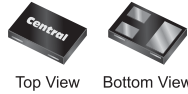


CEDM8004
SURFACE MOUNT SILICON
P-CHANNEL
ENHANCEMENT-MODE
MOSFET
450mA, 30V



www.centrasemi.com



Top View Bottom View

SOT-883L CASE

• Device is **Halogen Free** by design

APPLICATIONS:

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

MAXIMUM RATING: (T_A=25°C)

Drain-Source Voltage
 Gate-Source Voltage
 Continuous Drain Current
 Maximum Pulsed Drain Current, tp<10µs
 Continuous Source Current (Body Diode)
 Power Dissipation
 Operating and Storage Junction Temperature
 Thermal Resistance
 Thermal Resistance

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

SYMBOL		UNITS
V _{DS}	30	V
V _{GS}	8.0	V
I _D	450	mA
I _{DM}	1.0	A
I _S	450	mA
P _D	100	mW
T _J , T _{stg}	-65 to +150	°C
θ _{JA}	1250	°C/W
θ _{JC}	800	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

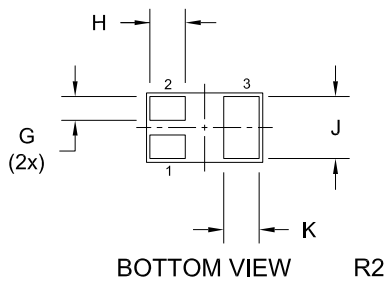
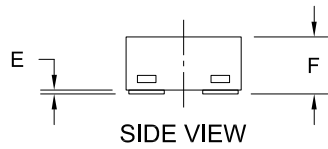
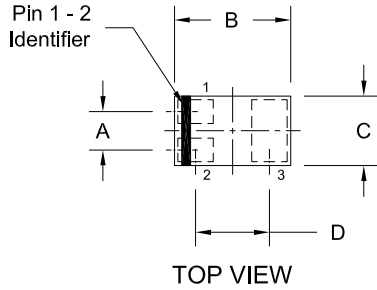
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I _{GSSF} , I _{GSSR}	V _{GS} =8.0V, V _{DS} =0			3.0	µA
I _{DSS}	V _{DS} =30V, V _{GS} =0			1.0	µA
I _{DSS}	V _{DS} =30V, V _{GS} =0, T _A =150°C			500	µA
I _{D(ON)}	V _{DS} =V _{GS} =10V	400			mA
BV _{DSS}	V _{GS} =0, I _D =100µA	30			V
V _{GS(th)}	V _{DS} =V _{GS} , I _D =250µA	0.5		1.0	V
V _{SD}	V _{GS} =0, I _S =100mA			1.1	V
r _{DS(ON)}	V _{GS} =4.5V, I _D =430mA		1.0	1.1	Ω
r _{DS(ON)}	V _{GS} =2.5V, I _D =200mA		1.6	2.0	Ω
r _{DS(ON)}	V _{GS} =1.8V, I _D =100mA		2.6	3.3	Ω
g _{FS}	V _{DS} =10V, I _D =100mA	200			mS
C _{rss}	V _{DS} =25V, V _{GS} =0, f=1.0MHz		8.9	10	pF
C _{i(ss)}	V _{DS} =25V, V _{GS} =0, f=1.0MHz		45	55	pF
C _{oss}	V _{DS} =25V, V _{GS} =0, f=1.0MHz		8.5	15	pF
Q _{g(tot)}	V _{DS} =10V, V _{GS} =4.5V, I _D =1.0A		0.88		nC
Q _{gs}	V _{DS} =10V, V _{GS} =4.5V, I _D =1.0A		0.35		nC
Q _{gd}	V _{DS} =10V, V _{GS} =4.5V, I _D =1.0A		0.128		nC
t _{on}	V _{DS} =15V, V _{GS} =4.0V, R _L =50Ω, R _G =1.0kΩ			200	ns
t _{off}	V _{DS} =15V, V _{GS} =4.0V, R _L =50Ω, R _G =1.0kΩ			250	ns

R7 (25-October 2016)

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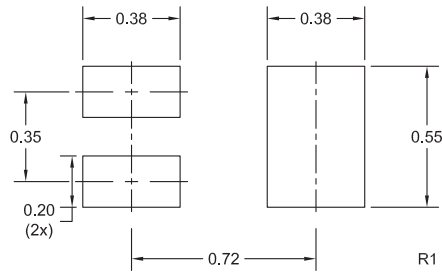
SOT-883L CASE - MECHANICAL OUTLINE



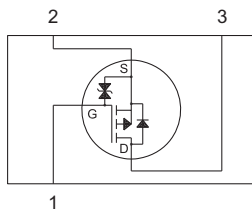
DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.014		0.35	
B	0.037	0.041	0.95	1.05
C	0.022	0.026	0.55	0.65
D	0.026		0.65	
E	0.000	0.002	0.00	0.05
F	0.012	0.016	0.30	0.40
G	0.005	0.007	0.13	0.18
H	0.008	0.012	0.20	0.30
J	0.018	0.022	0.45	0.55
K	0.008	0.012	0.20	0.30

SOT-883L (REV:R2)

