

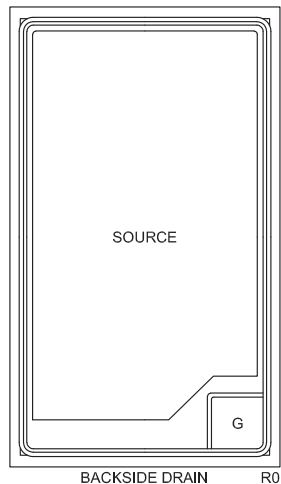
The CP372 medium power N-Channel MOSFET is optimized for power management and drive circuit applications where energy efficiency is a critical design element. The 7.5 mil thick die provides an ultra low profile device that is readily attached via wire bond techniques. Parametrically, low on-resistance 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 | 37 x 63 MILS |
| Die Thickness | 7.5 MILS |
| Gate Bonding Pad Area | 6.9 x 6.8 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 | 19,400 |

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

| | SYMBOL | | UNITS |
|---|----------------|-------------|------------------|
| Drain-Source Voltage | V_{DS} | 60 | V |
| Gate-Source Voltage | V_{GS} | 20 | V |
| Continuous Drain Current (Steady State) | I_D | 5.3 | A |
| Maximum Pulsed Drain Current, $t_p=10\mu\text{s}$ | I_{DM} | 30 | A |
| Operating and Storage Junction Temperature | T_J, T_{stg} | -55 to +150 | $^\circ\text{C}$ |

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} | $V_{DS}=60\text{V}, V_{GS}=0$ | | | 1.0 | μA |
| BV_{DSS} | $V_{GS}=0, I_D=250\mu\text{A}$ | 60 | | | V |
| $V_{GS(th)}$ | $V_{GS}=V_{DS}, I_D=250\mu\text{A}$ | 1.0 | 1.3 | 3.0 | V |

CP372

N-Channel MOSFET Die

Enhancement-Mode

ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

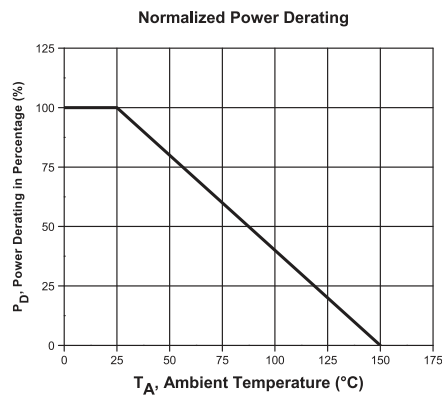
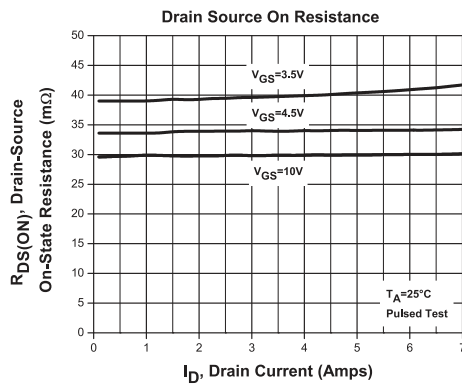
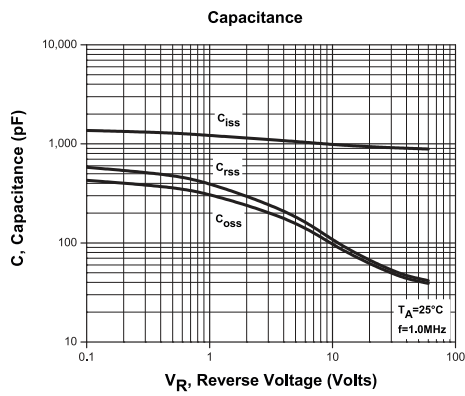
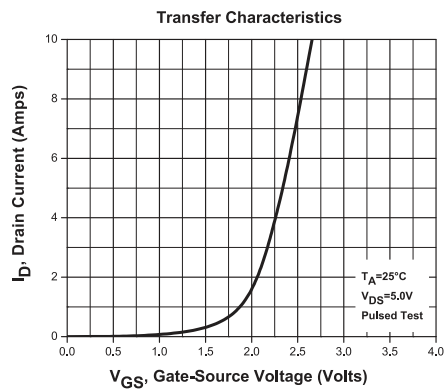
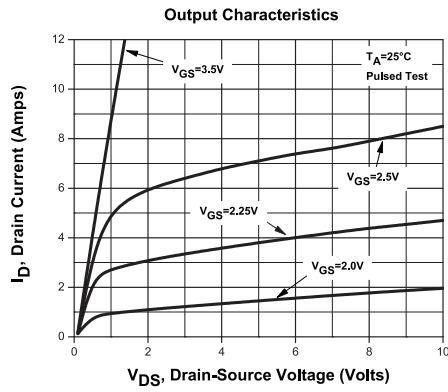
| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|--------------|---|-----|-----|-----|------------|
| V_{SD} | $V_{GS}=0, I_S=2.0A$ | | | 1.2 | V |
| $r_{DS(ON)}$ | $V_{GS}=10V, I_D=5.3A$ | | 30 | 41 | m Ω |
| $r_{DS(ON)}$ | $V_{GS}=4.5V, I_D=4.7A$ | | 33 | 52 | m Ω |
| $Q_{g(tot)}$ | $V_{DS}=30V, V_{GS}=5.0V, I_D=5.3A$ | | 8.8 | | nC |
| Q_{gs} | $V_{DS}=30V, V_{GS}=5.0V, I_D=5.3A$ | | 1.9 | | nC |
| Q_{gd} | $V_{DS}=30V, V_{GS}=5.0V, I_D=5.3A$ | | 3.6 | | nC |
| C_{rss} | $V_{DS}=30V, V_{GS}=0, f=1.0MHz$ | | 53 | | pF |
| C_{iss} | $V_{DS}=30V, V_{GS}=0, f=1.0MHz$ | | 920 | | pF |
| C_{oss} | $V_{DS}=30V, V_{GS}=0, f=1.0MHz$ | | 49 | | pF |
| t_{on} | $V_{DD}=30V, V_{GS}=4.5V, I_D=4.4A$ $R_G=1.0\Omega, R_L=6.8\Omega$ | | 33 | | ns |
| t_{off} | $V_{DD}=30V, V_{GS}=4.5V, I_D=4.4A$ $R_G=1.0\Omega, R_L=6.8\Omega$ | | 42 | | ns |

