

2N2646  
2N2647

**SILICON  
PN UNIJUNCTION TRANSISTORS**



**TO-18 (UJT) CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N2646 and 2N2647 devices are silicon PN Unijunction Transistors designed for general purpose industrial applications.

**MARKING: FULL PART NUMBER**

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

|                                                                  | SYMBOL         |             | UNITS              |
|------------------------------------------------------------------|----------------|-------------|--------------------|
| Emitter Reverse Voltage                                          | $V_{B2E}$      | 30          | V                  |
| Interbase Voltage                                                | $V_{B2B1}$     | 35          | V                  |
| RMS Emitter Current                                              | $I_e$          | 50          | mA                 |
| Peak Emitter Current (Duty Cycle $\leq 1\%$ , PRR $\leq 10$ pps) | $i_e$          | 2.0         | A                  |
| RMS Power Dissipation                                            | $P_D$          | 300         | mW                 |
| Operating and Storage Junction Temperature                       | $T_J, T_{stg}$ | -65 to +150 | $^{\circ}\text{C}$ |

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

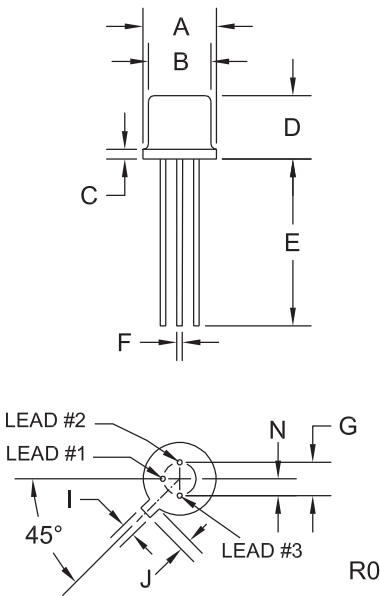
| SYMBOL     | TEST CONDITIONS                            | 2N2646 |      | 2N2647 |      | UNITS         |
|------------|--------------------------------------------|--------|------|--------|------|---------------|
|            |                                            | MIN    | MAX  | MIN    | MAX  |               |
| $\eta$     | $V_{B2B1}=10\text{V}$                      | 0.56   | 0.75 | 0.68   | 0.82 |               |
| $R_{BB}$   | $V_{B2B1}=3.0\text{V}$                     | 4.7    | 9.1  | 4.7    | 9.1  | k $\Omega$    |
| $I_{EB2O}$ | $V_{B2E}=30\text{V}$                       | -      | 12   | -      | 0.2  | $\mu\text{A}$ |
| $I_V$      | $V_{B2B1}=20\text{V}$ , $R_{B2}=100\Omega$ | 4.0    | -    | 8.0    | 18   | mA            |
| $I_P$      | $V_{B2B1}=25\text{V}$                      | -      | 5.0  | -      | 2.0  | $\mu\text{A}$ |
| $V_{OB1}$  | $V_1=20\text{V}$                           | 3.0    | -    | 6.0    | -    | V             |

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TO-18 (UJT) CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Emitter
- 2) Base 1
- 3) Base 2

MARKING: FULL PART NUMBER

| DIMENSIONS |        |       |             |      |
|------------|--------|-------|-------------|------|
| SYMBOL     | INCHES |       | MILLIMETERS |      |
|            | MIN    | MAX   | MIN         | MAX  |
| A (DIA)    | 0.209  | 0.230 | 5.31        | 5.84 |
| B (DIA)    | 0.178  | 0.195 | 4.52        | 4.95 |
| C          | -      | 0.030 | -           | 0.76 |
| D          | 0.170  | 0.210 | 4.32        | 5.33 |
| E          | 0.500  | -     | 12.70       | -    |
| F (DIA)    | 0.016  | 0.019 | 0.41        | 0.48 |
| G (DIA)    | 0.100  |       | 2.54        |      |
| H          | 0.050  |       | 1.27        |      |
| I          | 0.036  | 0.046 | 0.91        | 1.17 |
| J          | 0.028  | 0.048 | 0.71        | 1.22 |

TO-18 (UJT) (REV: R0)

R1 (2-December 2013)

## 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

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**Worldwide Field Representatives:**  
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**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)



<http://www.centrasemi.com>

## Product End of Life Notification

|                           |            |
|---------------------------|------------|
| <b>PDN ID:</b>            | PDN01113   |
| <b>Notification Date:</b> | 3/19/19    |
| <b>Last Buy Date:</b>     | Stock Only |
| <b>Last Shipment Date</b> | Stock Only |

Please be advised that Central Semiconductor must immediately discontinue the product(s) listed in the attached PDN notice. We are unable to accept any further orders for these products unless we have 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.

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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>

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Summary: Uni-Junction Transistors manufactured in the TO-18 package are discontinued and now classified as End of 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 Management Process. 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.

| <b>Central Part Number</b> | <b>Replacement</b> |
|----------------------------|--------------------|
| 2N2647                     | N/A, Stock Only    |
| 2N4851                     | N/A, Stock Only    |
| 2N4852                     | N/A, Stock Only    |
| 2N4853                     | N/A, Stock Only    |
| 2N4948                     | N/A, Stock Only    |
| 2N4949                     | N/A, Stock Only    |
| 2N5431                     | N/A, Stock Only    |

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. Please email your requests to [engineering@centrasemi.com](mailto:engineering@centrasemi.com).

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