

CEDM8004

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



Top View Bottom View

SOT-883L CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CEDM8004 is an enhancement-mode P-Channel 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: V

COMPLEMENTARY N-CHANNEL: CEDM7004

FEATURES:

- ESD protection up to 2kV
- 0.4mm low package profile
- Low $r_{DS(ON)}$
- Low threshold voltage
- Logic level compatible
- Small leadless surface mount package

APPLICATIONS:

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

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

Drain-Source Voltage
Gate-Source Voltage
Continuous Drain Current
Power Dissipation
Operating and Storage Junction Temperature

SYMBOL

V_{DS}	30
V_{GS}	8.0
I_D	450
P_D	100
T_J, T_{stg}	-65 to +150

UNITS

V
V
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}	$V_{GS}=8.0\text{V}, V_{DS}=0$			3.0	μA
I_{DSS}	$V_{DS}=30\text{V}, V_{GS}=0$			1.0	μA
BV_{DSS}	$V_{GS}=0, I_D=100\mu\text{A}$	30			V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.5		1.0	V
V_{SD}	$V_{GS}=0, I_S=100\text{mA}$			1.1	V
$r_{DS(ON)}$	$V_{GS}=4.5\text{V}, I_D=430\text{mA}$		1.0	1.1	Ω
$r_{DS(ON)}$	$V_{GS}=2.5\text{V}, I_D=200\text{mA}$		1.6	2.0	Ω
$r_{DS(ON)}$	$V_{GS}=1.8\text{V}, I_D=100\text{mA}$		2.6	3.3	Ω
g_{FS}	$V_{DS}=10\text{V}, I_D=100\text{mA}$	200			mS
C_{rss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		8.9	10	pF
C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		45	55	pF
C_{oss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		8.5	15	pF
$Q_{g(tot)}$	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=1.0\text{A}$		0.88		nC
Q_{gs}	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=1.0\text{A}$		0.35		nC
Q_{gd}	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=1.0\text{A}$		0.128		nC

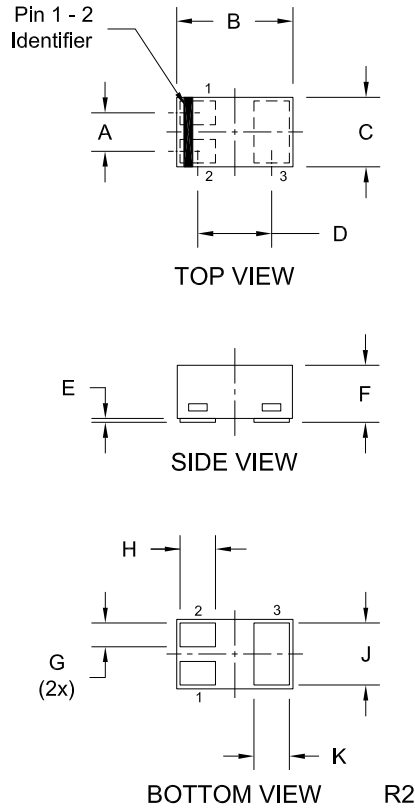
R6 (10-November 2014)

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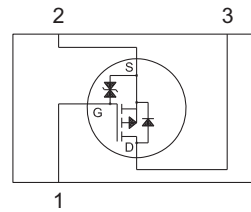
SOT-883L CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	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)

**PIN CONFIGURATION
(Bottom View)**



LEAD CODE:

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

MARKING CODE: V

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	CEDM8004
SOT-883VL	1.05	0.65	0.32	100	CEDM8004VL
SOT-523	1.70	1.70	0.78	250	CMUDM8004

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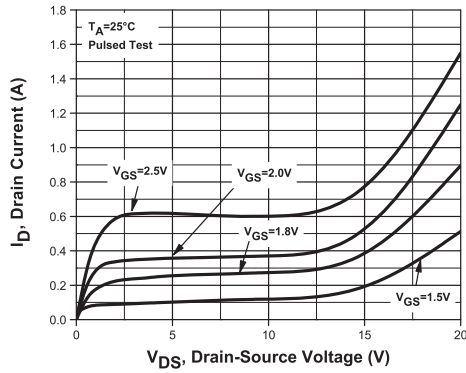
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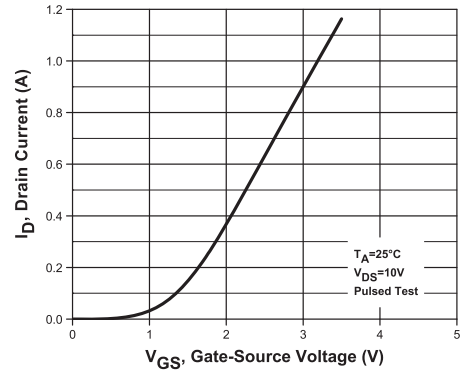


TYPICAL ELECTRICAL CHARACTERISTICS

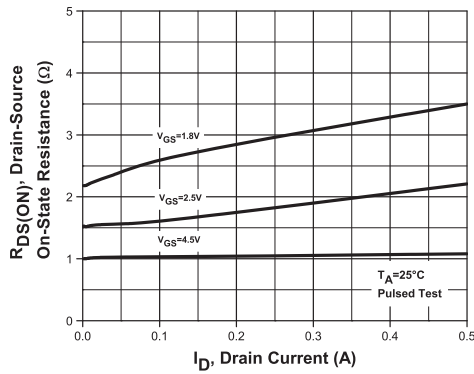
Output Characteristics



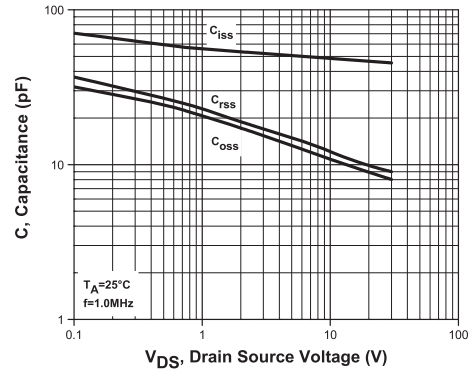
Transfer Characteristics



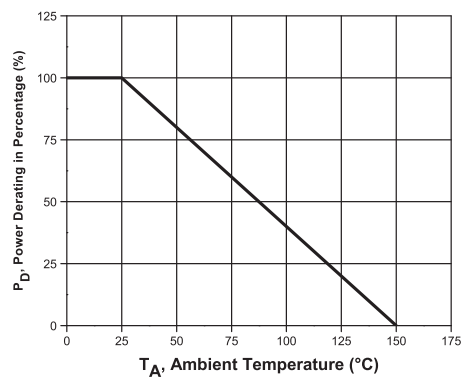
Drain Source On Resistance



Capacitance



Normalized Power Derating



R6 (10-November 2014)

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

DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2nd 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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