

**CMXDM7002A****SURFACE MOUNT SILICON  
DUAL N-CHANNEL  
ENHANCEMENT-MODE  
MOSFET****SOT-26 CASE**[www.centrasemi.com](http://www.centrasemi.com)**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMXDM7002A is special dual version of the 2N7002 enhancement-mode N-Channel MOSFET manufactured by the N-Channel DMOS Process, and designed for high speed pulsed amplifier and driver applications. This special dual transistor device offers low  $r_{DS(ON)}$  and low  $V_{DS(ON)}$ .

**MARKING CODE: X02A****MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$ )

|                                            |
|--------------------------------------------|
| Drain-Source Voltage                       |
| Drain-Gate Voltage                         |
| Gate-Source Voltage                        |
| Continuous Drain Current                   |
| Continuous Source Current (Body Diode)     |
| Maximum Pulsed Drain Current               |
| Maximum Pulsed Source Current              |
| Power Dissipation                          |
| Operating and Storage Junction Temperature |
| Thermal Resistance                         |

**SYMBOL**

|                |             |
|----------------|-------------|
| $V_{DS}$       | 60          |
| $V_{DG}$       | 60          |
| $V_{GS}$       | 40          |
| $I_D$          | 280         |
| $I_S$          | 280         |
| $I_{DM}$       | 1.5         |
| $I_{SM}$       | 1.5         |
| $P_D$          | 350         |
| $T_J, T_{stg}$ | -65 to +150 |
| $\theta_{JA}$  | 357         |

**UNITS**

|                    |
|--------------------|
| V                  |
| V                  |
| V                  |
| mA                 |
| mA                 |
| A                  |
| A                  |
| mW                 |
| $^\circ\text{C}$   |
| $^\circ\text{C/W}$ |

**ELECTRICAL CHARACTERISTICS PER TRANSISTOR:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

| SYMBOL               | TEST CONDITIONS                                              | MIN | 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  | $\mu\text{A}$ |
| $I_{DSS}$            | $V_{DS}=60\text{V}, V_{GS}=0, T_J=125^\circ\text{C}$         |     | 500  | $\mu\text{A}$ |
| $I_{D(ON)}$          | $V_{GS}=10\text{V}, V_{DS}=10\text{V}$                       | 500 |      | mA            |
| $BV_{DSS}$           | $V_{GS}=0, I_D=10\mu\text{A}$                                | 60  |      | V             |
| $V_{GS(th)}$         | $V_{DS}=V_{GS}, I_D=250\mu\text{A}$                          | 1.0 | 2.5  | V             |
| $V_{DS(ON)}$         | $V_{GS}=10\text{V}, I_D=500\text{mA}$                        |     | 1.0  | V             |
| $V_{DS(ON)}$         | $V_{GS}=5.0\text{V}, I_D=50\text{mA}$                        |     | 0.15 | V             |
| $V_{SD}$             | $V_{GS}=0, I_S=400\text{mA}$                                 |     | 1.2  | V             |
| $r_{DS(ON)}$         | $V_{GS}=10\text{V}, I_D=500\text{mA}$                        |     | 2.0  | $\Omega$      |
| $r_{DS(ON)}$         | $V_{GS}=10\text{V}, I_D=500\text{mA}, T_J=125^\circ\text{C}$ |     | 3.5  | $\Omega$      |
| $r_{DS(ON)}$         | $V_{GS}=5.0\text{V}, I_D=50\text{mA}$                        |     | 3.0  | $\Omega$      |
| $r_{DS(ON)}$         | $V_{GS}=5.0\text{V}, I_D=50\text{mA}, T_J=125^\circ\text{C}$ |     | 5.0  | $\Omega$      |
| gFS                  | $V_{DS}=10\text{V}, I_D=200\text{mA}$                        | 80  |      | mS            |
| $C_{rss}$            | $V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$               |     | 5.0  | pF            |
| $C_{iss}$            | $V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$               |     | 50   | pF            |
| $C_{oss}$            | $V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$               |     | 25   | pF            |

