CMPDM8120

SURFACE MOUNT
P-CHANNEL
ENHANCEMENT-MODE
SILICON MOSFET



SOT-23 CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPDM8120 is an Enhancement-mode P-Channel Field Effect Transistor, 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 threshold voltage.

MARKING CODE: C8120

APPLICATIONS:

- Load/Power switches
- Power supply converter circuits
- Battery powered portable equipment

FEATURES:

- Low $r_{DS(ON)}$
- Low threshold voltage
- Logic level compatibility
- Small SOT-23 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	P_D	350	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)

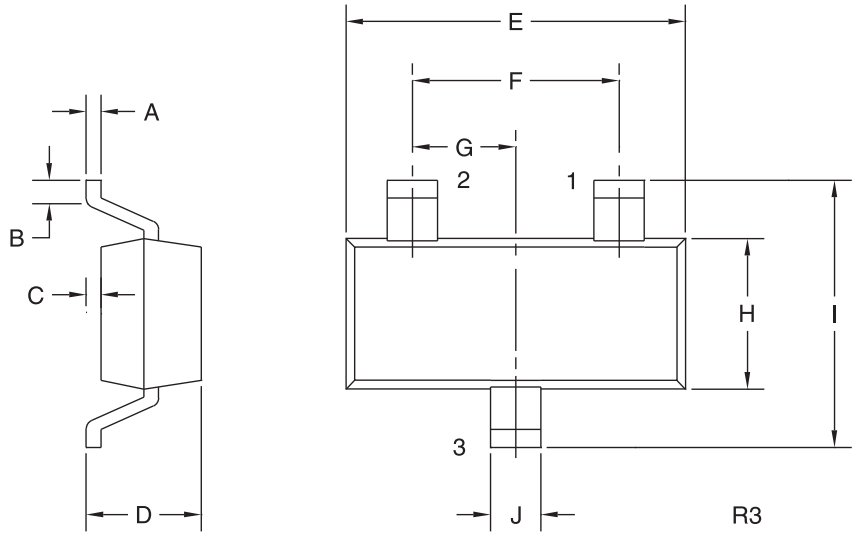
SYMBOL	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**UNITS**
I_{GSSF}, I_{GSSR}	V_{GS}=8.0V, V_{DS}=0		1.0	50	nA
I_{DSS}	V_{DS}=20V, V_{GS}=0		5.0	500	nA
BV_{DSS}	V_{GS}=0, I_D=250μA	20	24		V
$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.45	0.76	1.0	V
V_{SD}	V_{GS}=0, I_S=360mA			0.9	V
$r_{DS(ON)}$	V_{GS}=4.5V, I_D=0.95A		85	150	mΩ
$r_{DS(ON)}$	V_{GS}=4.5V, I_D=0.77A		85	142	mΩ
$r_{DS(ON)}$	V_{GS}=2.5V, I_D=0.67A		130	200	mΩ
$r_{DS(ON)}$	V_{GS}=1.8V, I_D=0.2A		190	240	mΩ
g_{FS}	V_{DS}=10V, I_D=810mA	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=950mA, R_G=6Ω		20		ns
t_{off}	V_{DD}=10V, V_{GS}=4.5V, I_D=950mA, R_G=6Ω		25		ns

R1 (27-January 2010)

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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:
1) Gate
2) Source
3) Drain

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DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

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