

CEDM8001

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



www.centrasemi.com



Top View Bottom View

SOT-883L CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CEDM8001 is a P-Channel Enhancement-mode silicon MOSFET, 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: F

COMPLEMENTARY N-CHANNEL: CEDM7001

FEATURES:

- 100mW Power Dissipation
- 0.4mm low package profile
- Low $r_{DS(ON)}$
- Low threshold voltage
- Logic level compatible
- Small leadless surface mount package

APPLICATIONS:

- Load/Power switches
- DC - DC converters
- 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	
Power Dissipation	
Operating and Storage Junction Temperature	

SYMBOL

V_{DS}	20
V_{GS}	10
I_D	100
I_D	200
P_D	100
T_J, T_{stg}	-65 to +150

UNITS

V
V
mA
mA
mW
$^\circ\text{C}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=10\text{V}, V_{DS}=0$			1.0	μA
I_{DSS}	$V_{DS}=20\text{V}, V_{GS}=0$			1.0	μA
BV_{DSS}	$V_{GS}=0, I_D=100\mu\text{A}$	20			V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.6		1.1	V
$r_{DS(ON)}$	$V_{GS}=4.0\text{V}, I_D=10\text{mA}$		1.9	8.0	Ω
$r_{DS(ON)}$	$V_{GS}=2.5\text{V}, I_D=10\text{mA}$		2.4	12	Ω
$r_{DS(ON)}$	$V_{GS}=1.5\text{V}, I_D=1.0\text{mA}$			45	Ω
g_{FS}	$V_{DS}=10\text{V}, I_D=100\text{mA}$	100			mS
C_{rss}	$V_{DS}=3.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$		15		pF
C_{iss}	$V_{DS}=3.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$		45		pF
C_{oss}	$V_{DS}=3.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$		15		pF
$Q_{g(tot)}$	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$		0.658		nC
Q_{gs}	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$		0.158		nC
Q_{gd}	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$		0.181		nC
t_{on}	$V_{DD}=3.0\text{V}, V_{GS}=2.5\text{V}, I_D=10\text{mA}$		35		ns
t_{off}	$V_{DD}=3.0\text{V}, V_{GS}=2.5\text{V}, I_D=10\text{mA}$		80		ns

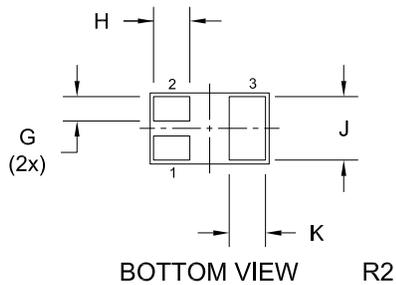
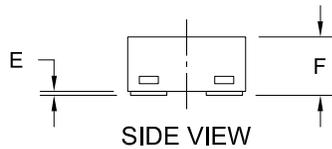
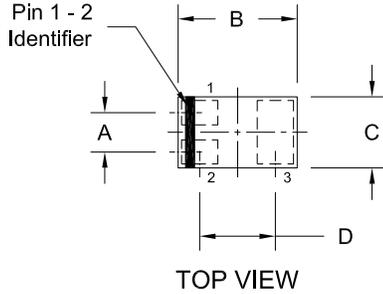
R8 (19-September 2014)

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SOT-883L CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.014		0.35	
B	0.037	0.041	0.95	1.05
C	0.022	0.026	0.55	0.65
D	0.026		0.65	
E	0.000	0.002	0.00	0.05
F	0.012	0.016	0.30	0.40
G	0.005	0.007	0.13	0.18
H	0.008	0.012	0.20	0.30
J	0.018	0.022	0.45	0.55
K	0.008	0.012	0.20	0.30

SOT-883L (REV:R2)

LEAD CODE:

- 1) Gate
- 2) Source
- 3) Drain

MARKING CODE: F

Package Type Options (all dimensions are maximum - in mm)

Package	Length	Width	Height	P _D (mW)	Central Item Number
SOT-883L	1.05	0.65	0.40	100	CEDM8001
SOT-883VL	1.05	0.65	0.32	100	CEDM8001VL
SOT-953	1.05	1.05	0.50	250	CMNDM8001
SOT-523	1.70	1.70	0.78	250	CMUDM8001

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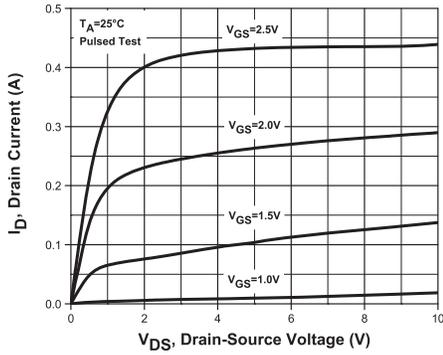
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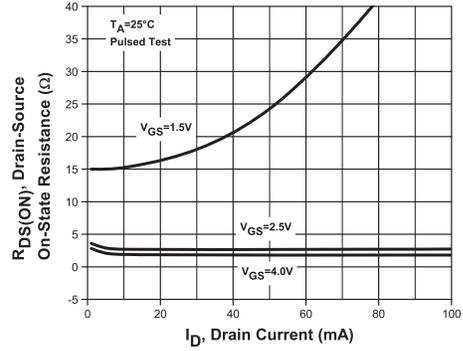


TYPICAL ELECTRICAL CHARACTERISTICS

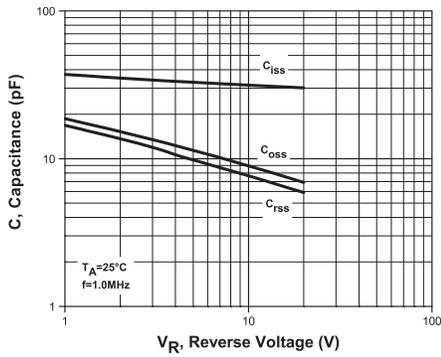
Output Characteristics



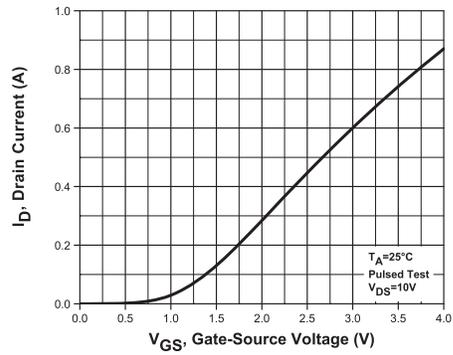
Drain Source On Resistance



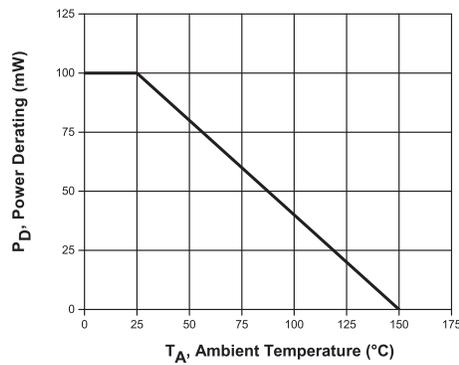
Capacitance



Transfer Characteristics



Power Derating



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SERVICES

- Bonded Inventory
- Custom Electrical Screening
- Custom Electrical Characteristic Curves
- SPICE Models
- Custom Packaging
- Package Base Options
- Custom Device Development/ Multi Discrete Modules (MDM™)
- Bare Die for Hybrid Applications

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