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CMXDM7002A

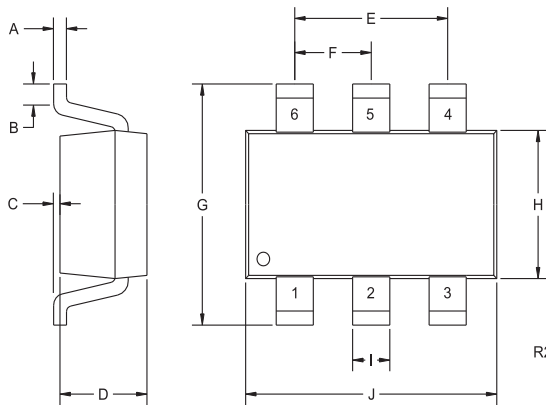
**SURFACE MOUNT SILICON  
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MOSFET**



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

| SYMBOL                             | TEST CONDITIONS                                                                                      | TYP   | MAX | UNITS |
|------------------------------------|------------------------------------------------------------------------------------------------------|-------|-----|-------|
| $Q_{g(\text{tot})}$                | $V_{DS}=30\text{V}$ , $V_{GS}=4.5\text{V}$ , $I_D=100\text{mA}$                                      | 0.592 |     | nC    |
| $Q_{gs}$                           | $V_{DS}=30\text{V}$ , $V_{GS}=4.5\text{V}$ , $I_D=100\text{mA}$                                      | 0.196 |     | nC    |
| $Q_{gd}$                           | $V_{DS}=30\text{V}$ , $V_{GS}=4.5\text{V}$ , $I_D=100\text{mA}$                                      | 0.148 |     | nC    |
| $t_{\text{on}}$ , $t_{\text{off}}$ | $V_{DD}=30\text{V}$ , $V_{GS}=10\text{V}$ , $I_D=200\text{mA}$ ,<br>$R_G=25\Omega$ , $R_L=150\Omega$ |       | 20  | ns    |

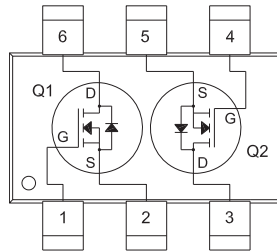
**SOT-26 CASE - MECHANICAL OUTLINE**



| SYMBOL | DIMENSIONS |       |             |      |
|--------|------------|-------|-------------|------|
|        | INCHES     |       | MILLIMETERS |      |
|        | MIN        | MAX   | MIN         | MAX  |
| A      | 0.004      | 0.007 | 0.11        | 0.19 |
| B      | 0.016      | -     | 0.40        | -    |
| C      | -          | 0.004 | -           | 0.10 |
| D      | 0.039      | 0.047 | 1.00        | 1.20 |
| E      | 0.074      | 0.075 | 1.88        | 1.92 |
| F      | 0.037      | 0.038 | 0.93        | 0.97 |
| G      | 0.102      | 0.118 | 2.60        | 3.00 |
| H      | 0.059      | 0.067 | 1.50        | 1.70 |
| I      | 0.016      |       | 0.41        |      |
| J      | 0.110      | 0.118 | 2.80        | 3.00 |

SOT-26 (REV: R2)

**PIN CONFIGURATION**



**LEAD CODE:**

- 1) Gate Q1
- 2) Source Q1
- 3) Drain Q2
- 4) Gate Q2
- 5) Source Q2
- 6) Drain Q1

