

CWDM3011P
SURFACE MOUNT SILICON
P-CHANNEL
ENHANCEMENT-MODE
MOSFET



SOIC-8 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CWDM3011P is a high current silicon P-Channel enhancement-mode MOSFET designed for high speed pulsed amplifier and driver applications. This MOSFET has high current capability with beneficially low $r_{DS(ON)}$, and low gate charge.

MARKING CODE: C3011P

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 | | UNITS |
|----------------|-------------|--------------------|
| 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 | $^\circ\text{C}$ |
| θ_{JA} | 50 | $^\circ\text{C/W}$ |

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

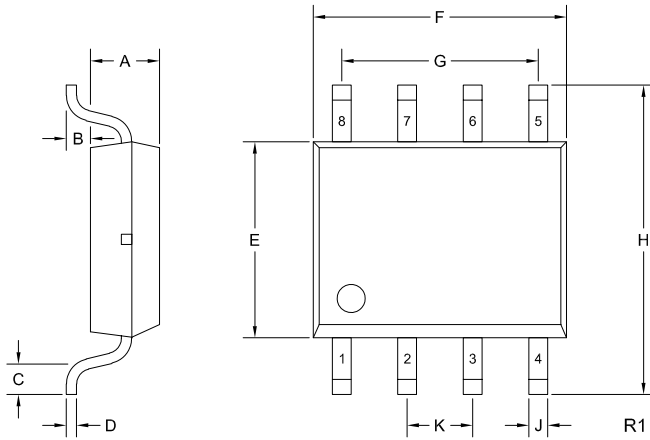
| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|----------------------|---|-----|------|-----|------------------|
| I_{GSSF}, I_{GSSR} | $V_{GS}=20\text{V}, V_{DS}=0$ | | | 100 | nA |
| I_{DSS} | $V_{DS}=30\text{V}, V_{GS}=0$ | | | 1.0 | μA |
| BV_{DSS} | $V_{GS}=0, I_D=250\mu\text{A}$ | 30 | | | V |
| $V_{GS(th)}$ | $V_{GS}=V_{DS}, I_D=250\mu\text{A}$ | 1.0 | 1.4 | 3.0 | V |
| V_{SD} | $V_{GS}=0, I_S=2.6\text{A}$ | | | 1.3 | V |
| $r_{DS(ON)}$ | $V_{GS}=10\text{V}, I_D=11\text{A}$ | | 12 | 20 | $\text{m}\Omega$ |
| $r_{DS(ON)}$ | $V_{GS}=4.5\text{V}, I_D=8.5\text{A}$ | | 15 | 30 | $\text{m}\Omega$ |
| C_{rss} | $V_{DS}=8.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$ | | 450 | | pF |
| C_{iss} | $V_{DS}=8.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$ | | 3100 | | pF |
| C_{oss} | $V_{DS}=8.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$ | | 320 | | pF |
| $Q_{g(tot)}$ | $V_{DD}=15\text{V}, V_{GS}=10\text{V}, I_D=11\text{A}$ | | 80 | | nC |
| Q_{gs} | $V_{DD}=15\text{V}, V_{GS}=10\text{V}, I_D=11\text{A}$ | | 7.0 | | nC |
| Q_{gd} | $V_{DD}=15\text{V}, V_{GS}=10\text{V}, I_D=11\text{A}$ | | 10.1 | | nC |
| t_{on} | $V_{DD}=15\text{V}, V_{GS}=10\text{V}, I_D=1.0\text{A}$ | | 49 | | ns |
| t_{off} | $R_G=6.0\Omega, R_L=15\Omega$ | | 330 | | ns |

R2 (10-August 2018)

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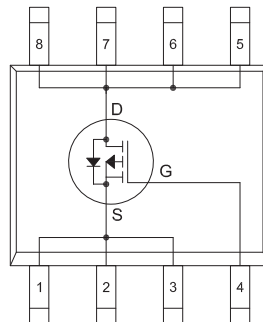
SOIC-8 CASE - MECHANICAL OUTLINE



| SYMBOL | 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



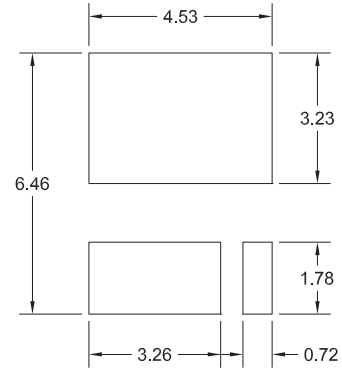
LEAD CODE:

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

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SUGGESTED MOUNTING PADS

(Dimensions in mm)



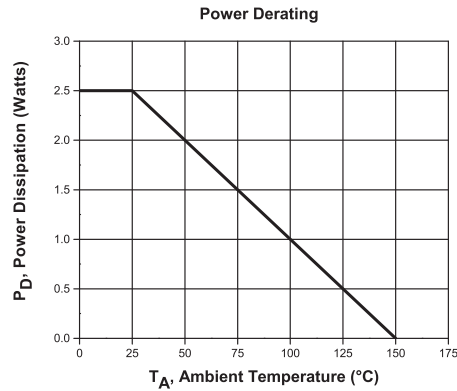
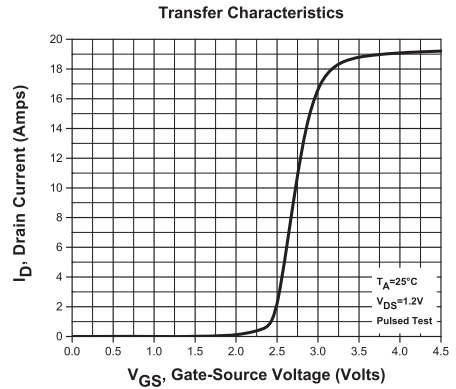
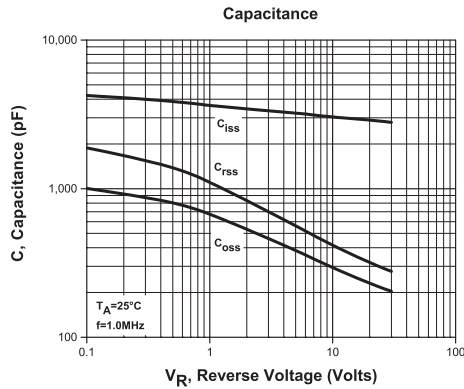
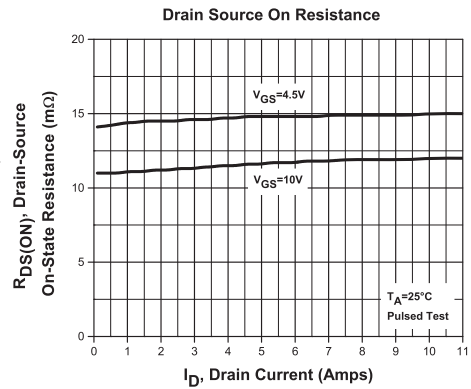
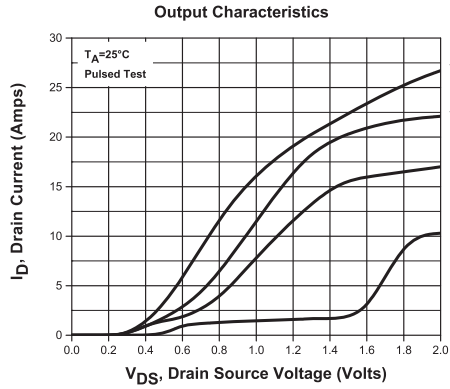
R0

R2 (10-August 2018)

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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 (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

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