



**THE DATASHEET OF  
CWDM3011N TR13 PBFREE**



CWDM3011N

SURFACE MOUNT SILICON  
N-CHANNEL  
ENHANCEMENT-MODE  
MOSFET



SOIC-8 CASE



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		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	$^\circ\text{C}$
$\theta_{JA}$	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
$Q_g(\text{tot})$	$V_{DD}=15\text{V}, V_{GS}=5.0\text{V}, I_D=10\text{A}$		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

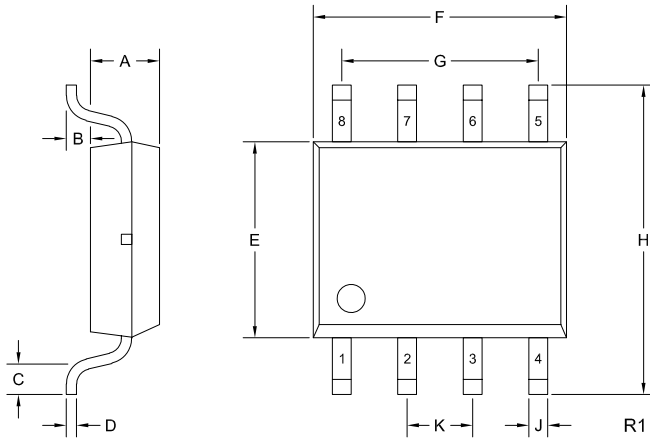
R2 (10-August 2018)

CWDM3011N

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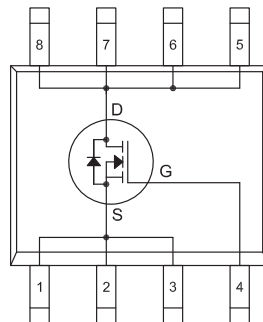
**SOIC-8 CASE - MECHANICAL OUTLINE**



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**



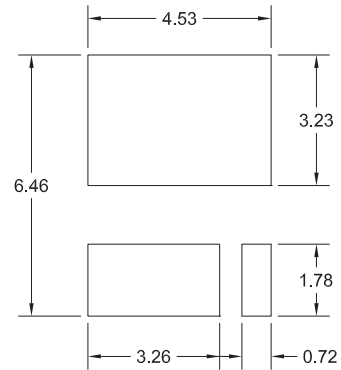
**LEAD CODE:**

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

**MARKING CODE: C3011N**

**SUGGESTED MOUNTING PADS**

(Dimensions in mm)



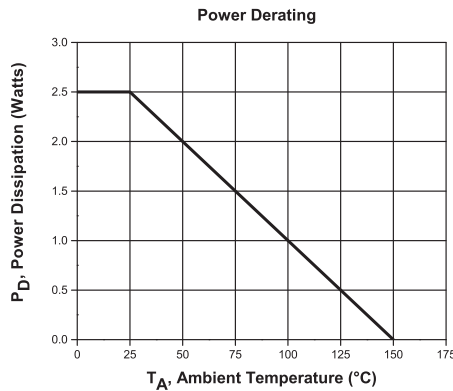
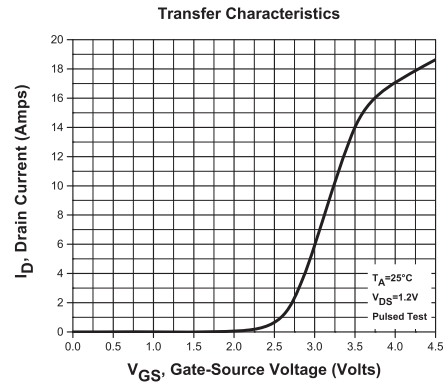
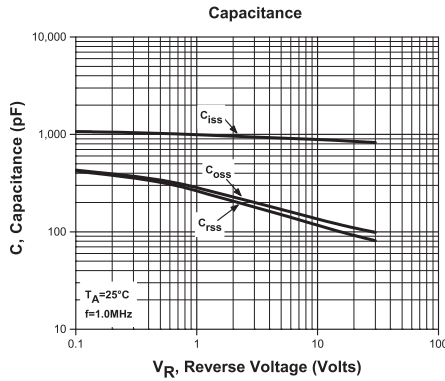
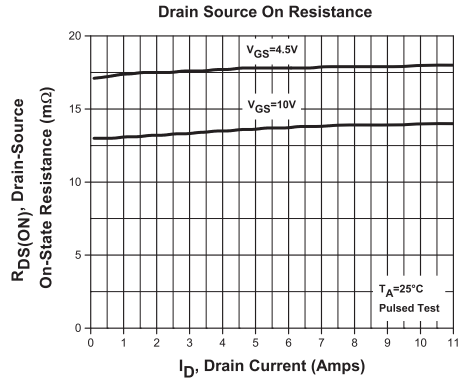
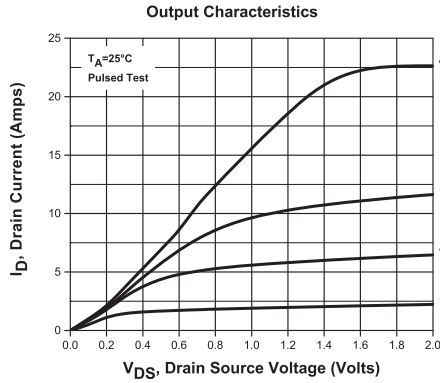
R0

R2 (10-August 2018)

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**TYPICAL ELECTRICAL CHARACTERISTICS**



R2 (10-August 2018)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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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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- [⊖ \*\*Central Semiconductor Corp\*\* Information](#)

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- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management