CMPDM7002AHC

SURFACE MOUNT
N-CHANNEL
ENHANCEMENT-MODE
SILICON MOSFET



SOT-23 CASE

• Device is ***Halogen Free*** by design

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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

APPLICATIONS:

- Load/Power Switches
- Power Supply Converter Circuits
- Battery Powered Portable Equipment

FEATURES:

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

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
Drain-Source Voltage	V_{DS}	60	V
Drain-Gate Voltage	V_{DG}	60	V
Gate-Source Voltage	V_{GS}	20	V
Continuous Drain Current (Steady State)	I_D	1.0	A
Maximum Pulsed Drain Current (tp=10μs)	I_{DM}	5.0	A
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
Thermal Resistance	Θ_{JA}	357	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

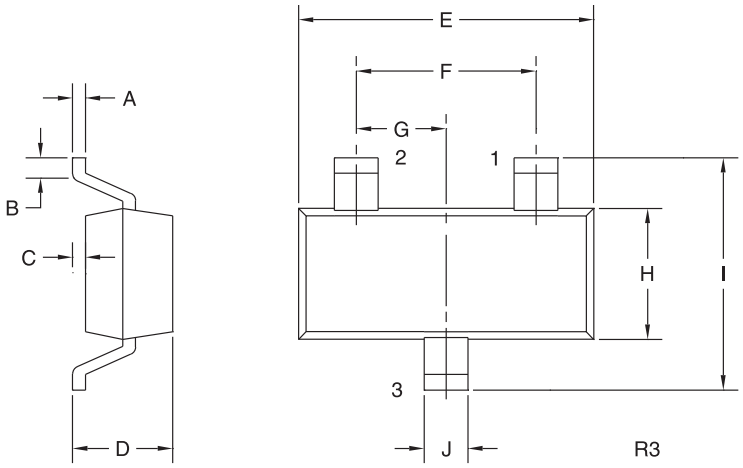
SYMBOL	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**UNITS**
I_{GSSF}, I_{GSSR}	V_{GS}=20V, V_{DS}=0			10	μA
I_{DSS}	V_{DS}=60V, V_{GS}=0			500	nA
BV_{DSS}	V_{GS}=0, I_D=100μA	63			V
$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	1.2		2.3	V
V_{SD}	V_{GS}=0, I_S=500mA			0.9	V
$r_{DS(ON)}$	V_{GS}=10V, I_D=500mA		0.15	0.22	Ω
$r_{DS(ON)}$	V_{GS}=5.0V, I_D=500mA		0.20	0.30	Ω
$Q_{g(tot)}$	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=6.0Ω, R_L=30Ω			35	ns
t_{off}	V_{DD}=30V, V_{GS}=4.5V, I_D=1.0A, R_G=6.0Ω, R_L=30Ω			50	ns

R2 (2-August 2011)

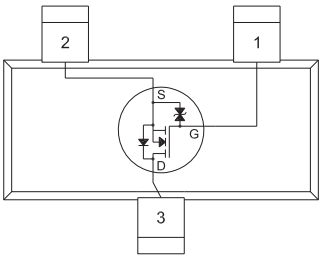
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SOT-23 CASE - MECHANICAL OUTLINE



PIN CONFIGURATION



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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

OUTSTANDING SUPPORT AND SUPERIOR SERVICES

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

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd 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

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).

CONTACT US

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