
| MJE232              | N/A                   |
| MJE233              | N/A                   |
| MJE234              | N/A                   |
| MJE235              | N/A                   |
| MJE2360T            | N/A                   |
| MJE240              | N/A                   |
| MJE241              | N/A                   |
| MJE242              | N/A                   |
| MJE243              | N/A                   |
| MJE244              | N/A                   |

\*\*\* CONTINUED \*\*\*

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# Product End of Life Notification

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| Last Shipment Date | Stock Only |

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

| Central Part Number | Suggested Replacement |
|---------------------|-----------------------|
| MJE250              | N/A                   |
| MJE251              | N/A                   |
| MJE252              | N/A                   |
| MJE253              | N/A                   |
| MJE254              | N/A                   |
| MJE2801T            | N/A                   |
| MJE2901T            | N/A                   |
| MJE2955T            | N/A                   |
| MJE340              | N/A                   |
| MJE341              | N/A                   |
| MJE344              | N/A                   |
| MJE344 SL           | N/A                   |
| MJE3440             | N/A                   |
| MJE350              | N/A                   |
| MJE370              | N/A                   |
| MJE371              | N/A                   |
| MJE520              | N/A                   |
| MJE521              | N/A                   |
| MJE700              | N/A                   |
| MJE701              | N/A                   |
| MJE702              | N/A                   |
| MJE703              | N/A                   |
| MJE710              | N/A                   |
| MJE711              | N/A                   |
| MJE712              | N/A                   |
| MJE720              | N/A                   |
| MJE721              | N/A                   |
| MJE722              | N/A                   |
| MJE800              | N/A                   |
| MJE800T             | N/A                   |
| MJE801              | N/A                   |
| MJE801T             | N/A                   |
| MJE802              | N/A                   |
| MJE802T             | N/A                   |
| MJE803              | N/A                   |
| MJE803T             | N/A                   |
| MJ1000              | N/A                   |
| MJ1001              | N/A                   |
| MJ10012             | N/A                   |
| MJ11011             | N/A                   |
| MJ11012             | N/A                   |
| MJ11013             | N/A                   |
| MJ11014             | N/A                   |

\*\*\* CONTINUED \*\*\*

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

| Central Part Number | Suggested Replacement |
|---------------------|-----------------------|
| MJ11015             | N/A                   |
| MJ11016             | N/A                   |
| MJ2501              | N/A                   |
| MJ2955              | N/A                   |
| MJ3000              | N/A                   |
| MJ3001              | N/A                   |
| MJ4033              | N/A                   |
| MJ4035              | N/A                   |
| MJ410               | N/A                   |
| MJ802               | N/A                   |
| MJ901               | N/A                   |
| PMD10K100           | N/A                   |
| PMD10K40            | N/A                   |
| PMD10K60            | N/A                   |
| PMD10K80            | N/A                   |
| PMD12K100           | N/A                   |
| PMD12K40            | N/A                   |
| PMD12K60            | N/A                   |
| PMD12K80            | N/A                   |
| PMD13K100           | N/A                   |
| PMD16K100           | N/A                   |
| PMD16K60            | N/A                   |
| PMD16K80            | N/A                   |
| PMD1601K            | N/A                   |
| PMD1602K            | N/A                   |
| PMD1603K            | N/A                   |
| PMD17K100           | N/A                   |
| PMD17K60            | N/A                   |
| PMD17K80            | N/A                   |
| PMD1701K            | N/A                   |
| PMD1702K            | N/A                   |
| PMD1703K            | N/A                   |
| PMD18K100           | N/A                   |
| PMD18K60            | N/A                   |
| PMD18K80            | N/A                   |
| PMD19K100           | N/A                   |
| PMD19K60            | N/A                   |
| PMD19K80            | N/A                   |
| SE9303              | N/A                   |
| SE9304              | N/A                   |
| SE9305              | N/A                   |
| TIP102              | N/A                   |
| TIP107              | N/A                   |

