

**CWDM3011N**  
**SURFACE MOUNT SILICON**  
**N-CHANNEL**  
**ENHANCEMENT-MODE**  
**MOSFET**



**SOIC-8 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CWDM3011N is a high current silicon N-Channel enhancement-mode MOSFET designed for high speed pulsed amplifier and driver applications. This energy efficient MOSFET offers beneficially low  $r_{DS(ON)}$ , low gate charge, and low threshold voltage.

**MARKING CODE: C3011N**

**APPLICATIONS:**

- Load/Power switches
- DC-DC converter circuits
- Power management

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

|                                                   |
|---------------------------------------------------|
| Drain-Source Voltage                              |
| Gate-Source Voltage                               |
| Continuous Drain Current (Steady State)           |
| Maximum Pulsed Drain Current, $t_p=10\mu\text{s}$ |
| Power Dissipation                                 |
| Operating and Storage Junction Temperature        |
| Thermal Resistance                                |

**FEATURES:**

- Low  $r_{DS(ON)}$
- High current
- Low gate charge

**SYMBOL**

|                |             |                    |
|----------------|-------------|--------------------|
| $V_{DS}$       | 30          | V                  |
| $V_{GS}$       | 20          | V                  |
| $I_D$          | 11          | A                  |
| $I_{DM}$       | 50          | A                  |
| $P_D$          | 2.5         | W                  |
| $T_J, T_{stg}$ | -55 to +150 | $^\circ\text{C}$   |
| $\theta_{JA}$  | 50          | $^\circ\text{C/W}$ |

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

| SYMBOL               | TEST CONDITIONS                                         | MIN | TYP | MAX | UNITS            |
|----------------------|---------------------------------------------------------|-----|-----|-----|------------------|
| $I_{GSSF}, I_{GSSR}$ | $V_{GS}=20\text{V}, V_{DS}=0$                           |     |     | 100 | nA               |
| $I_{DSS}$            | $V_{DS}=30\text{V}, V_{GS}=0$                           |     |     | 1.0 | $\mu\text{A}$    |
| $BV_{DSS}$           | $V_{GS}=0, I_D=250\mu\text{A}$                          | 30  |     |     | V                |
| $V_{GS(th)}$         | $V_{GS}=V_{DS}, I_D=250\mu\text{A}$                     | 1.0 | 1.8 | 3.0 | V                |
| $V_{SD}$             | $V_{GS}=0, I_S=2.6\text{A}$                             |     |     | 1.2 | V                |
| $r_{DS(ON)}$         | $V_{GS}=10\text{V}, I_D=11\text{A}$                     |     | 14  | 20  | $\text{m}\Omega$ |
| $r_{DS(ON)}$         | $V_{GS}=4.5\text{V}, I_D=9.0\text{A}$                   |     | 18  | 30  | $\text{m}\Omega$ |
| $C_{rss}$            | $V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{MHz}$          |     | 100 |     | pF               |
| $C_{iss}$            | $V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{MHz}$          |     | 860 |     | pF               |
| $C_{oss}$            | $V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{MHz}$          |     | 120 |     | pF               |
| $Q_{g(tot)}$         | $V_{DD}=15\text{V}, V_{GS}=5.0\text{V}, I_D=10\text{A}$ |     | 6.3 |     | nC               |
| $Q_{gs}$             | $V_{DD}=15\text{V}, V_{GS}=5.0\text{V}, I_D=10\text{A}$ |     | 2.0 |     | nC               |
| $Q_{gd}$             | $V_{DD}=15\text{V}, V_{GS}=5.0\text{V}, I_D=10\text{A}$ |     | 2.3 |     | nC               |
| $t_{on}$             | $V_{DD}=15\text{V}, V_{GS}=10\text{V}, I_D=10\text{A}$  |     | 20  |     | ns               |
| $t_{off}$            | $R_G=0.3\Omega$                                         |     | 43  |     | ns               |

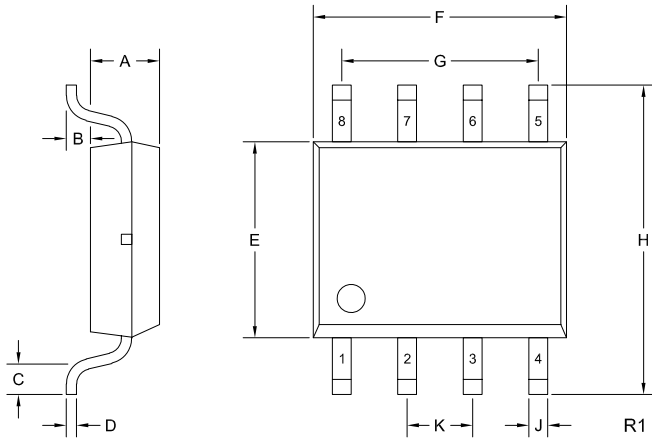
R2 (10-August 2018)

