

CMPDM302PH

SURFACE MOUNT SILICON  
ENHANCEMENT-MODE  
P-CHANNEL MOSFET



www.centrasemi.com



SOT-23F CASE

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPDM302PH 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: 302C**

**APPLICATIONS:**

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

**FEATURES:**

- Low  $r_{DS(ON)}$  (0.129Ω MAX @  $V_{GS}=2.5V$ )
- High current ( $I_D=2.4A$ )
- Logic level compatibility

**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**

|                |             |
|----------------|-------------|
| $V_{DS}$       | 30          |
| $V_{GS}$       | 12          |
| $I_D$          | 2.4         |
| $I_{DM}$       | 9.6         |
| $P_D$          | 350         |
| $T_J, T_{stg}$ | -55 to +150 |
| $\theta_{JA}$  | 357         |

**UNITS**

|      |
|------|
| V    |
| V    |
| A    |
| A    |
| mW   |
| °C   |
| °C/W |

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

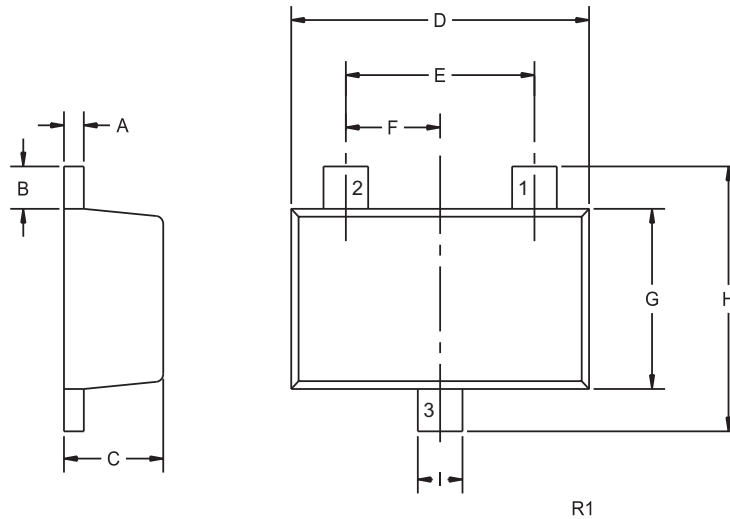
| SYMBOL               | TEST CONDITIONS                      | MIN | TYP   | MAX   | UNITS |
|----------------------|--------------------------------------|-----|-------|-------|-------|
| $I_{GSSF}, I_{GSSR}$ | $V_{GS}=12V, V_{DS}=0$               |     |       | 100   | nA    |
| $I_{DSS}$            | $V_{DS}=20V, V_{GS}=0$               |     |       | 1.0   | μA    |
| $BV_{DSS}$           | $V_{GS}=0, I_D=250\mu A$             | 30  |       |       | V     |
| $V_{GS(th)}$         | $V_{GS}=V_{DS}, I_D=250\mu A$        | 0.7 |       | 1.4   | V     |
| $r_{DS(ON)}$         | $V_{GS}=4.5V, I_D=1.2A$              |     | 0.050 | 0.091 | Ω     |
| $r_{DS(ON)}$         | $V_{GS}=2.5V, I_D=1.2A$              |     | 0.066 | 0.129 | Ω     |
| $g_{FS}$             | $V_{DS}=5.0V, I_D=2.4A$              |     | 4.6   |       | S     |
| $C_{rSS}$            | $V_{DS}=10V, V_{GS}=0, f=1.0MHz$     |     | 69    |       | pF    |
| $C_{iSS}$            | $V_{DS}=10V, V_{GS}=0, f=1.0MHz$     |     | 800   |       | pF    |
| $C_{oSS}$            | $V_{DS}=10V, V_{GS}=0, f=1.0MHz$     |     | 62    |       | pF    |
| $Q_g(tot)$           | $V_{DD}=10V, V_{GS}=5.0V, I_D=2.4A$  |     | 7.0   | 9.6   | nC    |
| $Q_{gs}$             | $V_{DD}=10V, V_{GS}=5.0V, I_D=2.4A$  |     | 1.4   | 4.2   | nC    |
| $Q_{gd}$             | $V_{DD}=10V, V_{GS}=5.0V, I_D=2.4A$  |     | 1.5   | 2.6   | nC    |
| $t_{on}$             | $V_{DD}=10V, I_D=2.4A, R_G=10\Omega$ |     | 12    |       | ns    |
| $t_{off}$            | $V_{DD}=10V, I_D=2.4A, R_G=10\Omega$ |     | 17    |       | ns    |

R2 (24-February 2014)

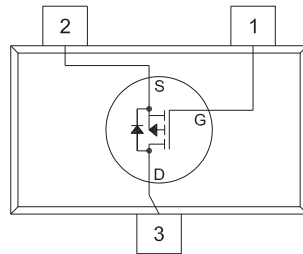
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**P-CHANNEL MOSFET**



**SOT-23F CASE - MECHANICAL OUTLINE**



**PIN CONFIGURATION**



| SYMBOL | INCHES |       | MILLIMETERS |      |
|--------|--------|-------|-------------|------|
|        | MIN    | MAX   | MIN         | MAX  |
| A      | 0.004  | 0.008 | 0.10        | 0.20 |
| B      | 0.012  | 0.020 | 0.30        | 0.50 |
| C      | 0.031  | 0.039 | 0.80        | 1.00 |
| D      | 0.110  | 0.118 | 2.80        | 3.00 |
| E      | 0.075  |       | 1.90        |      |
| F      | 0.037  |       | 0.95        |      |
| G      | 0.059  | 0.067 | 1.50        | 1.70 |
| H      | 0.091  | 0.098 | 2.30        | 2.50 |
| I      | 0.014  | 0.018 | 0.35        | 0.45 |