\*\*\* CONTINUED \*\*\*

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# Product End of Life Notification

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| <b>PDN ID:</b>            | PDN01250   |
| <b>Notification Date:</b> | 2/10/23    |
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| <b>Last Shipment Date</b> | Stock Only |

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

| <b>Central Part Number</b> | <b>Suggested Replacement</b> |
|----------------------------|------------------------------|
| TIP107 SL                  | N/A                          |
| TIP117                     | N/A                          |
| TIP117 SL                  | N/A                          |
| TIP122                     | N/A                          |
| TIP122 SL                  | N/A                          |
| TIP127                     | N/A                          |
| TIP127 SL                  | N/A                          |
| TIP132                     | N/A                          |
| TIP137                     | N/A                          |
| TIP140T                    | N/A                          |
| TIP141T                    | N/A                          |
| TIP142T                    | N/A                          |
| TIP145T                    | N/A                          |
| TIP146T                    | N/A                          |
| TIP147T                    | N/A                          |
| TIP29                      | N/A                          |
| TIP29A                     | N/A                          |
| TIP29A SL                  | N/A                          |
| TIP29B                     | N/A                          |
| TIP29C                     | N/A                          |
| TIP31                      | N/A                          |
| TIP31 SL                   | N/A                          |
| TIP31A                     | N/A                          |
| TIP31B                     | N/A                          |
| TIP31C SL                  | N/A                          |
| TIP32                      | N/A                          |
| TIP32A                     | N/A                          |
| TIP32A SL                  | N/A                          |
| TIP32B                     | N/A                          |
| TIP32C                     | N/A                          |
| TIP41                      | N/A                          |
| TIP41A                     | N/A                          |
| TIP41B                     | N/A                          |
| TIP41C                     | N/A                          |
| TIP41C SL                  | N/A                          |
| TIP42                      | N/A                          |
| TIP42A                     | N/A                          |
| TIP42B                     | N/A                          |
| TIP42C                     | N/A                          |
| TIP42C SL                  | N/A                          |
| TIP42D                     | N/A                          |
| 2N3054                     | N/A                          |
| 2N3055                     | N/A                          |

\*\*\* CONTINUED \*\*\*

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# Product End of Life Notification

|                           |            |
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| <b>PDN ID:</b>            | PDN01250   |
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\* All Plating types (PBFREE,TIN/LEAD) for each item listed are included in this notice.

| <b>Central Part Number</b> | <b>Suggested Replacement</b> |
|----------------------------|------------------------------|
| 2N3442                     | N/A                          |
| 2N3448                     | N/A                          |
| 2N3713                     | N/A                          |
| 2N3714                     | N/A                          |
| 2N3715                     | N/A                          |
| 2N3716                     | N/A                          |
| 2N3766                     | N/A                          |
| 2N3767                     | N/A                          |
| 2N3771                     | N/A                          |
| 2N3772                     | N/A                          |
| 2N3773                     | N/A                          |
| 2N3789                     | N/A                          |
| 2N3790                     | N/A                          |
| 2N3791                     | N/A                          |
| 2N3792                     | N/A                          |
| 2N3902                     | N/A                          |
| 2N4231                     | N/A                          |
| 2N4232                     | N/A                          |
| 2N4233                     | N/A                          |
| 2N4347                     | N/A                          |
| 2N4348                     | N/A                          |
| 2N4398                     | N/A                          |
| 2N4399                     | N/A                          |
| 2N4901                     | N/A                          |
| 2N4902                     | N/A                          |
| 2N4903                     | N/A                          |
| 2N4904                     | N/A                          |
| 2N4905                     | N/A                          |
| 2N4906                     | N/A                          |
| 2N4910                     | N/A                          |
| 2N4911                     | N/A                          |
| 2N4912                     | N/A                          |
| 2N4913                     | N/A                          |
| 2N4914                     | N/A                          |
| 2N4915                     | N/A                          |
| 2N4918                     | N/A                          |
| 2N4919                     | N/A                          |
| 2N4920                     | N/A                          |
| 2N4921                     | N/A                          |
| 2N4922                     | N/A                          |
| 2N4923                     | N/A                          |
| 2N4923 SL                  | N/A                          |
| 2N5067                     | N/A                          |

