

**CMPDM7002AHC**  
**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 CMPDM7002AHC is a High Current version of the 2N7002A Enhancement-mode N-Channel MOSFET, designed for high speed pulsed amplifier and driver applications.

**MARKING CODE: 702H**

**FEATURES:**

- ESD Protection up to 2kV
- 350mW Power Dissipation
- Low  $r_{DS(ON)}$ : 0.22 $\Omega$  MAX @  $V_{GS}=10V$
- Industry Standard SOT-23 Surface Mount Package

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

Drain-Source Voltage
Drain-Gate Voltage
Gate-Source Voltage
Continuous Drain Current (Steady State)
Maximum Pulsed Drain Current (tp=10 $\mu$ s)
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

**SYMBOL**

$V_{DS}$	60
$V_{DG}$	60
$V_{GS}$	20
$I_D$	1.0
$I_{DM}$	5.0
$P_D$	350
$T_J, T_{stg}$	-65 to +150
$\Theta_{JA}$	357

**UNITS**

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

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

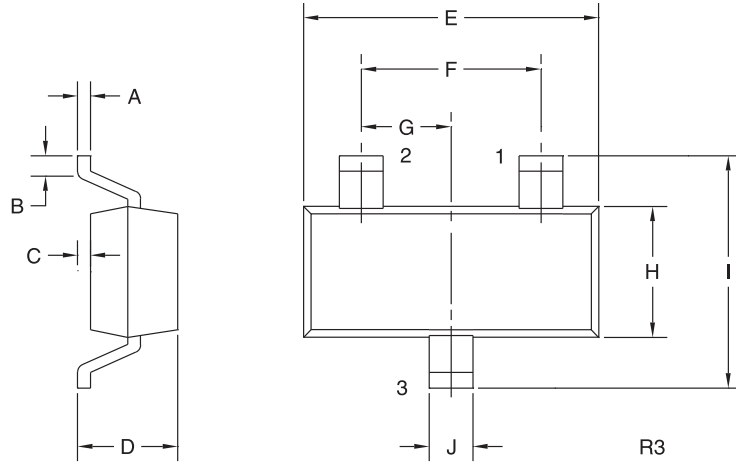
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{GSSF}, I_{GSSR}$	$V_{GS}=20V, V_{DS}=0$			10	$\mu A$
$I_{DSS}$	$V_{DS}=60V, V_{GS}=0$			500	nA
$BV_{DSS}$	$V_{GS}=0, I_D=100\mu A$	63			V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1.2		2.3	V
$V_{SD}$	$V_{GS}=0, I_S=500mA$			0.9	V
$r_{DS(ON)}$	$V_{GS}=10V, I_D=500mA$		0.15	0.22	$\Omega$
$r_{DS(ON)}$	$V_{GS}=5.0V, I_D=500mA$		0.20	0.30	$\Omega$
$Q_g(tot)$	$V_{DS}=10V, V_{GS}=4.5V, I_D=1.0A$		2.3		nC
$Q_{gs}$	$V_{DS}=10V, V_{GS}=4.5V, I_D=1.0A$		1.0		nC
$Q_{gd}$	$V_{DS}=10V, V_{GS}=4.5V, I_D=1.0A$		0.7		nC
$C_{rss}$	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$			25	pF
$C_{iss}$	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$			240	pF
$C_{oss}$	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$			50	pF
$t_{on}$	$V_{DD}=30V, V_{GS}=4.5V, I_D=1.0A$ $R_G=6.0\Omega, R_L=30\Omega$			35	ns
$t_{off}$	$V_{DD}=30V, V_{GS}=4.5V, I_D=1.0A$ $R_G=6.0\Omega, R_L=30\Omega$			50	ns

R2 (2-August 2011)

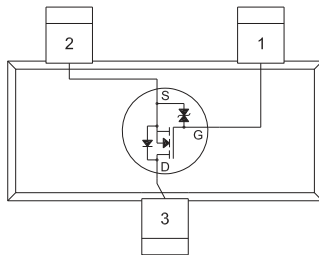
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**SOT-23 CASE - MECHANICAL OUTLINE**



**PIN CONFIGURATION**



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)

**LEAD CODE:**

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

**MARKING CODE: 702H**

R2 (2-August 2011)

## 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

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