

CEDM7004

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

TLP™
Tiny
Leadless
Package



Top View Bottom View

SOT-883L CASE

• Devices are **Halogen Free** by design

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 ($T_L=25^\circ\text{C}$)	
Peak Drain Current, $t_p \leq 10\mu\text{s}$ ($T_L=25^\circ\text{C}$)	
Continuous Source Current ($T_L=25^\circ\text{C}$)	
Peak Source Current, $t_p \leq 10\mu\text{s}$ ($T_L=25^\circ\text{C}$)	
Power Dissipation	
Operating and Storage Junction Temperature	



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DESCRIPTION:

The CENTRAL SEMICONDUCTOR CEDM7004 is an Enhancement-mode N-Channel Field Effect Transistor, manufactured by the N-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications. This MOSFET offers Low $r_{DS(on)}$ and Low Theshold Voltage.

MARKING CODE: S

FEATURES:

- ESD Protection up to 2kV
- 0.4mm Low Package Profile
- Low $r_{DS(on)}$
- Low Threshold Voltage
- Logic Level Compatible
- Small, TLP™ 1x0.6mm, SOT-883L Leadless Surface Mount Package

SYMBOL		UNITS
V_{DS}	30	V
V_{GS}	8.0	V
I_D	1.78	A
I_{DM}	3.56	A
I_S	1.78	A
I_{SM}	3.56	A
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)

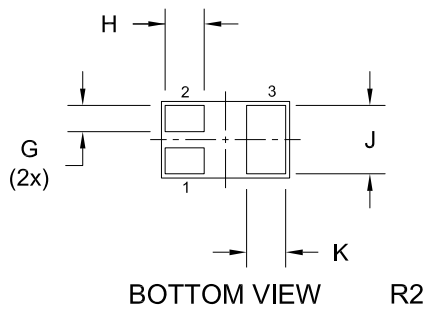
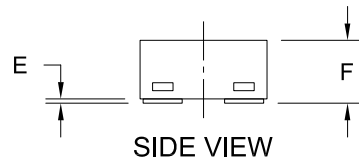
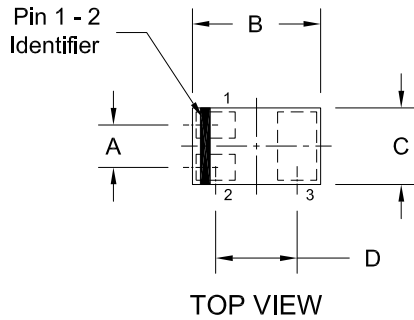
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=8.0\text{V}, V_{DS}=0$			3.0	μA
I_{DSS}	$V_{DS}=30\text{V}, V_{GS}=0$			1.0	μA
BV_{DSS}	$V_{GS}=0, I_D=10\mu\text{A}$	30			V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.5		1.0	V
V_{SD}	$V_{GS}=0, I_S=400\text{mA}$	0.5		1.1	V
$r_{DS(ON)}$	$V_{GS}=4.5\text{V}, I_D=200\text{mA}$		280	460	$\text{m}\Omega$
$r_{DS(ON)}$	$V_{GS}=2.5\text{V}, I_D=100\text{mA}$		390	560	$\text{m}\Omega$
$r_{DS(ON)}$	$V_{GS}=1.8\text{V}, I_D=75\text{mA}$		550	730	$\text{m}\Omega$
$Q_{g(tot)}$	$V_{DS}=15\text{V}, V_{GS}=4.5\text{V}, I_D=1.0\text{A}$		0.792		nC
Q_{gs}	$V_{DS}=15\text{V}, V_{GS}=4.5\text{V}, I_D=1.0\text{A}$		0.15		nC
Q_{gd}	$V_{DS}=15\text{V}, V_{GS}=4.5\text{V}, I_D=1.0\text{A}$		0.23		nC
g_{FS}	$V_{DS}=10\text{V}, I_D=100\text{mA}$	200			mS
C_{rss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		5.0		pF
C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		43		pF
C_{oss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		8.0		pF
t_{on}	$V_{DS}=5.0\text{V}, V_{GS}=4.0\text{V}, I_D=75\text{mA}, R_G=10\Omega$		20		ns
t_{off}	$V_{DS}=5.0\text{V}, V_{GS}=4.0\text{V}, I_D=75\text{mA}, R_G=10\Omega$		75		ns

