

CMLDM7002A
CMLDM7002AG*
CMLDM7002AJ

**SURFACE MOUNT SILICON
DUAL N-CHANNEL
ENHANCEMENT-MODE
MOSFETS**



SOT-563 CASE

* Device is **Halogen Free** by design



www.centrasemi.com

DESCRIPTION:

These CENTRAL SEMICONDUCTOR devices are dual N-Channel enhancement-mode MOSFETs, manufactured by the N-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications. The CMLDM7002A utilizes the USA pinout configuration, while the CMLDM7002AJ utilizes the Japanese pinout configuration. These devices offer low $r_{DS(ON)}$ and low $V_{DS(ON)}$.

MARKING CODES: CMLDM7002A: L02
CMLDM7002AG*: C2G
CMLDM7002AJ: 02J

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

Drain-Source Voltage
Drain-Gate Voltage
Gate-Source Voltage
Continuous Drain Current
Continuous Source Current (Body Diode)
Maximum Pulsed Drain Current
Maximum Pulsed Source Current
Power Dissipation (Note 1)
Power Dissipation (Note 2)
Power Dissipation (Note 3)
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL		UNITS
V_{DS}	60	V
V_{DG}	60	V
V_{GS}	40	V
I_D	280	mA
I_S	280	mA
I_{DM}	1.5	A
I_{SM}	1.5	A
P_D	350	mW
P_D	300	mW
P_D	150	mW
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
θ_{JA}	357	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS PER TRANSISTOR: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=20\text{V}, V_{DS}=0$		100	nA
I_{DSS}	$V_{DS}=60\text{V}, V_{GS}=0$		1.0	μA
I_{DSS}	$V_{DS}=60\text{V}, V_{GS}=0, T_J=125^\circ\text{C}$		500	μA
$I_{D(ON)}$	$V_{GS}=10\text{V}, V_{DS}=10\text{V}$	500		mA
BV_{DSS}	$V_{GS}=0, I_D=10\mu\text{A}$	60		V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	1.0	2.5	V
$V_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$		1.0	V
$V_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}$		0.15	V
V_{SD}	$V_{GS}=0, I_S=400\text{mA}$		1.2	V
$r_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$		2.0	Ω
$r_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}, T_J=125^\circ\text{C}$		3.5	Ω
$r_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}$		3.0	Ω
$r_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}, T_J=125^\circ\text{C}$		5.0	Ω
gFS	$V_{DS}=10\text{V}, I_D=200\text{mA}$	80		mS

Notes: (1) Ceramic or aluminum core PC Board with copper mounting pad area of 4.0mm²
(2) FR-4 Epoxy PC Board with copper mounting pad area of 4.0mm²
(3) FR-4 Epoxy PC Board with copper mounting pad area of 1.4mm²

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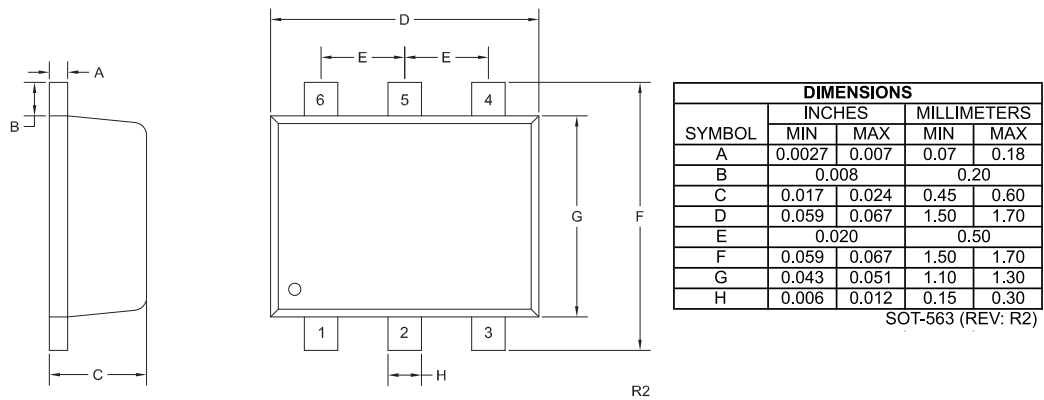
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ELECTRICAL CHARACTERISTICS PER TRANSISTOR - Continued: ($T_A=25^\circ\text{C}$ unless otherwise noted)

