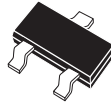




CMPDM8120

**SURFACE MOUNT
P-CHANNEL
ENHANCEMENT-MODE
SILICON MOSFET**



SOT-23 CASE

**Central™
Semiconductor Corp.**

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

FEATURES:

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

APPLICATIONS:

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

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

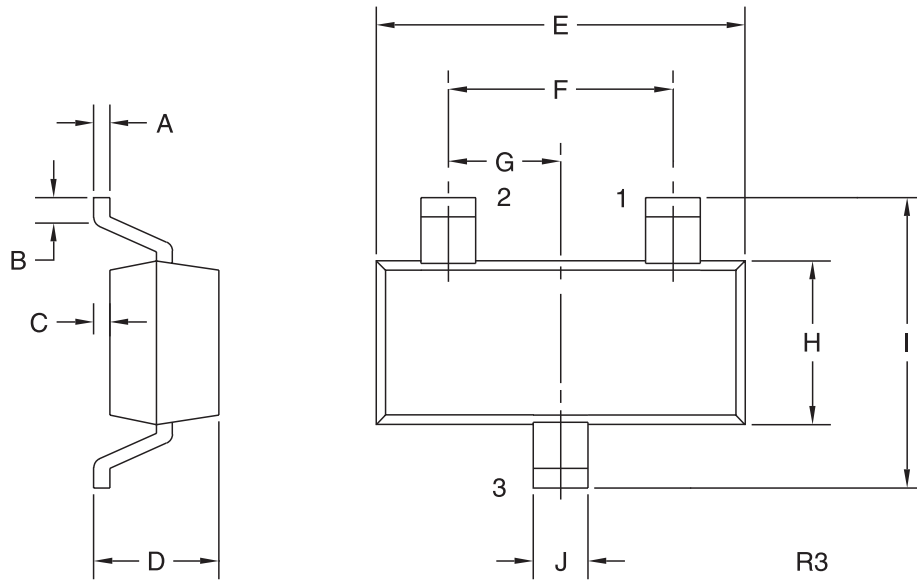
Drain-Source Voltage	
Gate-Source Voltage	
Continuous Drain Current (Steady State)	
Continuous Drain Current ($t \leq 5s$)	
Continuous Source Current (Body Diode)	
Maximum Pulsed Drain Current ($t_p=10\mu s$)	
Maximum Pulsed Source Current ($t_p=10\mu s$)	
Power Dissipation	
Operating and Storage	
Junction Temperature	
Thermal Resistance	

SYMBOL		UNITS
V_{DS}	20	V
V_{GS}	8	V
I_D	860	mA
I_D	950	mA
I_S	360	mA
I_{DM}	4	A
I_{SM}	4	A
P_D	350	mW
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Θ_{JA}	357	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}	$V_{GS}=8.0V, V_{DS}=0V$		1.0	50	nA
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}	$V_{GS}=0V, I_D=250\mu A$	20	24		V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.45	0.76	1.0	V
V_{SD}	$V_{GS}=0V, I_S=360mA$			0.9	V
$r_{DS(ON)}$	$V_{GS}=4.5V, I_D=0.95A$		85	150	$m\Omega$
$r_{DS(ON)}$	$V_{GS}=4.5V, I_D=0.77A$		85	142	$m\Omega$
$r_{DS(ON)}$	$V_{GS}=2.5V, I_D=0.67A$		130	200	$m\Omega$
$r_{DS(ON)}$	$V_{GS}=1.8V, I_D=0.2A$		190	240	$m\Omega$
g_{FS}	$V_{DS}=10V, I_D=810mA$	2.0			mhos
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}	$V_{DD}=10V, V_{GS}=4.5V, I_D=950mA$		20		ns
t_{off}	$R_G=6\Omega$		25		ns

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) GATE
- 2) SOURCE
- 3) DRAIN

MARKING CODE: C8120

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	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)