

**CEDM7001****SURFACE MOUNT SILICON  
N-CHANNEL  
ENHANCEMENT-MODE  
MOSFET**
[www.centrasemi.com](http://www.centrasemi.com)


Top View Bottom View

**SOT-883L CASE****DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CEDM7001 is an N-Channel Enhancement-mode silicon MOSFET, manufactured by the N-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications. This MOSFET offers low  $r_{DS(ON)}$  and low threshold voltage.

**MARKING CODE: H****COMPLEMENTARY P-CHANNEL: CEDM8001****FEATURES:**

- 100mW Power Dissipation
- 0.4mm low package profile
- Low  $r_{DS(ON)}$
- Low threshold voltage
- Logic level compatible
- Small leadless surface mount package

**APPLICATIONS:**

- Load/Power switches
- DC - DC converters
- Battery powered portable equipment

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

|  |
|--|
| Drain-Source Voltage                       |
| Gate-Source Voltage                        |
| Continuous Drain Current (Steady State)    |
| Peak Drain Current, $t_p=10\mu\text{s}$    |
| Power Dissipation                          |
| Operating and Storage Junction Temperature |

| SYMBOL         |             | UNITS            |
|----------------|-------------|------------------|
| $V_{DS}$       | 20          | V                |
| $V_{GS}$       | 10          | V                |
| $I_D$          | 100         | mA               |
| $I_{DM}$       | 200         | mA               |
| $P_D$          | 100         | mW               |
| $T_J, T_{stg}$ | -65 to +150 | $^\circ\text{C}$ |

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

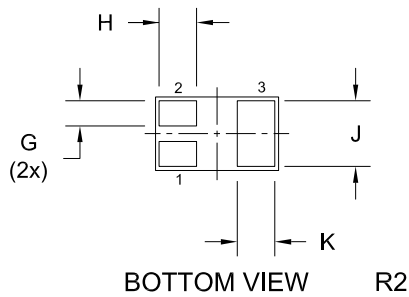
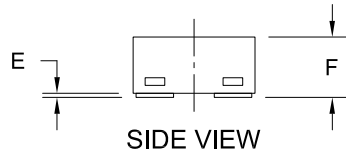
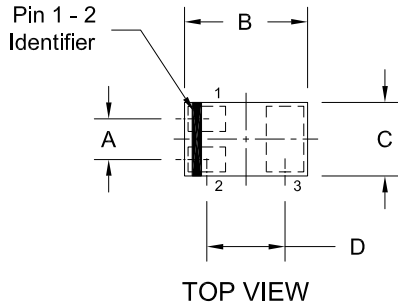
| SYMBOL               | TEST CONDITIONS   | MIN | TYP   | MAX | UNITS         |
|----------------------|---|-----|-------|-----|---------------|
| $I_{GSSF}, I_{GSSR}$ | $V_{GS}=10\text{V}, V_{DS}=0$                             |     |       | 1.0 | $\mu\text{A}$ |
| $I_{DSS}$            | $V_{DS}=20\text{V}, V_{GS}=0$                             |     |       | 1.0 | $\mu\text{A}$ |
| $BV_{DSS}$           | $V_{GS}=0, I_D=100\mu\text{A}$                            | 20  |       |     | V             |
| $V_{GS(th)}$         | $V_{DS}=V_{GS}, I_D=250\mu\text{A}$                       | 0.6 |       | 0.9 | V             |
| $r_{DS(ON)}$         | $V_{GS}=4.0\text{V}, I_D=10\text{mA}$                     |     | 0.9   | 3.0 | $\Omega$      |
| $r_{DS(ON)}$         | $V_{GS}=2.5\text{V}, I_D=10\text{mA}$                     |     | 1.3   | 4.0 | $\Omega$      |
| $r_{DS(ON)}$         | $V_{GS}=1.5\text{V}, I_D=1.0\text{mA}$                    |     |       | 15  | $\Omega$      |
| $g_{FS}$             | $V_{DS}=10\text{V}, I_D=100\text{mA}$                     | 100 |       |     | mS            |
| $C_{rss}$            | $V_{DS}=3.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$           |     | 4.0   |     | pF            |
| $C_{iss}$            | $V_{DS}=3.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$           |     | 9.0   |     | pF            |
| $C_{oss}$            | $V_{DS}=3.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$           |     | 9.5   |     | pF            |
| $Q_g(\text{tot})$    | $V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$ |     | 0.566 |     | nC            |
| $Q_{gs}$             | $V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$ |     | 0.16  |     | nC            |
| $Q_{gd}$             | $V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$ |     | 0.08  |     | nC            |
| $t_{on}$             | $V_{DD}=3.0\text{V}, V_{GS}=2.5\text{V}, I_D=10\text{mA}$ |     | 50    |     | ns            |
| $t_{off}$            | $V_{DD}=3.0\text{V}, V_{GS}=2.5\text{V}, I_D=10\text{mA}$ |     | 75    |     | ns            |

