CWDM305ND

SURFACE MOUNT
DUAL N-CHANNEL
ENHANCEMENT-MODE
SILICON MOSFET

SOIC-8 CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CWDM305ND is a dual, high current N-channel enhancement-mode silicon 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: C305

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°C)	**SYMBOL**		**UNITS**
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	20	V
Continuous Drain Current (Steady State)	I_D	5.8	A
Maximum Pulsed Drain Current, tp=10μs	I_{DM}	23.2	A
Power Dissipation	P_D	2.0	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-55 to +150	°C
Thermal Resistance	Θ_{JA}	62.5	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**UNITS**
I_{GSSF}, I_{GSSR}	V_{GS}=20V, V_{DS}=0			100	nA
I_{DSS}	V_{DS}=30V, V_{GS}=0			1.0	μA
BV_{DSS}	V_{GS}=0, I_D=250μA	30			V
$V_{GS(th)}$	V_{GS}=V_{DS}, I_D=250μA	1.0		3.0	V
$r_{DS(ON)}$	V_{GS}=10V, I_D=2.9A		0.024	0.030	Ω
$r_{DS(ON)}$	V_{GS}=5.0V, I_D=2.9A		0.028	0.034	Ω
g_{FS}	V_{DS}=5.0V, I_D=5.8A		12		S
C_{rss}	V_{DS}=10V, V_{GS}=0, f=1.0MHz		50	54	pF
C_{iss}	V_{DS}=10V, V_{GS}=0, f=1.0MHz		500	560	pF
C_{oss}	V_{DS}=10V, V_{GS}=0, f=1.0MHz		52	90	pF
$Q_{g(tot)}$	V_{DD}=15V, V_{GS}=5.0V, I_D=5.8A		4.2	6.3	nC
Q_{gs}	V_{DD}=15V, V_{GS}=5.0V, I_D=5.8A		0.9	1.4	nC
Q_{gd}	V_{DD}=15V, V_{GS}=5.0V, I_D=5.8A		1.4	2.1	nC
t_{on}	V_{DD}=15V, I_D=5.8A, R_G=10Ω		6.5		ns
t_{off}	V_{DD}=15V, I_D=5.8A, R_G=10Ω		8.5		ns

R3 (1-November 2012)

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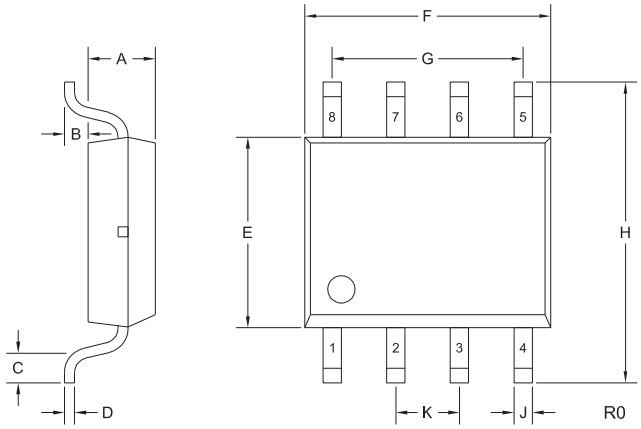
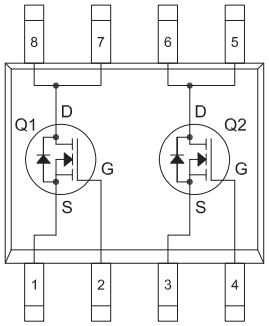
SOIC-8 CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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 Q1
2) Gate Q1
3) Source Q2
4) Gate Q2
5) Drain Q2
6) Drain Q2
7) Drain Q1
8) Drain Q1

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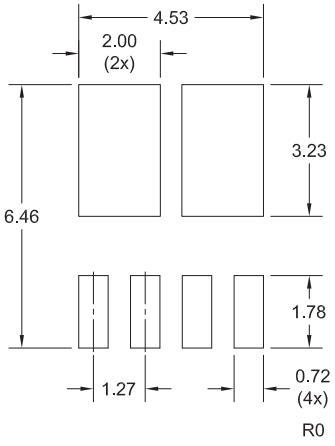
SUGGESTED MOUNTING PADS

(Dimensions in mm)



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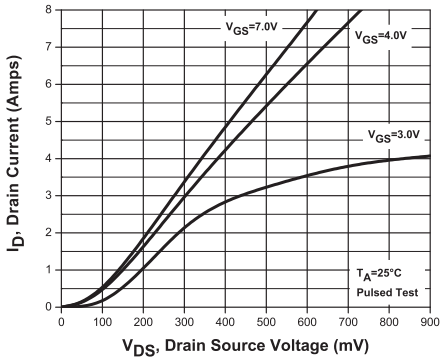
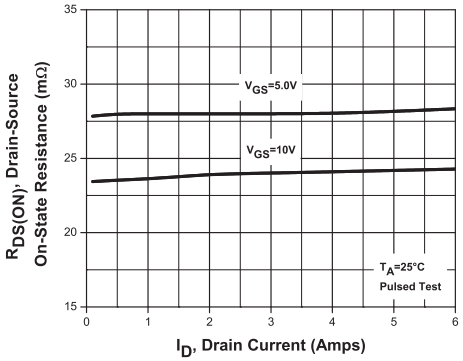
TYPICAL ELECTRICAL CHARACTERISTICS

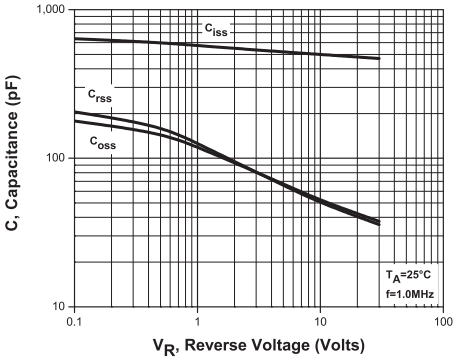
Typical Output Characteristics



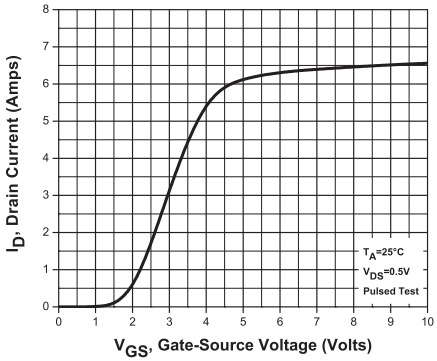
Drain Source On Resistance



Capacitance



Transfer Characteristics



Power Derating