SUGGESTED MOUNTING PADS
(Dimensions in mm)



PIN CONFIGURATION
(Bottom View)



LEAD CODE:

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

MARKING CODE: V

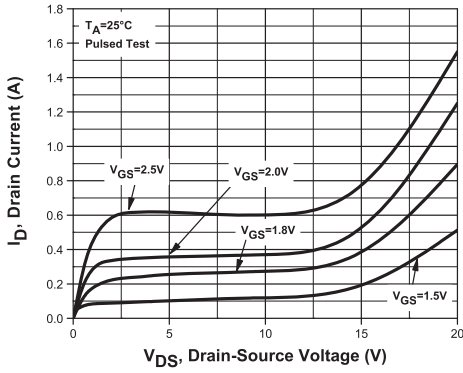
R7 (25-October 2016)

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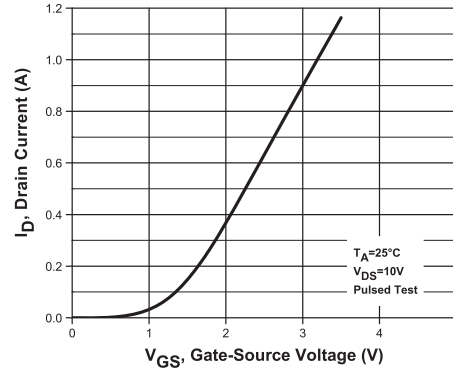


TYPICAL ELECTRICAL CHARACTERISTICS

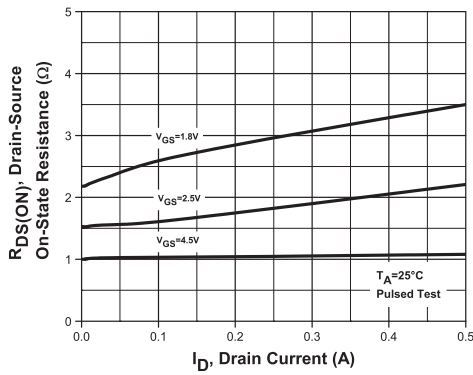
Output Characteristics



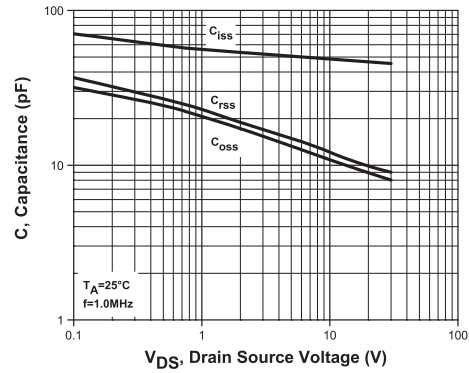
Transfer Characteristics



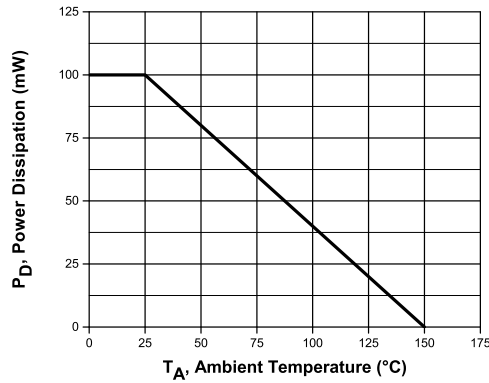
Drain Source On Resistance



Capacitance



Power Derating



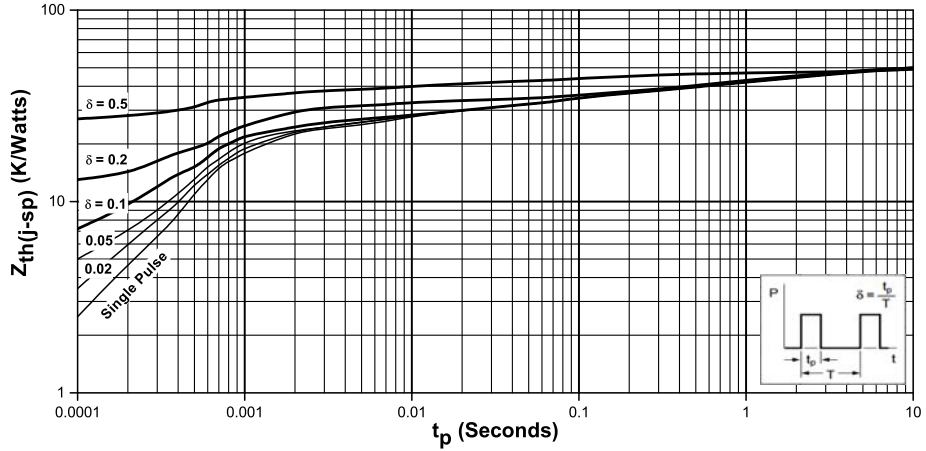
R7 (25-October 2016)

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TYPICAL ELECTRICAL CHARACTERISTICS

Thermal Characteristics



*Transient thermal impedance from junction to solder point as a function of pulse duration

R7 (25-October 2016)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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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