**MARKING CODE: X02A**

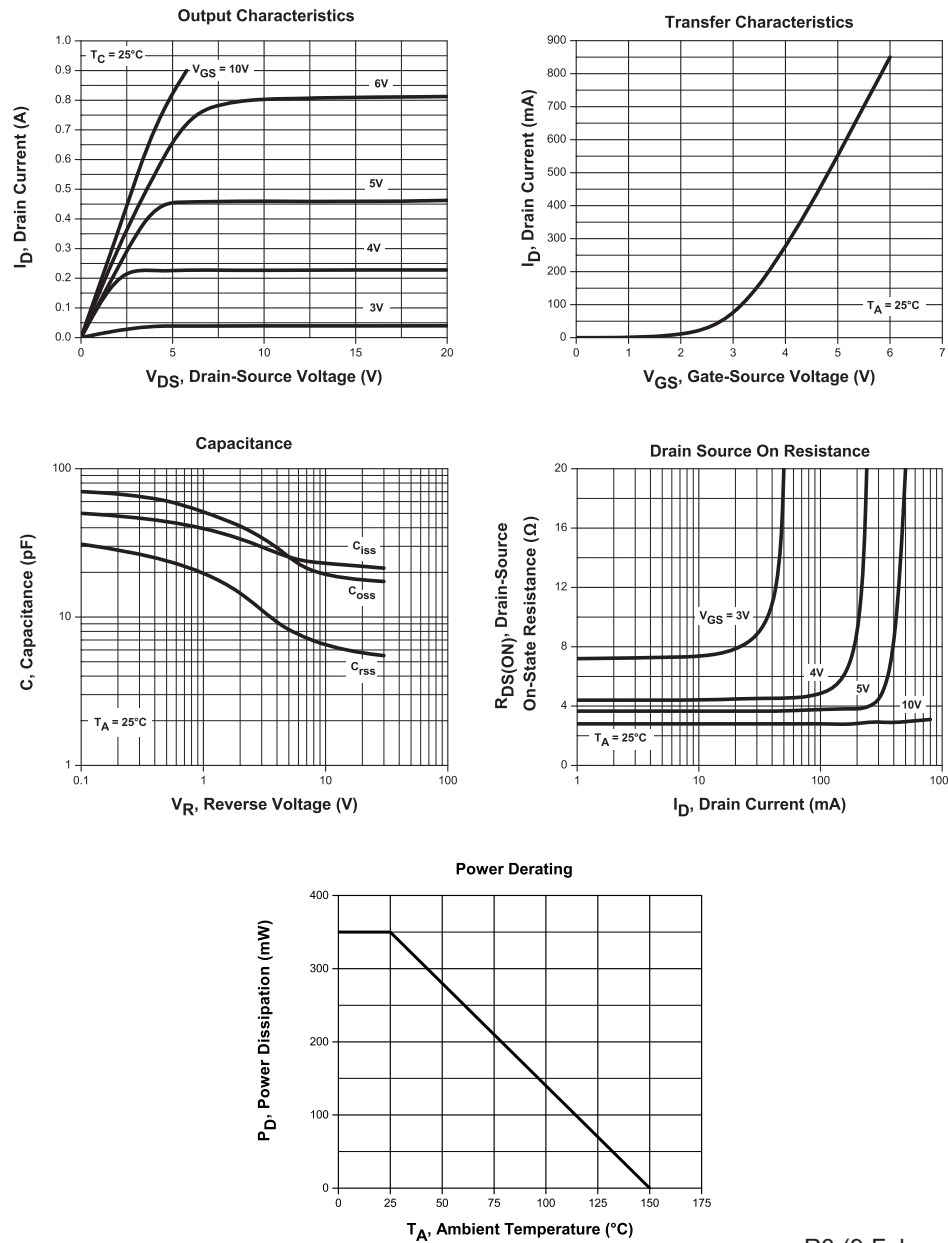
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## TYPICAL ELECTRICAL CHARACTERISTICS



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## 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:**  
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# Product End of Life Notification

|                           |          |
|---------------------------|----------|
| <b>PDN ID:</b>            | PDN01164 |
| <b>Notification Date:</b> | 2/05/21  |
| <b>Last Buy Date:</b>     | 8/05/21  |
| <b>Last Shipment Date</b> | 2/05/22  |

Summary: The following devices manufactured in the SOT-26 case are discontinued and now classified as End of Life (EOL).

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.**

| <b>Central Part Number</b> | <b>Replacement</b> |
|----------------------------|--------------------|
| CMXDM7002A BK              | N/A, Stock Only    |
| CMXDM7002A TR              | N/A, Stock Only    |
| CMXD2004S BK               | N/A, Stock Only    |
| CMXD2004S TR               | N/A, Stock Only    |
| CMXSH2-4LS BK              | N/A, Stock Only    |
| CMXSH2-4LS TR              | N/A, Stock Only    |
| CMXSTB300 BK               | N/A, Stock Only    |
| CMXSTB300 TR               | N/A, Stock Only    |
| CMXSTB400 BK               | N/A, Stock Only    |
| CMXSTB400 TR               | N/A, Stock Only    |
| CMXT2207 BK                | N/A, Stock Only    |
| CMXT2207 TR                | N/A, Stock Only    |
| CMXT2907A BK               | N/A, Stock Only    |
| CMXT2907A TR               | N/A, Stock Only    |

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](mailto:engineering@centrasemi.com).

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.