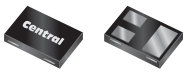
CEDM8004

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



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

Central Semiconductor Corp.

www.centralsemi.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

MAXIMUM RATING: (T_A=25°C)	**SYMBOL**		**UNITS**
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	8.0	V
Continuous Drain Current	I_D	450	mA
Maximum Pulsed Drain Current, tp<10μs	I_{DM}	1.0	A
Continuous Source Current (Body Diode)	I_S	450	mA
Power Dissipation	P_D	100	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
Thermal Resistance	Θ_{JA}	1250	°C/W
Thermal Resistance	Θ_{JC}	800	°C/W

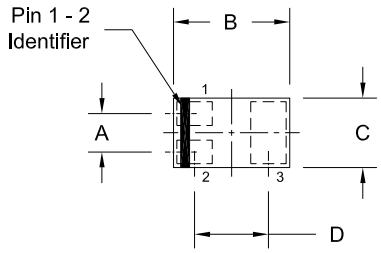
ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

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}=4.0V	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_{iss}	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

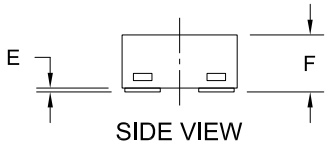
CEDM8004

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

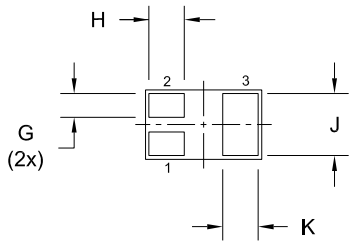
SOT-883L CASE - MECHANICAL OUTLINE



TOP VIEW



SIDE VIEW

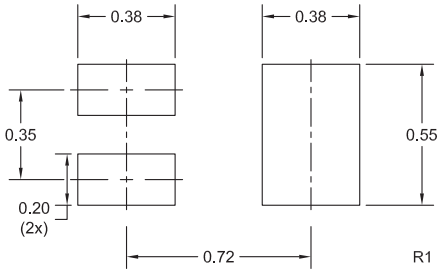


BOTTOM VIEW R2

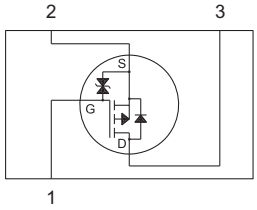
DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.014		0.35	
B	0.037	0.041	0.95	1.05
C	0.022	0.026	0.55	0.65
D	0.026		0.65	
E	0.000	0.002	0.00	0.05
F	0.012	0.016	0.30	0.40
G	0.005	0.007	0.13	0.18
H	0.008	0.012	0.20	0.30
J	0.018	0.022	0.45	0.55
K	0.008	0.012	0.20	0.30

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

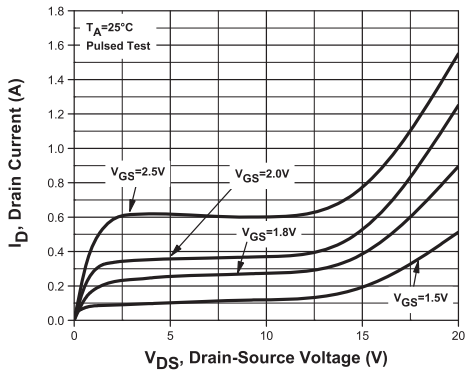
R8 (16-May 2017)

CEDM8004

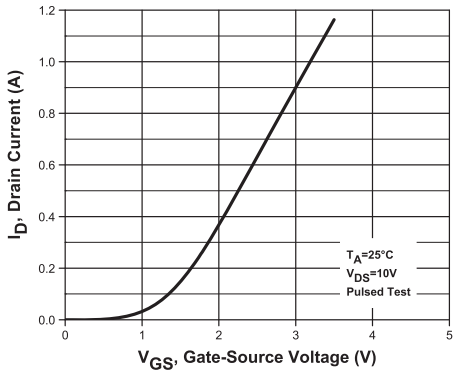
SURFACE MOUNT SILICON P-CHANNEL ENHANCEMENT-MODE MOSFET 450mA, 30V

