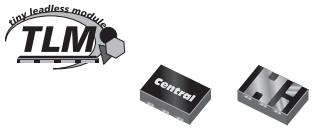
CTLDM8002A-M621

SURFACE MOUNT SILICON P-CHANNEL ENHANCEMENT-MODE MOSFET



Top View Bottom View

TLM621 CASE

APPLICATIONS:
- Load/Power Switches
- Power Supply Converter Circuits
- Battery Powered Portable Equipment

www.centralsemi.com

DESCRIPTION:
The CENTRAL SEMICONDUCTOR CTLDM8002A-M621 is a silicon P-Channel enhancement-mode MOSFET in a small, thermally efficient, TLM™ 2x1mm package.

MARKING CODE: CN

FEATURES:
- Low $r_{DS(on)}$
- Low $V_{DS(on)}$
- Low Threshold Voltage
- Fast Switching
- Logic Level Compatible
- Small TLM™ 2x1mm Package

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
Drain-Source Voltage	V_{DS}	50	V
Drain-Gate Voltage	V_{DG}	50	V
Gate-Source Voltage	V_{GS}	20	V
Continuous Drain Current	I_D	280	mA
Continuous Source Current (Body Diode)	I_S	280	mA
Maximum Pulsed Drain Current	I_{DM}	1.5	A
Maximum Pulsed Source Current	I_{SM}	1.5	A
Power Dissipation (Note 1)	P_D	0.9	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
Thermal Resistance (Note 1)	Θ_{JA}	139	°C/W

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

SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**UNITS**
I_{GSSF}, I_{GSSR}	V_{GS}=20V, V_{DS}=0		100	nA
I_{DSS}	V_{DS}=50V, V_{GS}=0		1.0	μA
I_{DSS}	V_{DS}=50V, V_{GS}=0, T_J=125°C		500	μA
$I_{D(ON)}$	V_{GS}=10V, V_{DS}=10V	500		mA
BV_{DSS}	V_{GS}=0, I_D=10μA	50		V
$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	1.0	2.5	V
$V_{DS(ON)}$	V_{GS}=10V, I_D=500mA		1.5	V
$V_{DS(ON)}$	V_{GS}=5.0V, I_D=50mA		0.15	V
V_{SD}	V_{GS}=0, I_S=115mA		1.3	V
$r_{DS(ON)}$	V_{GS}=10V, I_D=500mA		2.5	Ω
$r_{DS(ON)}$	V_{GS}=10V, I_D=500mA, T_J=125°C		4.0	Ω
$r_{DS(ON)}$	V_{GS}=5.0V, I_D=50mA		3.0	Ω
$r_{DS(ON)}$	V_{GS}=5.0V, I_D=50mA, T_J=125°C		5.0	Ω
g_{FS}	V_{DS}=10V, I_D=200mA	200		mS
C_{rss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz		7.0	pF
C_{iss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz		70	pF
C_{oss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz		15	pF

Note: (1) FR-4 Epoxy PCB with copper mounting pad area of 33mm^2.

R2 (6-February 2015)

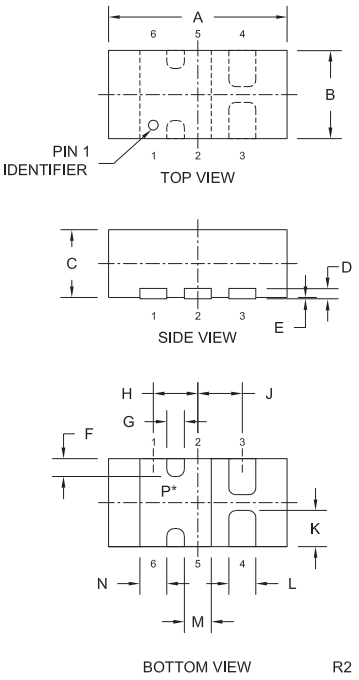
CTLDM8002A-M621

SURFACE MOUNT SILICON P-CHANNEL ENHANCEMENT-MODE MOSFET

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

SYMBOL	TEST CONDITIONS	TYP	MAX	UNITS
$Q_{g(tot)}$	V_{DS}=25V, V_{GS}=4.5V, I_D=100mA	0.72		nC
Q_{gs}	V_{DS}=25V, V_{GS}=4.5V, I_D=100mA	0.25		nC
Q_{gd}	V_{DS}=25V, V_{GS}=4.5V, I_D=100mA	0.16		nC
t_{on}, t_{off}	V_{DD}=30V, V_{GS}=10V, I_D=200mA, R_G=25Ω, R_L=150Ω		20	ns

TLM621 CASE - MECHANICAL OUTLINE



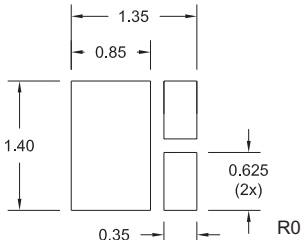
*Exposed pad P connects pins 1, 2, 5, and 6

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.073	0.085	1.850	2.150
B	0.033	0.045	0.850	1.150
C	0.028	0.031	0.700	0.800
D	0.006		0.150	
E	0.000	0.002	0.000	0.050
F	0.008		0.200	
G	0.010		0.250	
H	0.020		0.500	
J	0.020		0.500	
K	0.012	0.020	0.300	0.500
L	0.007	0.012	0.180	0.300
M	0.007	0.012	0.180	0.300
N	0.007	0.012	0.180	0.300