PACKING OPTIONS:

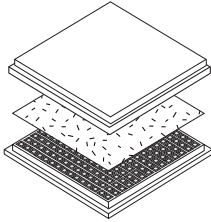
- CP372-WN: Full Wafer
- CP372-WR: Sawn Wafer on Plastic Ring
- CP372-CT: Singulated Die in Waffle Pack

CP372

Typical Electrical Characteristics



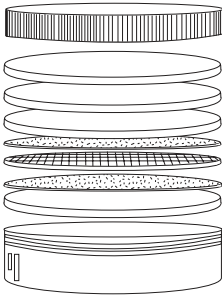
BARE DIE PACKING OPTIONS



BARE DIE IN TRAY (WAFFLE) PACK

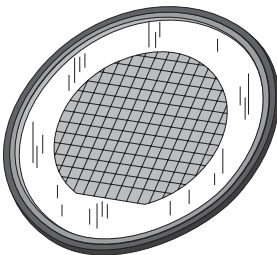
CT: Singulated die in tray (waffle) pack.
(example: CP211-PART NUMBER-CT)

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

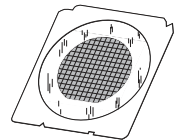
WN: Full wafer, unsawn, 100% tested with reject die inked.
(example: CP211-PART NUMBER-WN)



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.centrasemi.com/bdspecs

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.

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- 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

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centrasemi.com

Worldwide Field Representatives:
www.centrasemi.com/wwreps

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Product End of Life Notification

| | |
|---------------------------|------------|
| PDN ID: | PDN01170 |
| Notification Date: | 4/15/21 |
| Last Buy Date: | Stock Only |
| Last Shipment Date | Stock Only |

Please be advised that Central Semiconductor must immediately discontinue the product(s) listed in the attached PDN notice. Orders can only be accepted for products with available inventory on hand.

You may have purchased one or more of the products listed. Please do not hesitate to contact your local Central Semiconductor sales representative with any questions or needs you may have. Central regrets any inconvenience this may cause.

Sincerely,

Central Semiconductor Corp.

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.



<http://www.centrasemi.com>

Product End of Life Notification

| | |
|---------------------------|------------|
| PDN ID: | PDN01170 |
| Notification Date: | 4/15/21 |
| Last Buy Date: | Stock Only |
| Last Shipment Date | Stock Only |

Summary: The CP372 wafer process is being discontinued and is now classified as End of Life (EOL). Suggested replacement wafer process CP403 was previously announced in PCN187, July 23, 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.**

| <u>Central Part Number</u> | <u>Suggested Replacement</u> |
|----------------------------|------------------------------|
| CP372-CT | CP403-CZDM0605N-CT |
| CP372-WN | CP403-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@centrasemi.com.

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