



CMLDM8002AG

**SURFACE MOUNT PICOmini™
DUAL P-CHANNEL
ENHANCEMENT-MODE
SILICON MOSFET**

PICOmini™



SOT-563 CASE

APPLICATIONS:

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

MAXIMUM RATINGS: (T_A=25°C)

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}	V _{GS} =20V, V _{DS} =0V			100		nA
I _{GSSR}	V _{GS} =20V, V _{DS} =0V			100		nA
I _{DSS}	V _{DS} =50V, V _{GS} =0V			1.0		μA
I _{DSS}	V _{DS} =50V, V _{GS} =0V, T _J =125°C			500		μA
I _{D(ON)}	V _{GS} =10V, V _{DS} =10V	500				mA
BV _{DSS}	V _{GS} =0V, 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} =0V, I _S =115mA		1.3			V
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

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

Central™ Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLDM8002AG is a dual chip P-Channel Enhancement-mode Field Effect Transistor, manufactured by the P-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications. This special Dual Transistor device offers Low r_{DS(on)} and Low V_{DS(on)}.

MARKING CODE: CG8

FEATURES:

- Device is **Halogen Free** by Design
- Device is **RoHS** compliant
- Low r_{DS(on)}
- Low V_{DS(on)}
- Low Threshold Voltage
- Dual Chip Device
- Fast Switching
- Logic Level Compatible

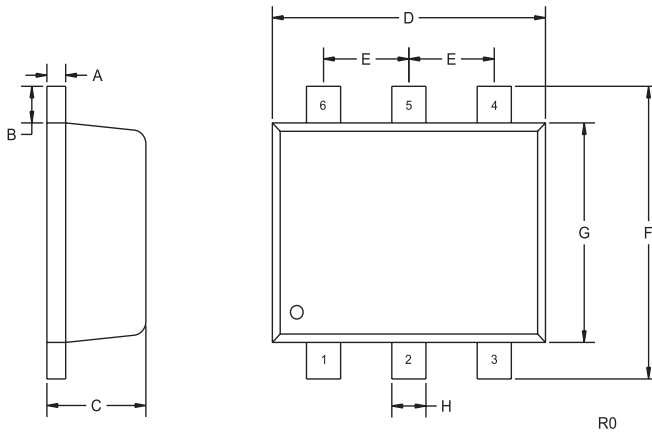
SYMBOL		UNITS
V _{DS}	50	V
V _{DG}	50	V
V _{GS}	20	V
I _D	280	mA
I _S	280	mA
I _{DM}	1.5	A
I _{SM}	1.5	A
P _D	350	mW
P _D	300	mW
P _D	150	mW
T _J , T _{stg}	-65 to +150	°C
θ _{JA}	357	°C/W

R0 (5-February 2008)

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
g_{FS}	$V_{DS}=10\text{V}, I_D=200\text{mA}$	200		mS
C_{rss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		7.0	pF
C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		70	pF
C_{oss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		15	pF
t_{on}	$V_{DD}=30\text{V}, V_{GS}=10\text{V}, I_D=200\text{mA}$		20	ns
t_{off}	$R_G=25\Omega, R_L=150\Omega$		20	ns

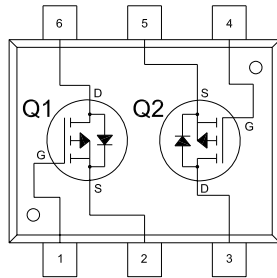
SOT-563 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.007	0.10	0.18
B	0.008		0.20	
C	0.022	0.024	0.56	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.061	0.067	1.55	1.70
G	0.047		1.20	
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R0)

PIN CONFIGURATION



LEAD CODE:

- 1) GATE Q1
- 2) SOURCE Q1
- 3) DRAIN Q2
- 4) GATE Q2
- 5) SOURCE Q2
- 6) DRAIN Q1

MARKING CODE: CG8