CMLDM8002A
CMLDM8002AG*
CMLDM8002AJ

SURFACE MOUNT SILICON DUAL P-CHANNEL ENHANCEMENT-MODE MOSFETS

SOT-563 CASE

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

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

These CENTRAL SEMICONDUCTOR devices are dual chip P-Channel enhancement-mode MOSFETs, manufactured by the P-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications. The CMLDM8002A utilizes the USA pinout configuration, while the CMLDM8002AJ, utilizing the Japanese pinout configuration, is available as a special order. These special dual dransistor devices offer low $r_{DS(on)}$ and low $V_{DS(on)}$.

MARKING CODES: **CMLDM8002A: C08**
CMLDM8002AG*: CG8
CMLDM8002AJ: CJ8

APPLICATIONS:

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

FEATURES:

- Dual Chip Device
- Low $r_{DS(on)}$
- Low $V_{DS(on)}$
- Low Threshold Voltage
- Fast Switching
- Logic Level Compatible
- Small SOT-563 package

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
Drain-Source Voltage	V_{DS}	50	V
Drain-Gate Voltage	V_{DG}	50	V
Gate-Source Voltage	V_{GS}	20	V
Continuous Drain Current	I_D	280	mA
Continuous Source Current (Body Diode)	I_S	280	mA
Maximum Pulsed Drain Current	I_{DM}	1.5	A
Maximum Pulsed Source Current	I_{SM}	1.5	A
Power Dissipation (Note 1)	P_D	350	mW
Power Dissipation (Note 2)	P_D	300	mW
Power Dissipation (Note 3)	P_D	150	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
Thermal Resistance	Θ_{JA}	357	°C/W

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

SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**UNITS**
I_{GSSF}, I_{GSSR}	V_{GS}=20V, V_{DS}=0		100	nA
I_{DSS}	V_{DS}=50V, V_{GS}=0		1.0	μA
I_{DSS}	V_{DS}=50V, V_{GS}=0, T_J=125°C		500	μA
$I_{D(ON)}$	V_{GS}=10V, V_{DS}=10V	500		mA
BV_{DSS}	V_{GS}=0, I_D=10μA	50		V
$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	1.0	2.5	V
$V_{DS(ON)}$	V_{GS}=10V, I_D=500mA		1.5	V
$V_{DS(ON)}$	V_{GS}=5.0V, I_D=50mA		0.15	V
V_{SD}	V_{GS}=0, I_S=115mA		1.3	V

Notes: (1) Ceramic or aluminum core PC Board with copper mounting pad area of 4.0mm^2
(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 1.4mm^2

R7 (8-June 2015)

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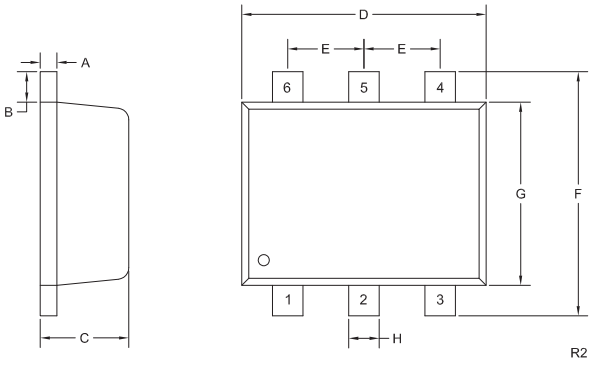
ELECTRICAL CHARACTERISTICS PER TRANSISTOR - Continued: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$r_{DS(ON)}$	V_{GS}=10V, I_D=500mA			2.5	Ω
$r_{DS(ON)}$	V_{GS}=10V, I_D=500mA, T_J=125°C			4.0	Ω
$r_{DS(ON)}$	V_{GS}=5.0V, I_D=50mA			3.0	Ω
$r_{DS(ON)}$	V_{GS}=5.0V, I_D=50mA, T_J=125°C			5.0	Ω
g_{FS}	V_{DS} =10V, I_D=200mA	200			mS
C_{rss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz			7.0	pF
C_{iss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz			70	pF
C_{oss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz			15	pF
$Q_{g(tot)}$	V_{DS}=25V, V_{GS}=4.5V, I_D=100mA		0.72		nC
Q_{gs}	V_{DS}=25V, V_{GS}=4.5V, I_D=100mA		0.25		nC
Q_{gd}	V_{DS}=25V, V_{GS}=4.5V, I_D=100mA		0.16		nC
t_{on}, t_{off}	V_{DD}=30V, V_{GS}=10V, I_D=200mA R_G=25Ω, R_L=150Ω			20	ns