TYPICAL ELECTRICAL CHARACTERISTICS

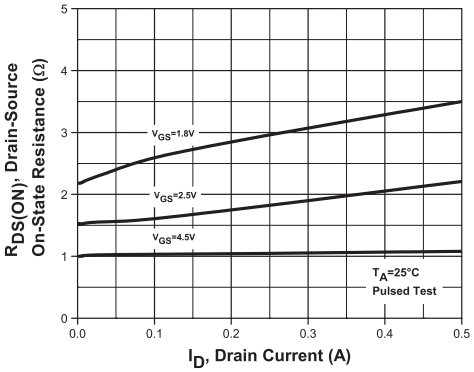
Output Characteristics



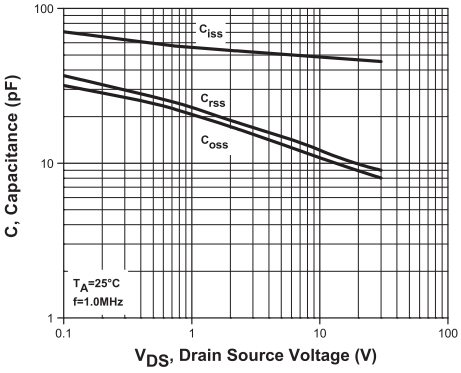
Transfer Characteristics



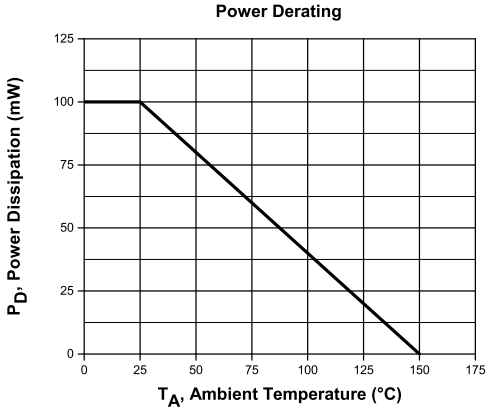
Drain Source On Resistance



Capacitance



Power Derating

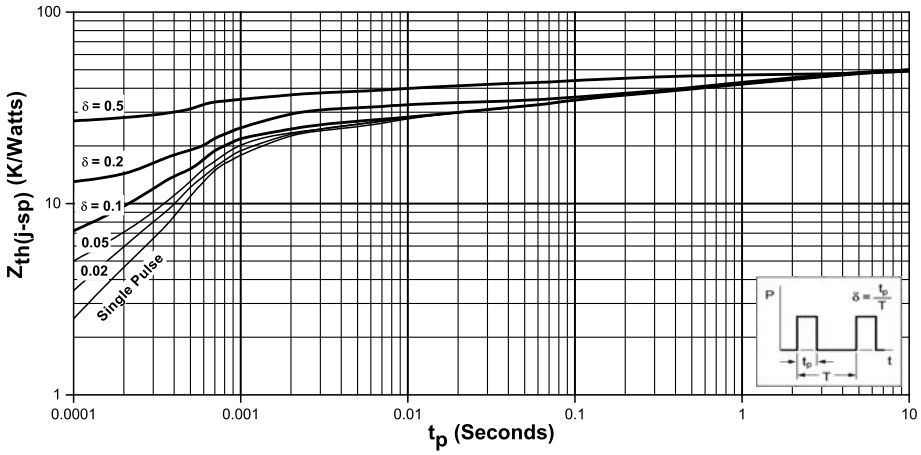


CEDM8004

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

TYPICAL ELECTRICAL CHARACTERISTICS

Thermal Characteristics



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

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

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).

CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centralsemi.com

Worldwide Field Representatives:
www.centralsemi.com/wwreps

Worldwide Distributors:
www.centralsemi.com/wwdistributors

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: www.centralsemi.com/terms