

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
$V_{GS}$	10	V
$I_D$	100	mA
$I_D$	200	mA
$P_D$	100	mW
$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$

**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	$\mu\text{A}$
$I_{DSS}$	$V_{DS}=20\text{V}, V_{GS}=0$			1.0	$\mu\text{A}$
$BV_{DSS}$	$V_{GS}=0, I_D=100\mu\text{A}$	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	$\Omega$
$r_{DS(ON)}$	$V_{GS}=2.5\text{V}, I_D=10\text{mA}$		2.4	12	$\Omega$
$r_{DS(ON)}$	$V_{GS}=1.5\text{V}, I_D=1.0\text{mA}$			45	$\Omega$
$g_{FS}$	$V_{DS}=10\text{V}, I_D=100\text{mA}$	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

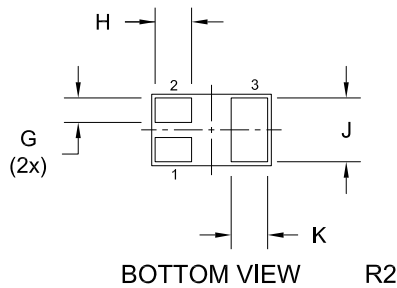
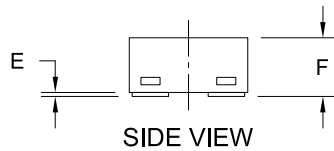
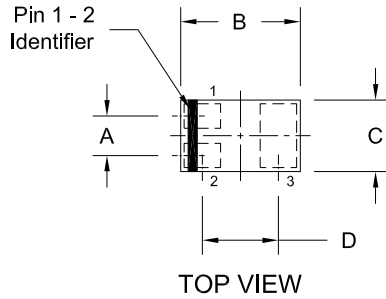
R8 (19-September 2014)

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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 <sub>D</sub> (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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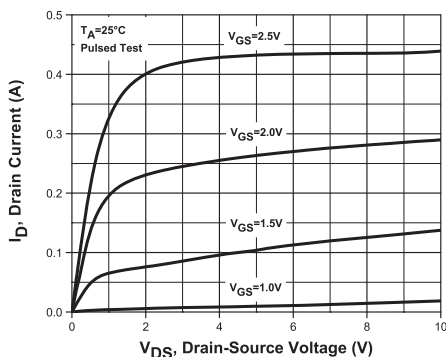
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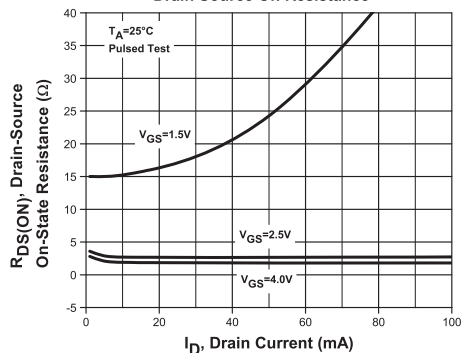


**TYPICAL ELECTRICAL CHARACTERISTICS**

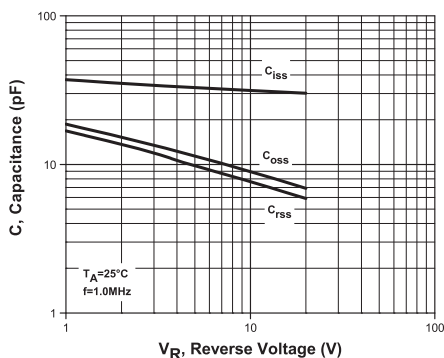
Output Characteristics



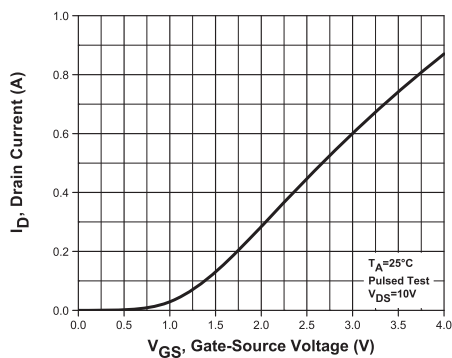
Drain Source On Resistance



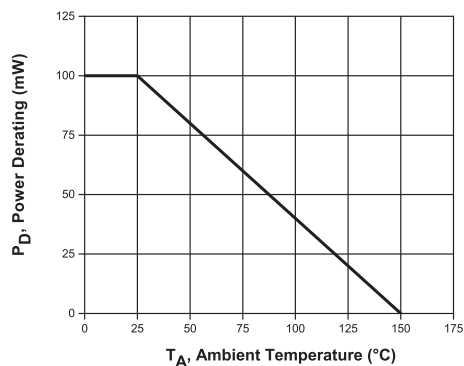
Capacitance



Transfer Characteristics



Power Derating



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## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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