R4 (2-August 2011)

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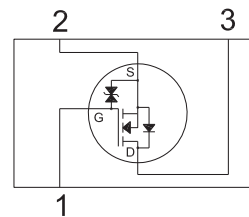
SOT-883L CASE - MECHANICAL OUTLINE



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: S

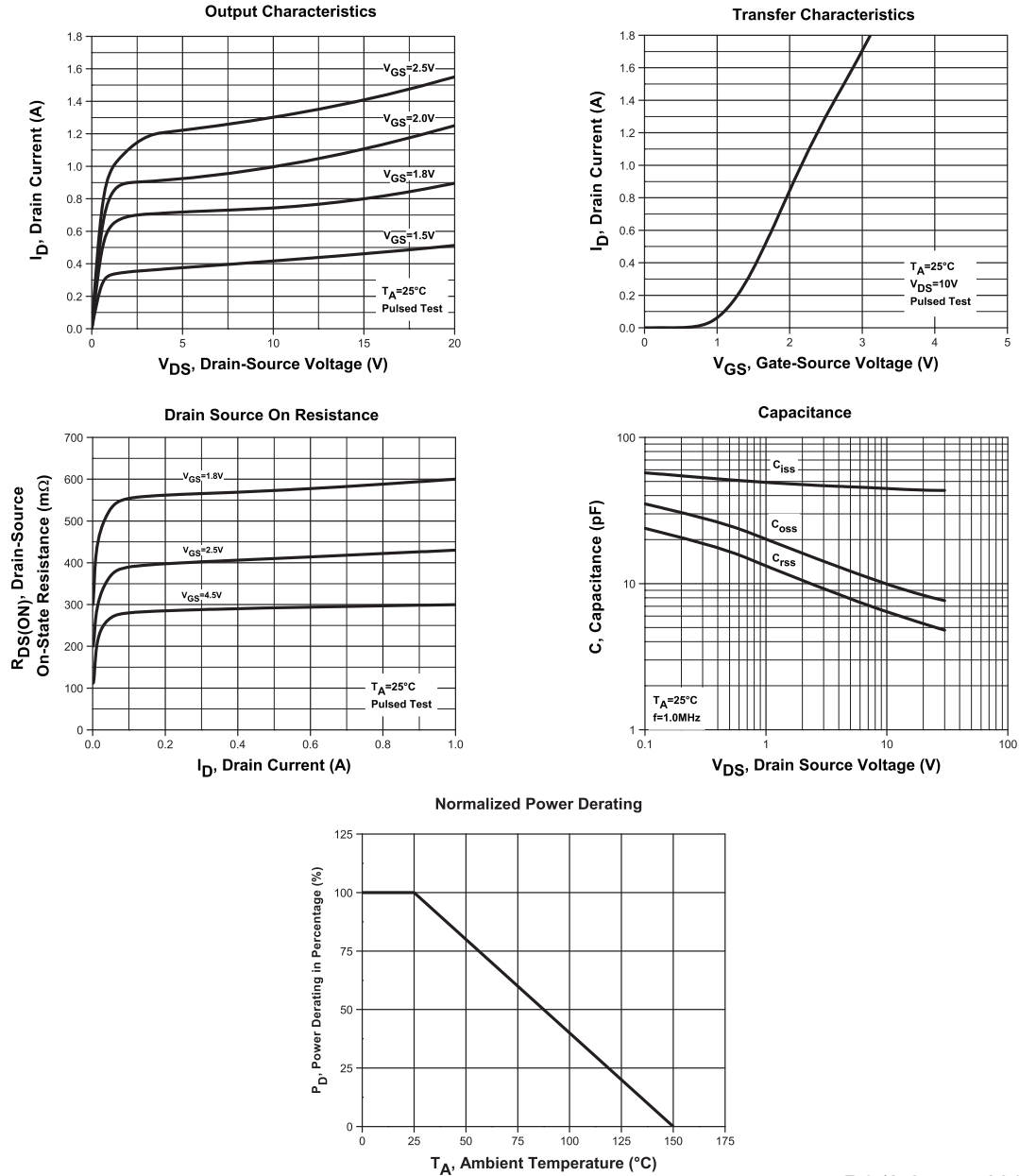
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TYPICAL ELECTRICAL CHARACTERISTICS



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