CMLDM8120
CMLDM8120G*

SURFACE MOUNT
P-CHANNEL
ENHANCEMENT-MODE
SILICON MOSFET

PICOmini™

SOT-563 CASE

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

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

These CENTRAL SEMICONDUCTOR devices are Enhancement-mode P-Channel Field Effect Transistors, manufactured by the P-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications. This MOSFET offers Low $r_{DS(on)}$ and Low Theshold Voltage.

MARKING CODES:
CMLDM8120: C81
CMLDM8120G*: C8G

APPLICATIONS:

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

FEATURES:

- Low $r_{DS(on)}$
- Low Threshold Voltage
- Logic Level Compatible
- Small SOT-563 package

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	8.0	V
Continuous Drain Current (Steady State)	I_D	860	mA
Continuous Drain Current, t≤5.0s	I_D	950	mA
Continuous Source Current (Body Diode)	I_S	360	mA
Maximum Pulsed Drain Current, tp=10μs	I_{DM}	4.0	A
Maximum Pulsed Source Current, tp=10μs	I_{SM}	4.0	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: (T_A=25°C unless otherwise noted)

SYMBOL	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**UNITS**
I_{GSSF}, I_{GSSR}	V_{GS}=8.0V, V_{DS}=0		1.0	50	nA
I_{DSS}	V_{DS}=20V, V_{GS}=0		5.0	500	nA
BV_{DSS}	V_{GS}=0, I_D=250μA	20	24		V
$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.45	0.76	1.0	V
V_{SD}	V_{GS}=0V, I_S=360mA			0.9	V
$r_{DS(ON)}$	V_{GS}=4.5V, I_D=0.95A		0.085	0.15	Ω
$r_{DS(ON)}$	V_{GS}=4.5V, I_D=0.77A		0.085	0.142	Ω
$r_{DS(ON)}$	V_{GS}=2.5V, I_D=0.67A		0.13	0.20	Ω
$r_{DS(ON)}$	V_{GS}=1.8V, I_D=0.2A		0.19	0.24	Ω

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 4.0mm^2
(3) FR-4 Epoxy PC Board with copper mounting pad area of 1.4mm^2

R3 (18-January 2010)

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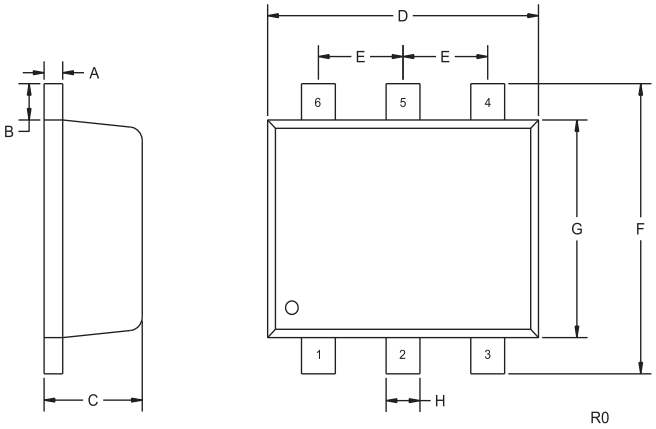
ELECTRICAL CHARACTERISTICS - **Continued:** (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
g_{FS}	V_{DS}=10V, I_D=0.81A	2.0			S
C_{rss}	V_{DS}=16V, V_{GS}=0, f=1.0MHz		80		pF
C_{iss}	V_{DS}=16V, V_{GS}=0, f=1.0MHz		200		pF
C_{oss}	V_{DS}=16V, V_{GS}=0, f=1.0MHz		60		pF
t_{on}	V_{DD}=10V, V_{GS}=4.5V, I_D=0.95A, R_G=6Ω		20		ns
t_{off}	V_{DD}=10V, V_{GS}=4.5V, I_D=0.95A, R_G=6Ω		25		ns

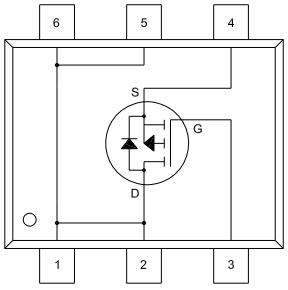
SOT-563 CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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) Drain
2) Drain
3) Gate
4) Source
5) Drain
6) Drain

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