

**CWDM305P****SURFACE MOUNT  
P-CHANNEL  
ENHANCEMENT-MODE  
SILICON MOSFET****SOIC-8 CASE**[www.centrasemi.com](http://www.centrasemi.com)**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CWDM305P is a high current P-channel enhancement-mode silicon MOSFET, manufactured by the P-channel DMOS process, and is designed for high speed pulsed amplifier and driver applications. This MOSFET offers high current, low  $r_{DS(ON)}$ , low threshold voltage, and low leakage current.

**MARKING CODE: C503P****APPLICATIONS:**

- Load/Power switches
- Power supply converter circuits
- Battery powered portable equipment

**FEATURES:**

- Low  $r_{DS(ON)}$  (83m $\Omega$  MAX @  $V_{GS}=5.0V$ )
- High current ( $I_D=5.3A$ )

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

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

SYMBOL		UNITS
$V_{DS}$	30	V
$V_{GS}$	16	V
$I_D$	5.3	A
$I_{DM}$	21.2	A
$P_D$	2.0	W
$T_J, T_{stg}$	-55 to +150	$^\circ C$
$\theta_{JA}$	62.5	$^\circ C/W$

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

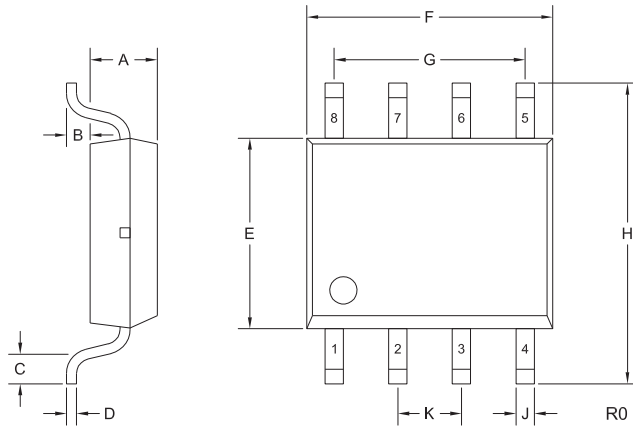
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{GSSF}, I_{GSSR}$	$V_{GS}=20V, V_{DS}=0$			100	nA
$I_{DSS}$	$V_{DS}=30V, V_{GS}=0$			1.0	$\mu A$
$BV_{DSS}$	$V_{GS}=0, I_D=250\mu A$	30			V
$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	1.0		3.0	V
$r_{DS(ON)}$	$V_{GS}=10V, I_D=2.7A$		0.066	0.072	$\Omega$
$r_{DS(ON)}$	$V_{GS}=5.0V, I_D=2.7A$		0.077	0.083	$\Omega$
$g_{FS}$	$V_{DS}=5.0V, I_D=5.3A$		11		S
$C_{rss}$	$V_{DS}=10V, V_{GS}=0, f=1.0MHz$		50	60	pF
$C_{iss}$	$V_{DS}=10V, V_{GS}=0, f=1.0MHz$		500	590	pF
$C_{oss}$	$V_{DS}=10V, V_{GS}=0, f=1.0MHz$		60	150	pF
$Q_g(tot)$	$V_{DD}=15V, V_{GS}=5.0V, I_D=5.3A$		4.7	7.0	nC
$Q_{gs}$	$V_{DD}=15V, V_{GS}=5.0V, I_D=5.3A$		1.4	2.1	nC
$Q_{gd}$	$V_{DD}=15V, V_{GS}=5.0V, I_D=5.3A$		1.7	2.5	nC
$t_{on}$	$V_{DD}=15V, I_D=5.3A, R_G=10\Omega$		7.0		ns
$t_{off}$	$V_{DD}=15V, I_D=5.3A, R_G=10\Omega$		8.0		ns

R4 (23-August 2012)

**CWDM305P**  
**SURFACE MOUNT**  
**P-CHANNEL**  
**ENHANCEMENT-MODE**  
**SILICON MOSFET**



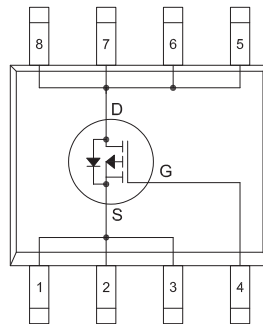
**SOIC-8 CASE - MECHANICAL OUTLINE**



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**



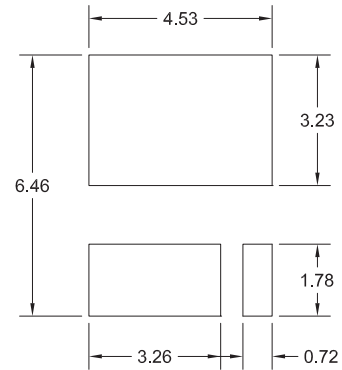
**LEAD CODE:**

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

**MARKING CODE: C503P**

**SUGGESTED MOUNTING PADS**

(Dimensions in mm)



R0

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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)
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- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
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- PbSn plating options
- Package details
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### CONTACT US

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