SOT-23F (REV: R1)

**LEAD CODE:**

- 1) Gate
- 2) Source
- 3) Drain

**MARKING CODE: 302C**

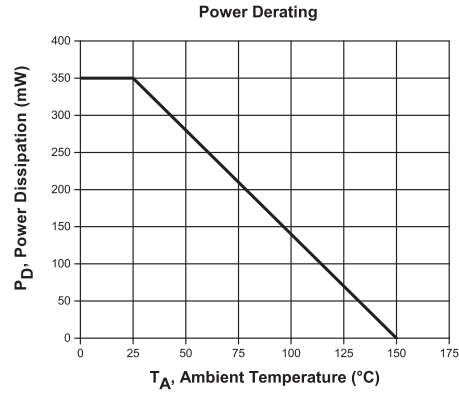
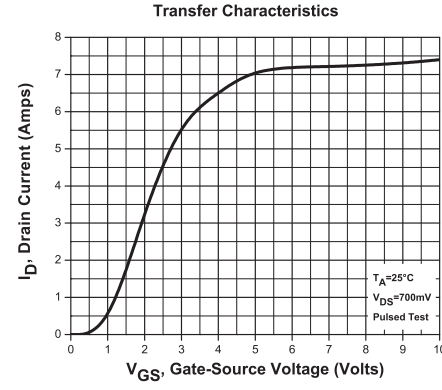
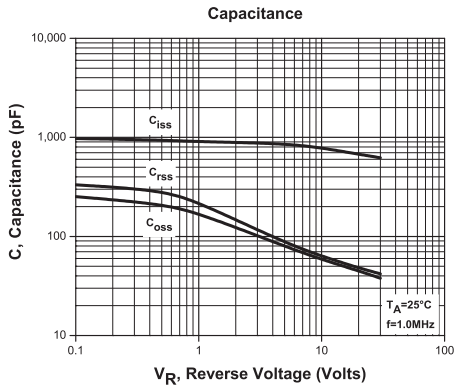
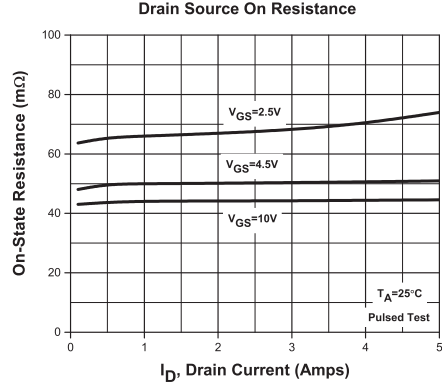
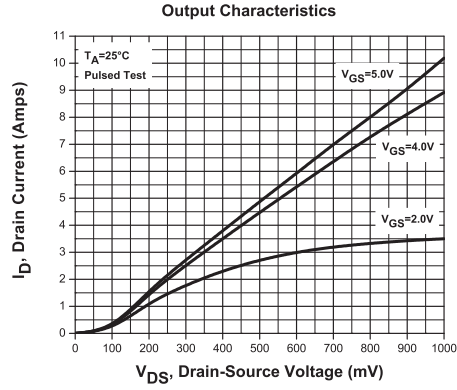
R2 (24-February 2014)

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### TYPICAL ELECTRICAL CHARACTERISTICS



R2 (24-February 2014)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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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)
- 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

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### 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).

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### CONTACT US

#### Corporate Headquarters & Customer Support Team

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**Worldwide Field Representatives:**  
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**Worldwide Distributors:**  
[www.centrasemi.com/wwdistributors](http://www.centrasemi.com/wwdistributors)

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For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: [www.centrasemi.com/terms](http://www.centrasemi.com/terms)



<http://www.centrasemi.com>

# Product End of Life Notification

|                           |                  |
|---------------------------|------------------|
| <b>PDN ID:</b>            | PDN01070 Rev:001 |
| <b>Notification Date:</b> | 4/05/18          |
| <b>Last Buy Date:</b>     | N/A              |
| <b>Last Shipment Date</b> | N/A              |

Please be advised that Central Semiconductor must immediately discontinue the product(s) listed in the attached PDN notice. We are unable to accept any further orders for these products **unless** we have 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.

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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.

# Product End of Life Notification

|                           |                  |
|---------------------------|------------------|
| <b>PDN ID:</b>            | PDN01070 Rev:001 |
| <b>Notification Date:</b> | 4/05/18          |
| <b>Last Buy Date:</b>     | N/A              |
| <b>Last Shipment Date</b> | N/A              |

Summary: The following MOSFET devices manufactured in the SOT-23F package have been discontinued and are now classified as End of Life (EOL). Rev:001 to PDN#01070, originally issued on March, 21, 2018, is being issued to remove part #s CEN1232 and CEN1233 due to market demand; these devices are once again active.

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by various 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 Product Management Process. Any replacement product will be noted below. The effective date for placing the last purchase order will be six(6) months from the date of this notice and twelve(12) months from the notice date for final shipments; this may be extended if inventory is available.

| <u>Central Part Number</u> | <u>Replacement</u> |
|----------------------------|--------------------|
| CMPDM202PH BK              | N/A                |
| CMPDM202PH TR              | N/A                |
| CMPDM203NH BK              | N/A                |
| CMPDM203NH TR              | N/A                |
| CMPDM302PH BK              | N/A                |
| CMPDM302PH TR              | N/A                |
| CMPDM303NH BK              | N/A                |
| CMPDM303NH TR              | N/A                |

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](mailto:engineering@centralsemi.com).

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