CWDM3011N

**SURFACE MOUNT SILICON  
N-CHANNEL  
ENHANCEMENT-MODE  
MOSFET**



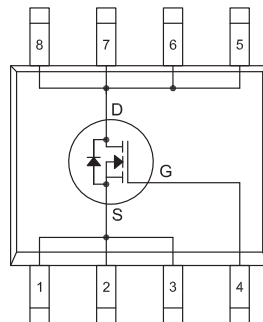
**SOIC-8 CASE - MECHANICAL OUTLINE**



| SYMBOL | DIMENSIONS |       |             |       |
|--------|------------|-------|-------------|-------|
|        | INCHES     |       | MILLIMETERS |       |
|        | MIN        | MAX   | MIN         | MAX   |
| A      | 0.055      | 0.061 | 1.392       | 1.554 |
| B      | 0.004      | 0.009 | 0.100       | 0.224 |
| C      | 0.016      | 0.035 | 0.40        | 0.90  |
| D      | 0.007      | 0.010 | 0.19        | 0.25  |
| E      | 0.145      | 0.157 | 3.80        | 4.00  |
| F      | 0.189      | 0.198 | 4.80        | 5.00  |
| G      | 0.150      |       | 3.81        |       |
| H      | 0.228      | 0.244 | 5.80        | 6.20  |
| J      | 0.013      | 0.020 | 0.33        | 0.51  |
| K      | 0.050      |       | 1.27        |       |

SOIC-8 (REV: R1)

**PIN CONFIGURATION**



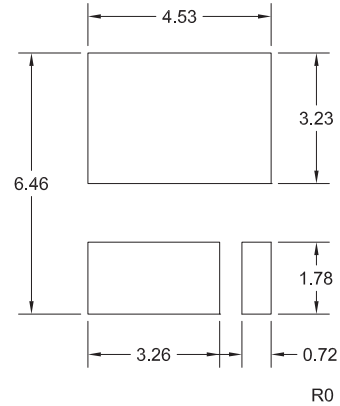
**LEAD CODE:**

- 1) Source      5) Drain
- 2) Source      6) Drain
- 3) Source      7) Drain
- 4) Gate        8) Drain

**MARKING CODE: C3011N**

**SUGGESTED MOUNTING PADS**

(Dimensions in mm)



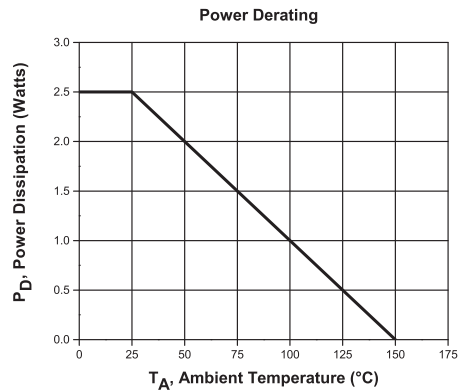
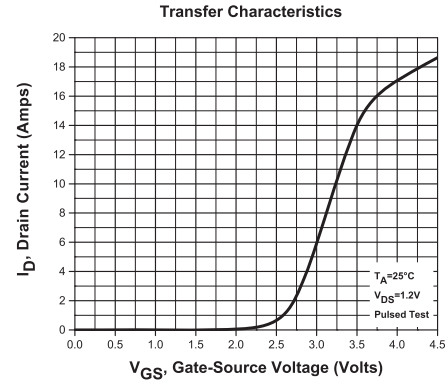
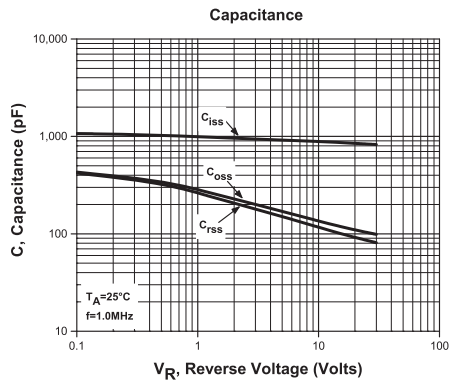
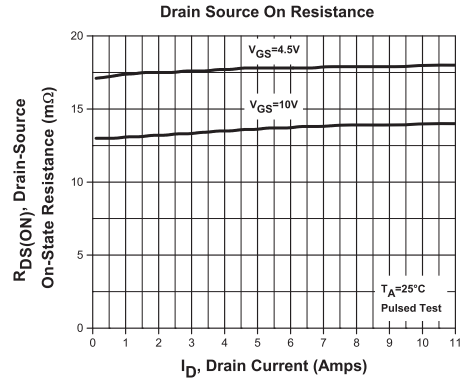
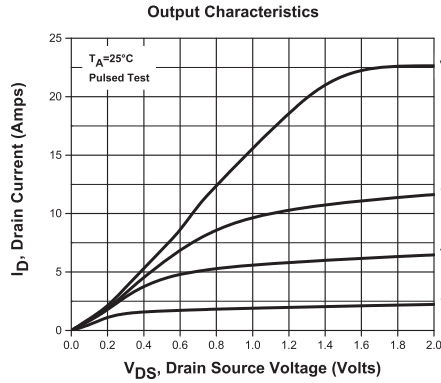
R2 (10-August 2018)

CWDM3011N

SURFACE MOUNT SILICON  
N-CHANNEL  
ENHANCEMENT-MODE  
MOSFET



TYPICAL ELECTRICAL CHARACTERISTICS



R2 (10-August 2018)

## 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)