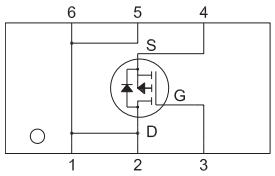
TLM621 (REV: R2)

SUGGESTED MOUNTING PADS

(Dimensions in mm)



PIN CONFIGURATION



LEAD CODE:

1) Drain
2) Drain
3) Gate
4) Source
5) Drain
6) Drain

MARKING CODE: CN

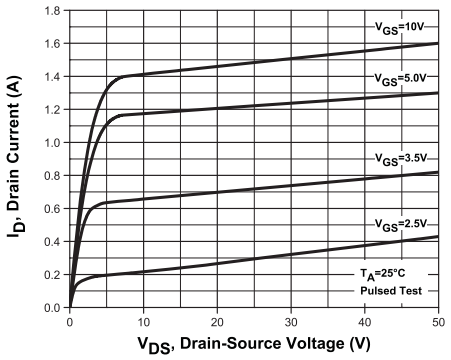
R2 (6-February 2015)

CTLDM8002A-M621

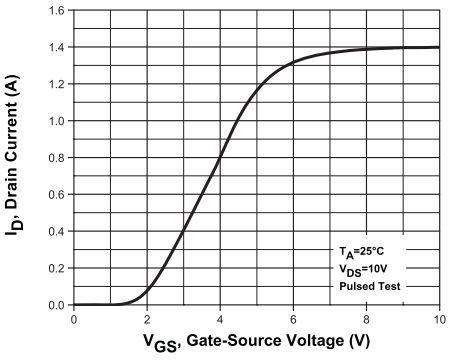
SURFACE MOUNT SILICON P-CHANNEL ENHANCEMENT-MODE MOSFET

TYPICAL ELECTRICAL CHARACTERISTICS

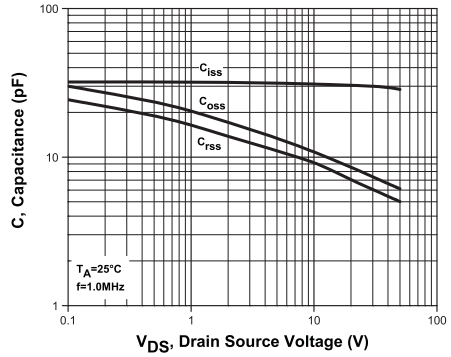
Output Characteristics



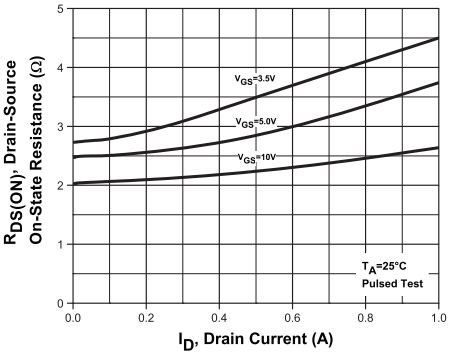
Transfer Characteristics



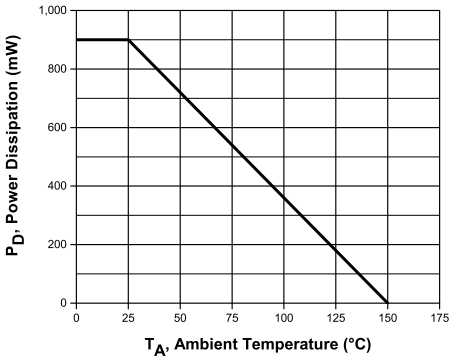
Capacitance



Drain Source On Resistance



Power Derating



R2 (6-February 2015)

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

http://www.centralsemi.com

Product End of Life Notification

PDN ID:	PDN01096
Notification Date:	8/07/18
Last Buy Date:	2/07/19
Last Shipment Date	8/07/19

Summary:All devices in the TLM621 and TLM621H packages are discontinued and now classified as End of Life (EOL).

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by other manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's ongoing Product Management Process. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

Central Part Number	Replacement
CTLDM7002A-M621 BK	N/A, Stock Only
CTLDM7002A-M621 TR	N/A, Stock Only
CTLDM7003-M621 BK	N/A, Stock Only
CTLDM7003-M621 TR	N/A, Stock Only
CTLDM7120-M621H BK	N/A, Stock Only
CTLDM7120-M621H TR	N/A, Stock Only
CTLDM8002A-M621 BK	N/A, Stock Only
CTLDM8002A-M621 TR	N/A, Stock Only
CTLDM8002A-M621H BK	N/A, Stock Only
CTLDM8002A-M621H TR	N/A, Stock Only
CTLDM8120-M621H BK	N/A, Stock Only
CTLDM8120-M621H TR	N/A, Stock Only
CTLSH05-40M621 BK	N/A, Stock Only
CTLSH05-40M621 TR	N/A, Stock Only
CTLSH1-40M621H BK	N/A, Stock Only
CTLSH1-40M621H TR	N/A, Stock Only
CTLT3410-M621 BK	N/A, Stock Only
CTLT3410-M621 TR	N/A, Stock Only
CTLT7410-M621 TR	N/A, Stock Only

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. Please email your requests to engineering@centralsemi.com.