

**CMPDM7120G**  
**SURFACE MOUNT**  
**N-CHANNEL**  
**ENHANCEMENT-MODE**  
**SILICON MOSFET**



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**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  $r_{DS(ON)}$  (0.25 $\Omega$  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
$V_{GS}$	8.0	V
$I_D$	1.0	A
$I_{DM}$	4.0	A
$P_D$	350	mW
$T_J, T_{stg}$	-65 to +150	$^\circ C$
$\theta_{JA}$	357	$^\circ C/W$

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

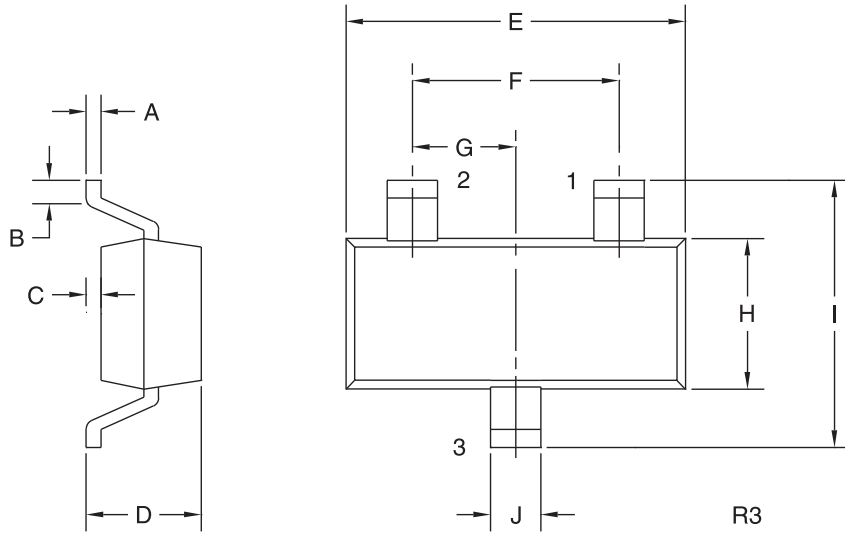
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{GSSF}, I_{GSSR}$	$V_{GS}=8.0V, V_{DS}=0$			10	$\mu A$
$I_{DSS}$	$V_{DS}=20V, V_{GS}=0$			10	$\mu A$
$BV_{DSS}$	$V_{GS}=0, I_D=250\mu A$	20			V
$V_{GS(th)}$	$V_{DS}=10V, I_D=1.0mA$	0.5		1.2	V
$V_{SD}$	$V_{GS}=0, I_S=1.0A$			1.1	V
$r_{DS(ON)}$	$V_{GS}=4.5V, I_D=0.5A$		0.075	0.10	$\Omega$
$r_{DS(ON)}$	$V_{GS}=2.5V, I_D=0.5A$		0.10	0.14	$\Omega$
$r_{DS(ON)}$	$V_{GS}=1.5V, I_D=0.1A$		0.17	0.25	$\Omega$
$Q_g(tot)$	$V_{DS}=10V, V_{GS}=4.5V, I_D=1.0A$		2.4		nC
$Q_{gs}$	$V_{DS}=10V, V_{GS}=4.5V, I_D=1.0A$		0.25		nC
$Q_{gd}$	$V_{DS}=10V, V_{GS}=4.5V, I_D=1.0A$		0.65		nC
$g_{FS}$	$V_{DS}=10V, I_D=0.5A$		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

R2 (2-August 2011)

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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)

R2 (2-August 2011)