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CP771-CXDM4060P

P-Channel MOSFET Die
Enhancement-Mode

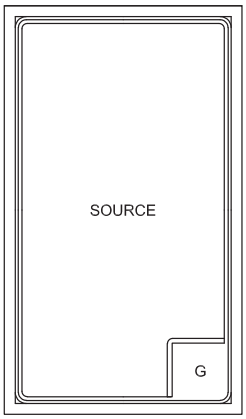
The CP771-CXDM4060P medium power P-Channel MOSFET is optimized for power management and drive circuit applications where energy efficiency is a critical design element. The 7.5 mil thick die provides an ultra low profile device that is readily attached via wire bond techniques. Parametrically, low on-resistance and gate charge characteristics maximize efficient operation.

FEATURES:

- Low on-resistance, $r_{DS(ON)}$
- Low gate charge, Q_{gs}
- High drain current density
- Low profile geometry
- Metalization suitable for standard die attach technologies
- Top metalization optimized for wire bonding

APPLICATIONS:

- Power management
- Motor drives
- Load switching
- DC-DC conversion



MECHANICAL SPECIFICATIONS:

Die Size	55 x 32 MILS
Die Thickness	7.5 MILS
Gate Bonding Pad Area	7.3 x 7.3 MILS
Source Bonding Pad Area	50 x 25 MILS
Top Side Metalization	Al – 40,000Å
Back Side Metalization	Ti/Ni/Ag – 1,000Å/3,000Å/10,000Å
Scribe Alley Width	3.15 MILS
Wafer Diameter	8 INCHES
Gross Die Per Wafer	25,200

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
Drain-Source Voltage	V_{DS}	40	V
Gate-Source Voltage	V_{GS}	25	V
Continuous Drain Current (Steady State)	I_D	6.0	A
Maximum Pulsed Drain Current, tp=10µs	I_{DM}	20	A
Operating and Storage Junction Temperature	T_J, T_{stg}	-55 to +150	°C

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

SYMBOL	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**UNITS**
I_{GSSF}, I_{GSSR}	V_{GS}=25V, V_{DS}=0			100	nA
I_{DSS}	V_{DS}=40V, V_{GS}=0			1.0	µA
BV_{DSS}	V_{GS}=0, I_D=250µA	40			V
$V_{GS(th)}$	V_{GS}=V_{DS}, I_D=250µA	1.0	2.0	3.0	V
V_{SD}	V_{GS}=0, I_S=2.0A			1.2	V
$r_{DS(ON)}$	V_{GS}=10V, I_D=6.0A		48	65	mΩ
$r_{DS(ON)}$	V_{GS}=4.5V, I_D=4.0A		80	95	mΩ

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
C_{rss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz		61		pF
C_{iss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz		750		pF
C_{oss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz		56		pF
$Q_{g(tot)}$	V_{DS}=32V, V_{GS}=4.5V, I_D=6.0A		6.5		nC
Q_{gs}	V_{DS}=32V, V_{GS}=4.5V, I_D=6.0A		3.2		nC
Q_{gd}	V_{DS}=32V, V_{GS}=4.5V, I_D=6.0A		2.7		nC
t_{on}	V_{DS}=20V, V_{GS}=10V, I_D=1.0A		18		ns
t_{off}	R_G=3.0Ω, R_L=20Ω		64		ns

CP771-CXDM4060P
Typical Electrical Characteristics

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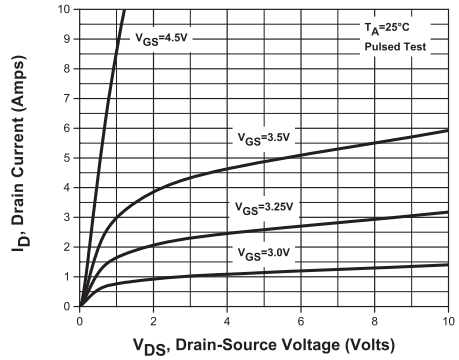
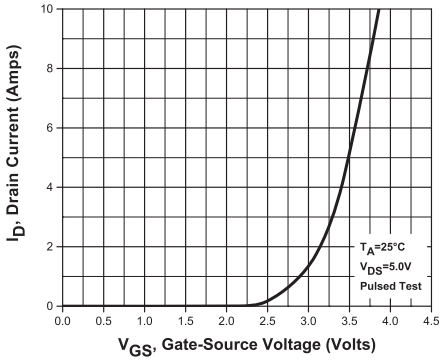
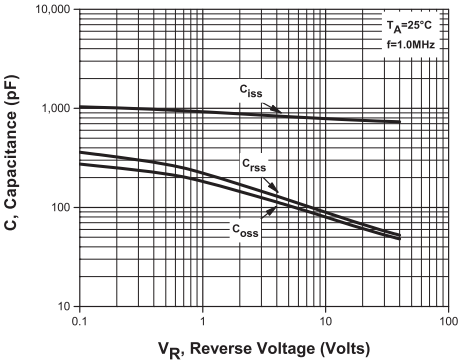
Output Characteristics