\*\*\* CONTINUED \*\*\*

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# Product End of Life Notification

|                           |            |
|---------------------------|------------|
| <b>PDN ID:</b>            | PDN01250   |
| <b>Notification Date:</b> | 2/10/23    |
| <b>Last Buy Date:</b>     | Stock Only |
| <b>Last Shipment Date</b> | Stock Only |

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

| <b>Central Part Number</b> | <b>Suggested Replacement</b> |
|----------------------------|------------------------------|
| 2N5068                     | N/A                          |
| 2N5069                     | N/A                          |
| 2N5192                     | N/A                          |
| 2N5192 SL                  | N/A                          |
| 2N5195                     | N/A                          |
| 2N5195 SL                  | N/A                          |
| 2N5240                     | N/A                          |
| 2N5294                     | N/A                          |
| 2N5296                     | N/A                          |
| 2N5297                     | N/A                          |
| 2N5297 SL                  | N/A                          |
| 2N5298                     | N/A                          |
| 2N5301                     | N/A                          |
| 2N5302                     | N/A                          |
| 2N5303                     | N/A                          |
| 2N5490                     | N/A                          |
| 2N5492                     | N/A                          |
| 2N5494                     | N/A                          |
| 2N5496                     | N/A                          |
| 2N5629                     | N/A                          |
| 2N5632                     | N/A                          |
| 2N5655                     | N/A                          |
| 2N5656                     | N/A                          |
| 2N5657                     | N/A                          |
| 2N5745                     | N/A                          |
| 2N5760                     | N/A                          |
| 2N5838                     | N/A                          |
| 2N5873                     | N/A                          |
| 2N5875                     | N/A                          |
| 2N5876                     | N/A                          |
| 2N5877                     | N/A                          |
| 2N5878                     | N/A                          |
| 2N5879                     | N/A                          |
| 2N5880                     | N/A                          |
| 2N5881                     | N/A                          |
| 2N5882                     | N/A                          |
| 2N5883                     | N/A                          |
| 2N5884                     | N/A                          |
| 2N5885                     | N/A                          |
| 2N5886                     | N/A                          |
| 2N6029                     | N/A                          |
| 2N6031                     | N/A                          |
| 2N6034                     | N/A                          |

\*\*\* CONTINUED \*\*\*

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# Product End of Life Notification

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| <b>PDN ID:</b>            | PDN01250   |
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\* All Plating types (PBFREE,TIN/LEAD) for each item listed are included in this notice.

| <b>Central Part Number</b> | <b>Suggested Replacement</b> |
|----------------------------|------------------------------|
| 2N6035                     | N/A                          |
| 2N6036                     | N/A                          |
| 2N6037                     | N/A                          |
| 2N6038                     | N/A                          |
| 2N6039 SL                  | N/A                          |
| 2N6040                     | N/A                          |
| 2N6042                     | N/A                          |
| 2N6043                     | N/A                          |
| 2N6044                     | N/A                          |
| 2N6045                     | N/A                          |
| 2N6050                     | N/A                          |
| 2N6051                     | N/A                          |
| 2N6052                     | N/A                          |
| 2N6055                     | N/A                          |
| 2N6056                     | N/A                          |
| 2N6057                     | N/A                          |
| 2N6058                     | N/A                          |
| 2N6059                     | N/A                          |
| 2N6099                     | N/A                          |
| 2N6109                     | N/A                          |
| 2N6111                     | N/A                          |
| 2N6121                     | N/A                          |
| 2N6122                     | N/A                          |
| 2N6123                     | N/A                          |
| 2N6124                     | N/A                          |
| 2N6125                     | N/A                          |
| 2N6126                     | N/A                          |
| 2N6129                     | N/A                          |
| 2N6130                     | N/A                          |
| 2N6131                     | N/A                          |
| 2N6132                     | N/A                          |
| 2N6133                     | N/A                          |
| 2N6134                     | N/A                          |
| 2N6226                     | N/A                          |
| 2N6229                     | N/A                          |
| 2N6230                     | N/A                          |
| 2N6246                     | N/A                          |
| 2N6247                     | N/A                          |
| 2N6248                     | N/A                          |
| 2N6249                     | N/A                          |
| 2N6250                     | N/A                          |
| 2N6251                     | N/A                          |
| 2N6253                     | N/A                          |