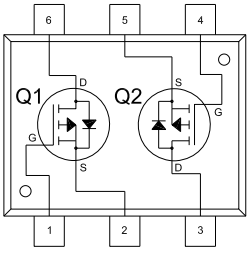
SOT-563 CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.0027	0.007	0.07	0.18
B	0.008		0.20	
C	0.017	0.024	0.45	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.059	0.067	1.50	1.70
G	0.043	0.051	1.10	1.30
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R2)

CMLDM8002A (USA Pinout)
CMLDM8002AG*



LEAD CODE:
1) Gate Q1
2) Source Q1
3) Drain Q2
4) Gate Q2
5) Source Q2
6) Drain Q1

MARKING CODES:
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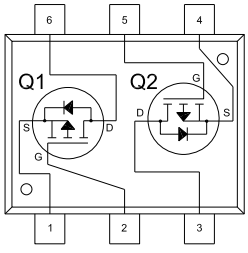
CMLDM8002AJ (Japanese Pinout)



LEAD CODE:
1) Source Q1
2) Gate Q1
3) Drain Q2
4) Source Q2
5) Gate Q2
6) Drain Q1

MARKING CODE: CJ8

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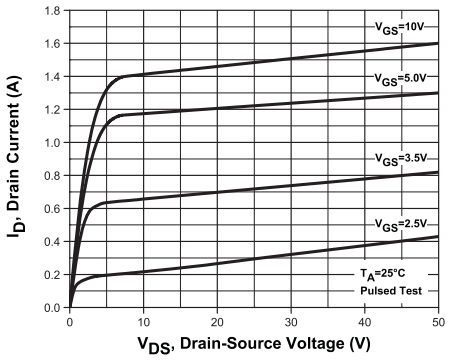
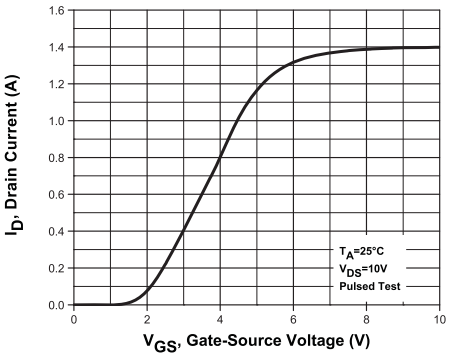
TYPICAL ELECTRICAL CHARACTERISTICS

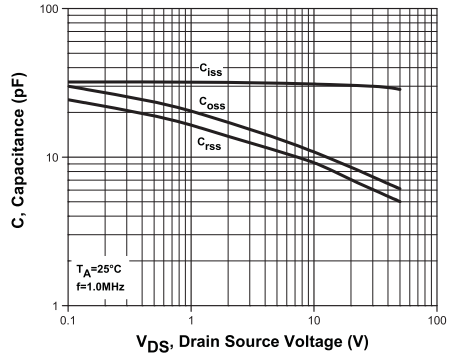
Output Characteristics



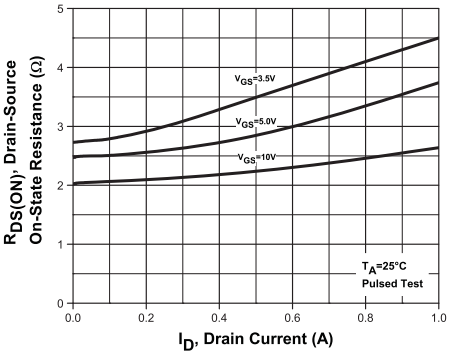
Transfer Characteristics



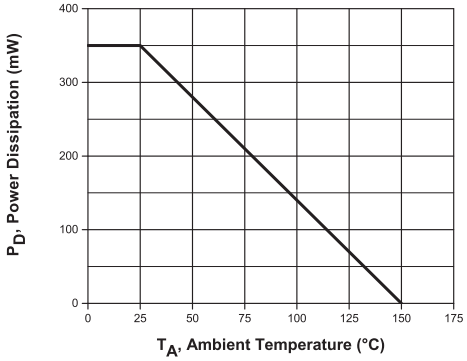
Capacitance



Drain Source On Resistance



Power Derating



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

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