



CMLDM8120
CMLDM8120G*

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

PICOmini™



SOT-563 CASE

* Device is **Halogen Free** by design

APPLICATIONS:

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

MAXIMUM RATINGS: (T_A=25°C)

Drain-Source Voltage
Gate-Source Voltage
Continuous Drain Current (Steady State)
Continuous Drain Current (t≤5s)
Continuous Source Current (Body Diode)
Maximum Pulsed Drain Current (tp=10μs)
Maximum Pulsed Source Current (tp=10μs)
Power Dissipation (Note 1)
Power Dissipation (Note 2)
Power Dissipation (Note 3)
Operating and Storage Junction Temperature
Thermal Resistance

Central™

Semiconductor Corp.

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. These MOSFETs offer Low r_{DS(on)} and Low Threshold Voltage.

MARKING CODES: CMLDM8120: C81
CMLDM8120G*: C8G

FEATURES:

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

SYMBOL		UNITS
V _{DS}	20	V
V _{GS}	8.0	V
I _D	860	mA
I _D	950	mA
I _S	360	mA
I _{DM}	4.0	A
I _{SM}	4.0	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

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} =0V		1.0	50	nA
I _{DSS}	V _{DS} =20V, V _{GS} =0V		5.0	500	nA
BV _{DSS}	V _{GS} =0V, 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 =0.20A		0.19	0.24	Ω

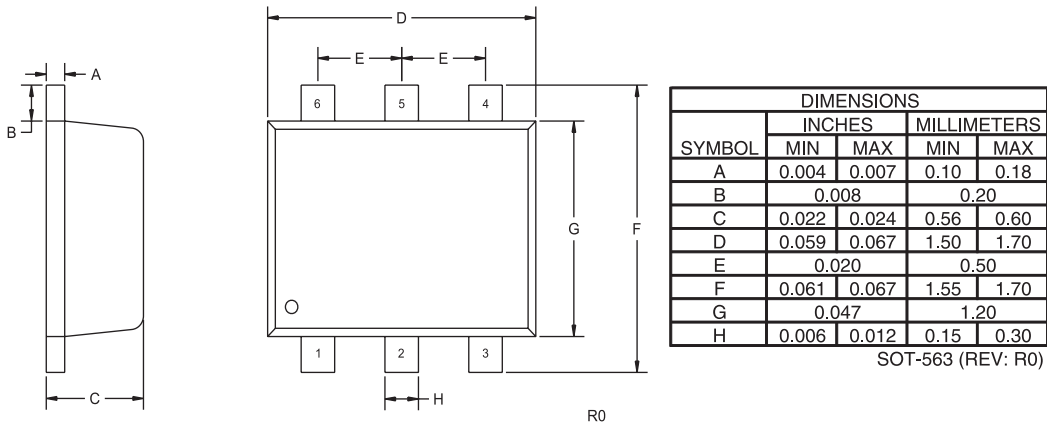
- Notes: (1) Ceramic or aluminum core PC Board with copper mounting pad area of 4.0 mm²
(2) FR-4 Epoxy PC Board with copper mounting pad area of 4.0 mm²
(3) FR-4 Epoxy PC Board with copper mounting pad area of 1.4 mm²

R2 (8-January 2009)

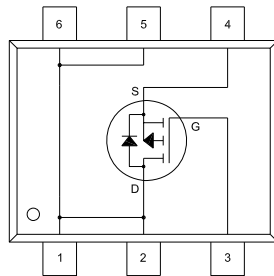
ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$ unless otherwise noted)

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

SOT-563 CASE - MECHANICAL OUTLINE



PIN CONFIGURATION



LEAD CODE:

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

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