

CMPDM7120G
SURFACE MOUNT
N-CHANNEL
ENHANCEMENT-MODE
SILICON MOSFET



www.centrasemi.com



SOT-23 CASE

• Device is **Halogen Free** by design

APPLICATIONS:

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

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPDM7120G is an Enhancement-mode N-Channel Field Effect Transistor, 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: C71G

FEATURES:

- ESD protection up to 2kV
- Low $r_{DS(ON)}$ (0.25Ω MAX @ $V_{GS}=1.5V$)
- High current ($I_D=1.0A$)
- Logic level compatibility
- Small SOT-23 package

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} 20
 V_{GS} 8.0
 I_D 1.0
 I_{DM} 4.0
 P_D 350
 T_J, T_{stg} -65 to +150
 Θ_{JA} 357

UNITS

V
 V
 A
 A
 mW
 $^\circ C$
 $^\circ C/W$

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

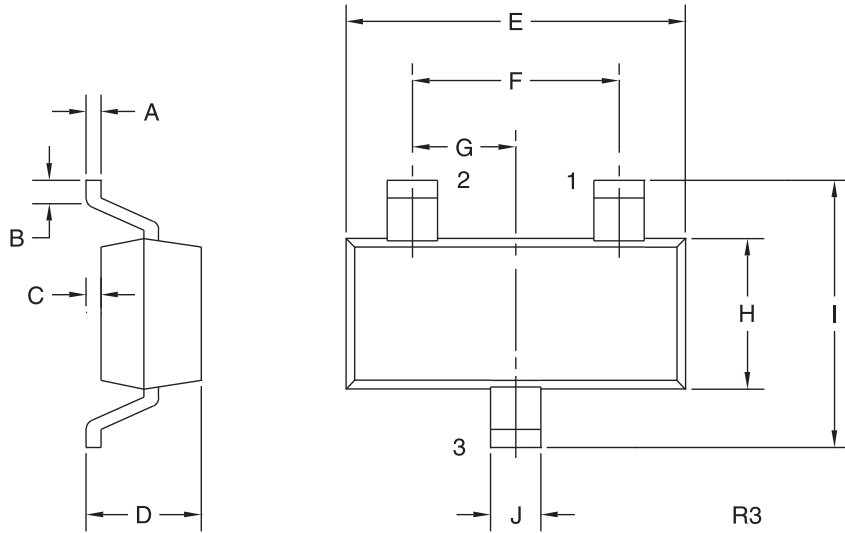
| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|----------------------|-------------------------------------|-----|-------|------|----------|
| I_{GSSF}, I_{GSSR} | $V_{GS}=8.0V, V_{DS}=0$ | | | 10 | μA |
| I_{DSS} | $V_{DS}=20V, V_{GS}=0$ | | | 10 | μA |
| BV_{DSS} | $V_{GS}=0, I_D=250\mu A$ | 20 | | | V |
| $V_{GS(th)}$ | $V_{DS}=10V, I_D=1.0mA$ | 0.5 | | 1.2 | V |
| V_{SD} | $V_{GS}=0, I_S=1.0A$ | | | 1.1 | V |
| $r_{DS(ON)}$ | $V_{GS}=4.5V, I_D=0.5A$ | | 0.075 | 0.10 | Ω |
| $r_{DS(ON)}$ | $V_{GS}=2.5V, I_D=0.5A$ | | 0.10 | 0.14 | Ω |
| $r_{DS(ON)}$ | $V_{GS}=1.5V, I_D=0.1A$ | | 0.17 | 0.25 | Ω |
| g_{FS} | $V_{DS}=10V, I_D=0.5A$ | | 4.2 | | S |
| C_{rss} | $V_{DS}=10V, V_{GS}=0, f=1.0MHz$ | | 45 | | pF |
| C_{iss} | $V_{DS}=10V, V_{GS}=0, f=1.0MHz$ | | 220 | | pF |
| C_{oss} | $V_{DS}=10V, V_{GS}=0, f=1.0MHz$ | | 120 | | pF |
| t_{on} | $V_{DD}=10V, V_{GS}=5.0V, I_D=0.5A$ | | 25 | | ns |
| t_{off} | $V_{DD}=10V, V_{GS}=5.0V, I_D=0.5A$ | | 140 | | ns |

R1 (27-January 2010)

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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

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| DIMENSIONS | | | | |
|------------|--------|-------|-------------|------|
| SYMBOL | INCHES | | MILLIMETERS | |
| | MIN | MAX | MIN | MAX |
| A | 0.003 | 0.007 | 0.08 | 0.18 |
| B | 0.006 | - | 0.15 | - |
| C | - | 0.005 | - | 0.13 |
| D | 0.035 | 0.043 | 0.89 | 1.09 |
| E | 0.110 | 0.120 | 2.80 | 3.05 |
| F | 0.075 | | 1.90 | |
| G | 0.037 | | 0.95 | |
| H | 0.047 | 0.055 | 1.19 | 1.40 |
| I | 0.083 | 0.098 | 2.10 | 2.49 |
| J | 0.014 | 0.020 | 0.35 | 0.50 |

SOT-23 (REV: R3)

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