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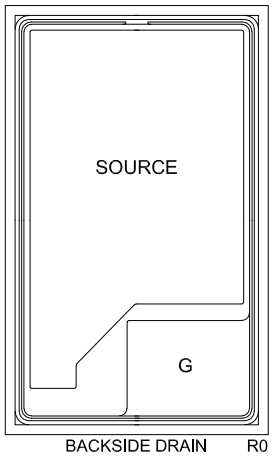
CP375
N-Channel MOSFET Die
Enhancement-Mode

The CP375 medium power N-Channel MOSFET is designed for power management and load switching applications. The 7.5 mil thick die provides an ultra low profile device that is readily attached using standard die attach wire bond processes.

APPLICATIONS:
- Load switching
- Power management
- DC-DC conversion

FEATURES:
- Low on-resistance, $r_{DS(ON)}$
- Low gate charge, Q_{gs}
- High drain current density



MECHANICAL SPECIFICATIONS:

Die Size	62 x 38 MILS
Die Thickness	7.5 MILS
Gate Bonding Pad Area	13.7 x 18.8 MILS
Source Bonding Pad Area	30 x 55 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	18,700

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	11	A
Maximum Pulsed Drain Current, tp=10µs	I_{DM}	50	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}=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	1.8	3.0	V
V_{SD}	V_{GS}=0, I_S=2.6A			1.2	V
$r_{DS(ON)}$	V_{GS}=10V, I_D=11A		14	20	mΩ
$r_{DS(ON)}$	V_{GS}=4.5V, I_D=9.0A		18	30	mΩ
C_{rss}	V_{DS}=15V, V_{GS}=0, f=1.0MHz		100		pF
C_{iss}	V_{DS}=15V, V_{GS}=0, f=1.0MHz		860		pF
C_{oss}	V_{DS}=15V, V_{GS}=0, f=1.0MHz		120		pF

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$Q_{g(tot)}$	V_{DD}=15V, V_{GS}=5.0V, I_D=10A		6.3		nC
Q_{gs}	V_{DD}=15V, V_{GS}=5.0V, I_D=10A		2.0		nC
Q_{gd}	V_{DD}=15V, V_{GS}=5.0V, I_D=10A		2.3		nC
t_{on}	V_{DD}=15V, V_{GS}=5.0V, I_D=10A		20		ns
t_{off}	R_G=0.3Ω, R_L=15Ω		43		ns

CP375
Typical Electrical Characteristics

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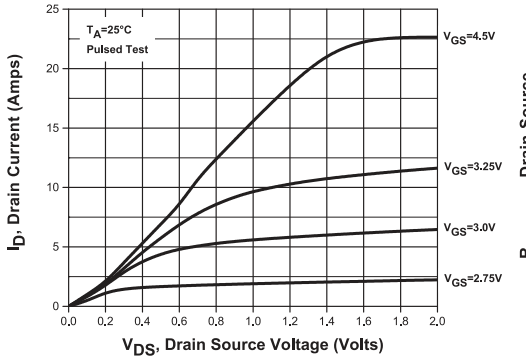
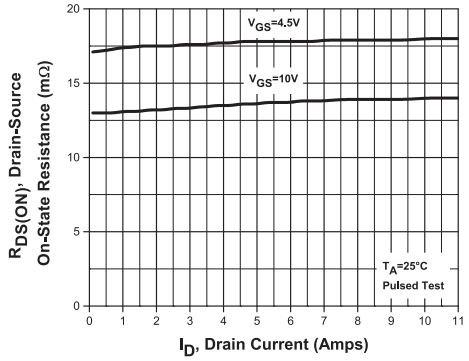
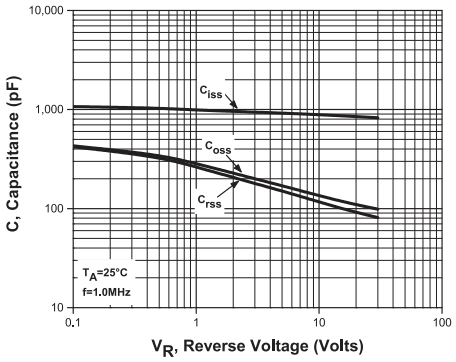
Output Characteristics



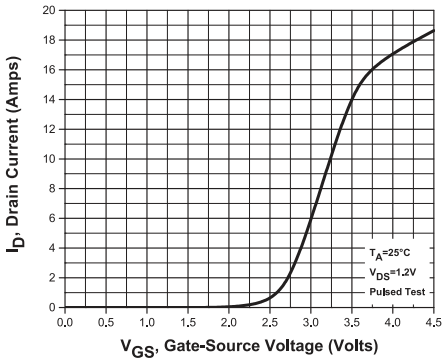
Drain Source On Resistance



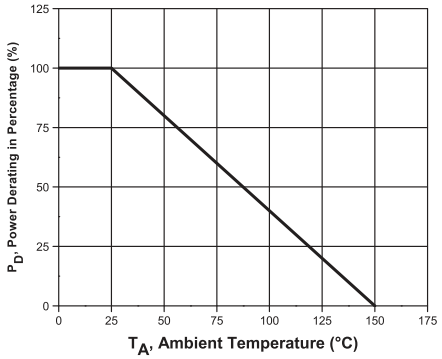
Capacitance



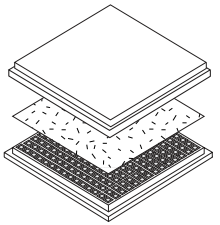
Transfer Characteristics



Normalized Power Derating



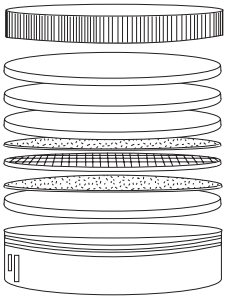
BARE DIE PACKING OPTIONS



BARE DIE IN TRAY (WAFFLE) PACK

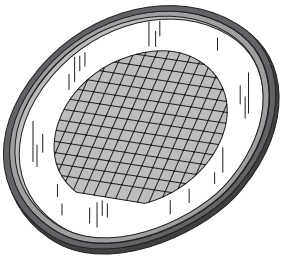
CT: Singulated die in tray (waffle) pack.
(example: CP211-PART NUMBER-CT)

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)



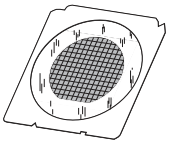
UNSAWN WAFER

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:	PDN01158
Notification Date:	2/25/21
Last Buy Date:	8/25/21
Last Shipment Date	2/25/22

Summary:The CP375 wafer process is being discontinued and is now classified as End of Life (EOL). Replacement wafer process CP406 was previously announced in PCN190, 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
CP375-CWDM3011N-CT	CP406-CWDM3011N-CT
CP375-CWDM3011N-WN	CP406-CWDM3011N-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.