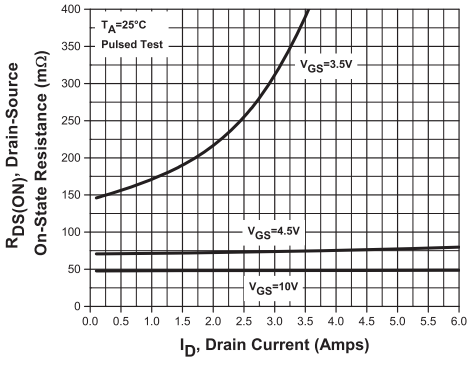
Transfer Characteristics



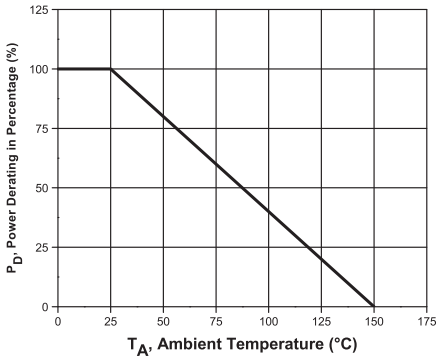
Capacitance



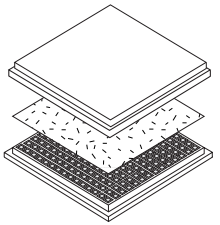
Drain Source On Resistance



Normalized Power Derating



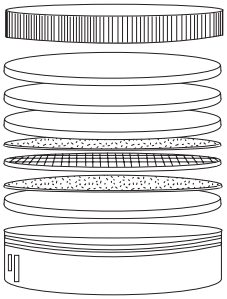
BARE DIE PACKING OPTIONS



BARE DIE IN TRAY (WAFFLE) PACK

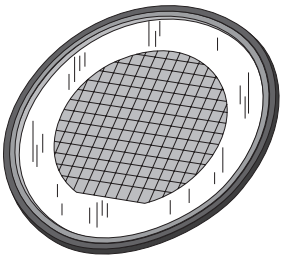
CT: Singulated die in tray (waffle) pack.
(example: CP211-PART NUMBER-CT)

CM: Singulated die in tray (waffle) pack 100% visually inspected as per MIL-STD-750, (method 2072 transistors, method 2073 diodes).
(example: CP211-PART NUMBER-CM)



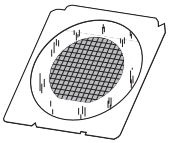
UNSAWN WAFER

WN: Full wafer, unsawn, 100% tested with reject die inked.
(example: CP211-PART NUMBER-WN)



SAWN WAFER ON PLASTIC RING

WR: Full wafer, sawn and mounted on plastic ring, 100% tested with reject die inked.
(example: CP211-PART NUMBER-WR)



Please note: Sawn Wafer on Metal Frame (WS) is possible as a special order. Please contact your Central Sales Representative at 631-435-1110.

Visit the Central website for a complete listing of specifications:
www.centralsemi.com/bdspecs

R2 (3-April 2017)

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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Worldwide Field Representatives:
www.centralsemi.com/wwreps

Worldwide Distributors:
www.centralsemi.com/wwdistributors

http://www.centralsemi.com

Product End of Life Notification

PDN ID:	PDN01159
Notification Date:	10/08/20
Last Buy Date:	4/08/21
Last Shipment Date	10/08/21

Summary:The CP771 wafer process is being discontinued and is now classified as End of Life (EOL). Replacement wafer process CP805 was previously referenced in PCN191, June 19, 2020.

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by other manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's ongoing Product Management Process. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

*** All Plating types (PBFREE,TIN/LEAD) for each item listed are included in this notice.**

Central Part Number	Replacement
CP771-CXDM4060P-CT	CP805-CXDM4060P-CT
CP771-CXDM4060P-WN	CP805-CXDM4060P-WN

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. Please email your requests to engineering@centralsemi.com.