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**SOT-883L CASE - MECHANICAL OUTLINE**



| DIMENSIONS |        |       |             |      |
|------------|--------|-------|-------------|------|
| SYMBOL     | INCHES |       | MILLIMETERS |      |
|            | MIN    | MAX   | MIN         | MAX  |
| A          | 0.014  |       | 0.35        |      |
| B          | 0.037  | 0.041 | 0.95        | 1.05 |
| C          | 0.022  | 0.026 | 0.55        | 0.65 |
| D          | 0.026  |       | 0.65        |      |
| E          | 0.000  | 0.002 | 0.00        | 0.05 |
| F          | 0.012  | 0.016 | 0.30        | 0.40 |
| G          | 0.005  | 0.007 | 0.13        | 0.18 |
| H          | 0.008  | 0.012 | 0.20        | 0.30 |
| J          | 0.018  | 0.022 | 0.45        | 0.55 |
| K          | 0.008  | 0.012 | 0.20        | 0.30 |

SOT-883L (REV:R2)

**LEAD CODE:**

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

**MARKING CODE: H**

**Package Type Options** (all dimensions are maximum - in mm)

| Package   | Length | Width | Height | P <sub>D</sub> (mW) | Central Item Number |
|-----------|--------|-------|--------|---------------------|---------------------|
| SOT-883L  | 1.05   | 0.65  | 0.40   | 100                 | CEDM7001            |
| SOT-883VL | 1.05   | 0.65  | 0.32   | 100                 | CEDM7001VL          |
| SOT-953   | 1.05   | 1.05  | 0.50   | 250                 | CMNDM7001           |
| SOT-523   | 1.70   | 1.70  | 0.78   | 250                 | CMUDM7001           |

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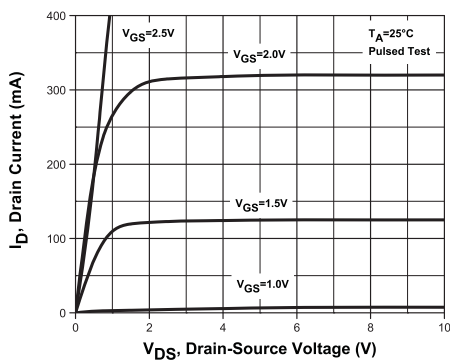
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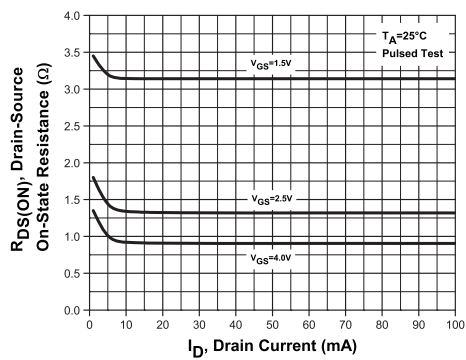


### TYPICAL ELECTRICAL CHARACTERISTICS

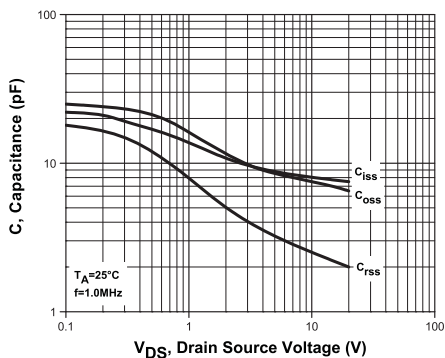
Output Characteristics



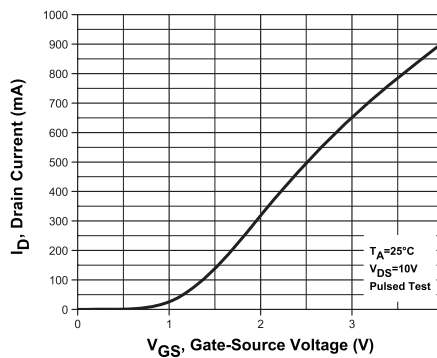
Drain Source On Resistance



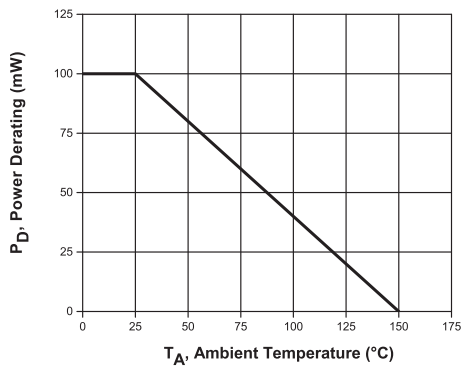
Capacitance



Transfer Characteristics



Power Derating



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**SERVICES**

- Bonded Inventory
- Custom Electrical Screening
- Custom Electrical Characteristic Curves
- SPICE Models
- Custom Packaging
- Package Base Options
- Custom Device Development/ Multi Discrete Modules (MDM™)
- Bare Die for Hybrid Applications

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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