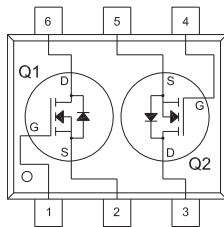
SYMBOL	TEST CONDITIONS	TYP	MAX	UNITS
C_{rss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		5.0	pF
C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		50	pF
C_{oss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		25	pF
$Q_{g(tot)}$	$V_{DS}=30\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$	0.592		nC
Q_{gs}	$V_{DS}=30\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$	0.196		nC
Q_{gd}	$V_{DS}=30\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$	0.148		nC
t_{on}, t_{off}	$V_{DD}=30\text{V}, V_{GS}=10\text{V}, I_D=200\text{mA}$ $R_G=25\Omega, R_L=150\Omega$		20	ns

SOT-563 CASE - MECHANICAL OUTLINE



PIN CONFIGURATIONS

**CMLDM7002A (USA Pinout)
CMLDM7002AG***

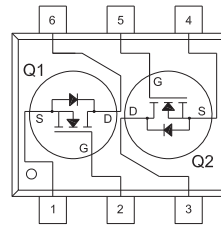


LEAD CODE:

- 1) Gate Q1
- 2) Source Q1
- 3) Drain Q2
- 4) Gate Q2
- 5) Source Q2
- 6) Drain Q1

MARKING CODES:
CMLDM7002A: L02
CMLDM7002AG*: C2G

CMLDM7002AJ (Japanese Pinout)



LEAD CODE:

- 1) Source Q1
- 2) Gate Q1
- 3) Drain Q2
- 4) Source Q2
- 5) Gate Q2
- 6) Drain Q1

MARKING CODE: 02J

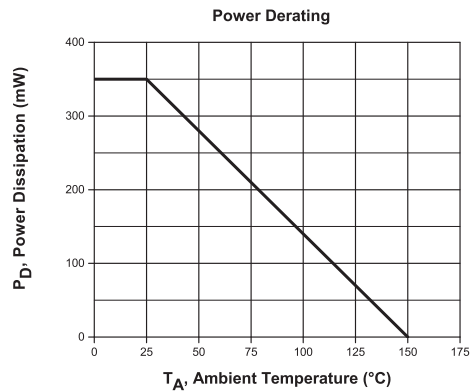
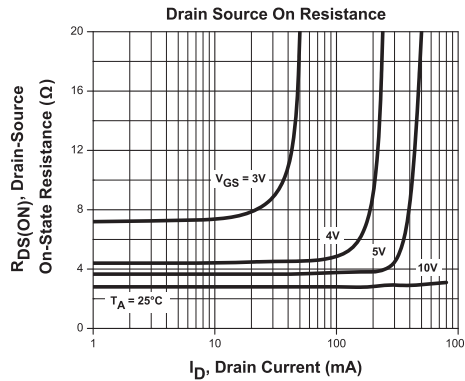
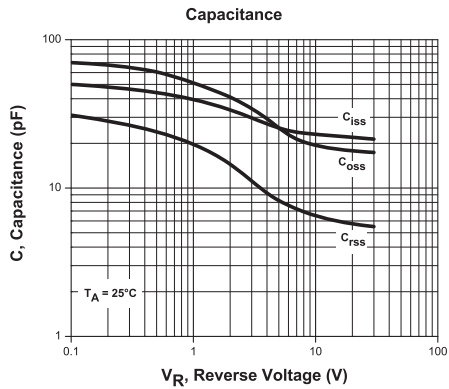
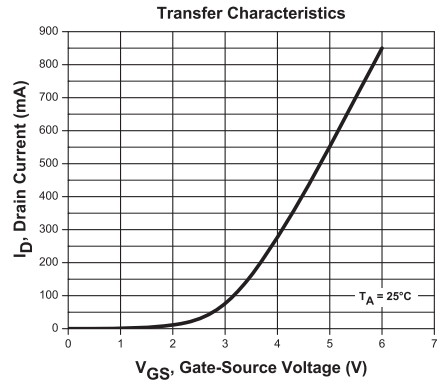
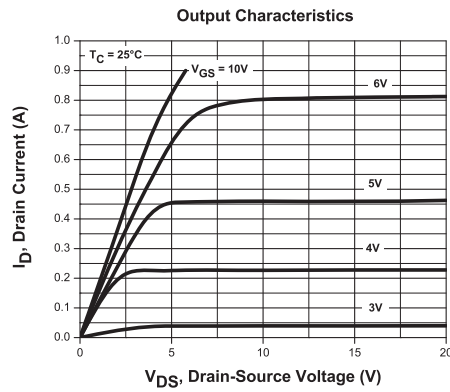
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R8 (8-June 2015)

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TYPICAL ELECTRICAL CHARACTERISTICS



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