

**CMPDM202PH**  
**SURFACE MOUNT**  
**P-CHANNEL**  
**ENHANCEMENT-MODE**  
**SILICON MOSFET**



**SOT-23F CASE**



[www.centra-semi.com](http://www.centra-semi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPDM202PH 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: 202C**

**APPLICATIONS:**

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

**FEATURES:**

- Low  $r_{DS(ON)}$  (0.093Ω MAX @  $V_{GS}=2.5V$ )
- High current ( $I_D=2.3A$ )
- 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         |             | UNITS        |
|----------------|-------------|--------------|
| $V_{DS}$       | 20          | V            |
| $V_{GS}$       | 12          | V            |
| $I_D$          | 2.3         | A            |
| $I_{DM}$       | 9.2         | A            |
| $P_D$          | 350         | mW           |
| $T_J, T_{stg}$ | -55 to +150 | $^\circ C$   |
| $\theta_{JA}$  | 357         | $^\circ C/W$ |

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

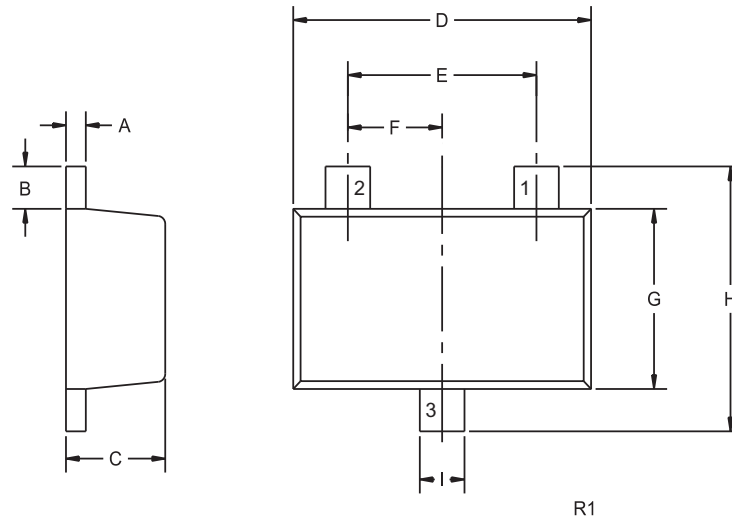
| SYMBOL               | TEST CONDITIONS                      | MIN | TYP   | MAX   | UNITS    |
|----------------------|--------------------------------------|-----|-------|-------|----------|
| $I_{GSSF}, I_{GSSR}$ | $V_{GS}=12V, V_{DS}=0$               |     |       | 100   | nA       |
| $I_{DSS}$            | $V_{DS}=20V, V_{GS}=0$               |     |       | 1.0   | $\mu A$  |
| $BV_{DSS}$           | $V_{GS}=0, I_D=250\mu A$             | 20  |       |       | V        |
| $V_{GS(th)}$         | $V_{GS}=V_{DS}, I_D=250\mu A$        | 0.6 |       | 1.4   | V        |
| $r_{DS(ON)}$         | $V_{GS}=5.0V, I_D=1.2A$              |     | 0.064 | 0.088 | $\Omega$ |
| $r_{DS(ON)}$         | $V_{GS}=2.5V, I_D=1.2A$              |     | 0.072 | 0.093 | $\Omega$ |
| $g_{FS}$             | $V_{DS}=5.0V, I_D=2.3A$              |     | 15    |       | S        |
| $C_{rss}$            | $V_{DD}=10V, V_{GS}=0, f=1.0MHz$     |     | 110   |       | pF       |
| $C_{iss}$            | $V_{DD}=10V, V_{GS}=0, f=1.0MHz$     |     | 880   |       | pF       |
| $C_{oss}$            | $V_{DD}=10V, V_{GS}=0, f=1.0MHz$     |     | 210   |       | pF       |
| $Q_{g(tot)}$         | $V_{DD}=10V, V_{GS}=5.0V, I_D=2.3A$  |     | 8.0   | 12    | nC       |
| $Q_{gs}$             | $V_{DD}=10V, V_{GS}=5.0V, I_D=2.3A$  |     | 1.3   | 2.0   | nC       |
| $Q_{gd}$             | $V_{DD}=10V, V_{GS}=5.0V, I_D=2.3A$  |     | 2.3   | 3.5   | nC       |
| $t_{on}$             | $V_{DD}=10V, I_D=2.3A, R_G=10\Omega$ |     | 15.2  |       | ns       |
| $t_{off}$            | $V_{DD}=10V, I_D=2.3A, R_G=10\Omega$ |     | 27.6  |       | ns       |

R0 (21-October 2010)

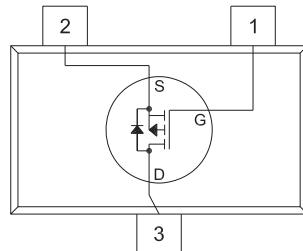
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**SOT-23F CASE - MECHANICAL OUTLINE**



**PIN CONFIGURATION**



**DIMENSIONS**

| 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

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