

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

FEATURES:

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

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

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	$^\circ\text{C}$
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	1.8	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

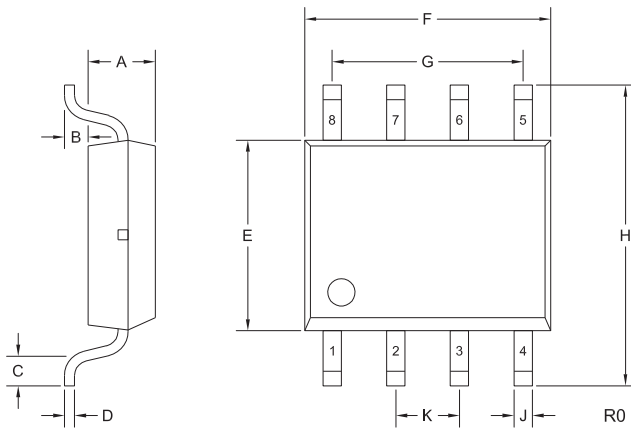
R1 (13-August 2013)

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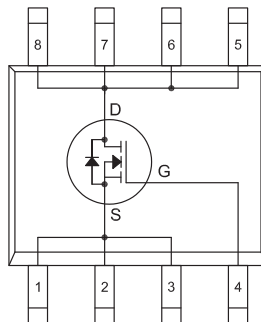
SOIC-8 CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.049	0.057	1.24	1.44
B	0.000	0.011	0.00	0.27
C	0.018	-	0.46	-
D	0.006	0.011	0.16	0.27
E	0.145	0.154	3.70	3.90
F	0.189	0.198	4.81	5.01
G	0.150		3.81	
H	0.231	0.244	5.88	6.18
J	0.013	0.021	0.35	0.52
K	0.050		1.27	

SOIC-8 (REV: R0)

PIN CONFIGURATION



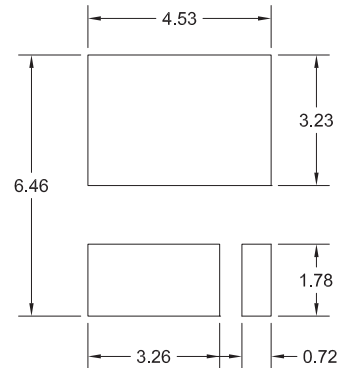
LEAD CODE:

- | | |
|-----------|----------|
| 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

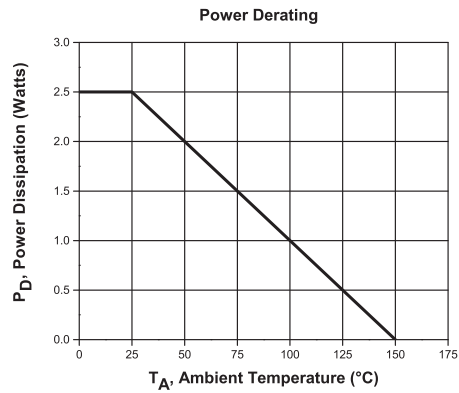
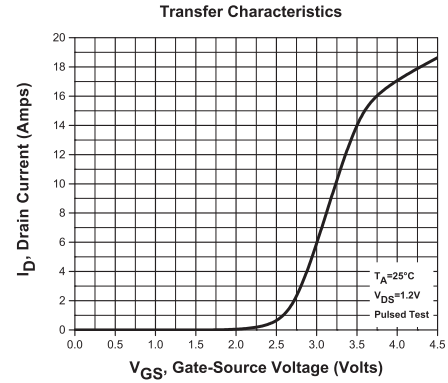
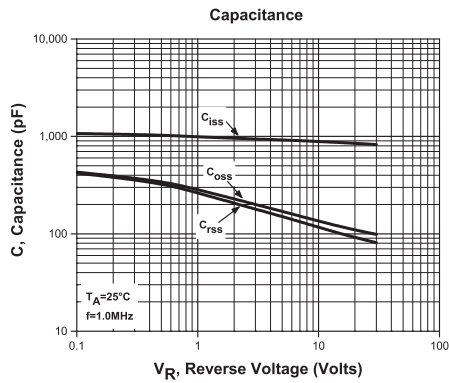
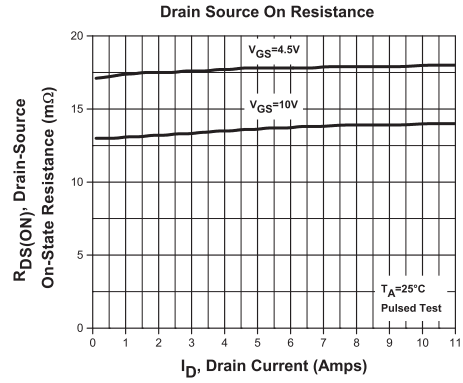
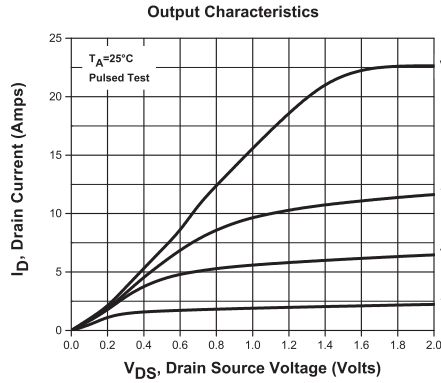
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TYPICAL ELECTRICAL CHARACTERISTICS



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