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# Product End of Life Notification

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

| <b>Central Part Number</b> | <b>Suggested Replacement</b> |
|----------------------------|------------------------------|
| 2N6254                     | N/A                          |
| 2N6259                     | N/A                          |
| 2N6260                     | N/A                          |
| 2N6263                     | N/A                          |
| 2N6282                     | N/A                          |
| 2N6283                     | N/A                          |
| 2N6284                     | N/A                          |
| 2N6285                     | N/A                          |
| 2N6286                     | N/A                          |
| 2N6287                     | N/A                          |
| 2N6288                     | N/A                          |
| 2N6290                     | N/A                          |
| 2N6292                     | N/A                          |
| 2N6306                     | N/A                          |
| 2N6307                     | N/A                          |
| 2N6308                     | N/A                          |
| 2N6312                     | N/A                          |
| 2N6371                     | N/A                          |
| 2N6383                     | N/A                          |
| 2N6384                     | N/A                          |
| 2N6385                     | N/A                          |
| 2N6386                     | N/A                          |
| 2N6387                     | N/A                          |
| 2N6388                     | N/A                          |
| 2N6465                     | N/A                          |
| 2N6466                     | N/A                          |
| 2N6469                     | N/A                          |
| 2N6470                     | N/A                          |
| 2N6471                     | N/A                          |
| 2N6472                     | N/A                          |
| 2N6475                     | N/A                          |
| 2N6476                     | N/A                          |
| 2N6489                     | N/A                          |
| 2N6489 SL                  | N/A                          |
| 2N6490                     | N/A                          |
| 2N6491                     | N/A                          |
| 2N6497                     | N/A                          |
| 2N6498                     | N/A                          |
| 2N6498 SL                  | N/A                          |
| 2N6499                     | N/A                          |
| 2N6499 SL                  | N/A                          |
| 2N6530                     | N/A                          |
| 2N6531                     | N/A                          |

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# Product End of Life Notification

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

| <b>Central Part Number</b> | <b>Suggested Replacement</b> |
|----------------------------|------------------------------|
| 2N6532                     | N/A                          |
| 2N6543                     | N/A                          |
| 2N6544                     | N/A                          |
| 2N6545                     | N/A                          |
| 2N6546                     | N/A                          |
| 2N6547                     | N/A                          |
| 2N6569                     | N/A                          |
| 2N6576                     | N/A                          |
| 2N6577                     | N/A                          |
| 2N6578                     | N/A                          |
| 2N6594                     | N/A                          |
| 2N6609                     | N/A                          |
| 2N6666                     | N/A                          |
| 2N6667                     | N/A                          |
| 2N6668                     | N/A                          |
| 2N6671                     | N/A                          |
| 2N6672                     | N/A                          |
| 2N6673                     | N/A                          |
| 2N6674                     | N/A                          |
| 2N6675                     | N/A                          |
| 2N6677                     | N/A                          |
| 2N6678                     | N/A                          |
| 40250                      | N/A                          |
| 40312                      | 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 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.