



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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CTLDM7003-M621

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



Top View Bottom View

TLM621 CASE

- Device is **Halogen Free** by design

APPLICATIONS:

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

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

| |
|--|
| Drain-Source Voltage |
| Drain-Gate Voltage |
| Gate-Source Voltage |
| Continuous Drain Current |
| Maximum Pulsed Drain Current |
| Power Dissipation (Note 1) |
| Operating and Storage Junction Temperature |
| Thermal Resistance |



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DESCRIPTION:

The CENTRAL SEMICONDUCTOR CTLDM7003-M621 is a silicon N-Channel enhancement-mode MOSFET in a small, thermally efficient, TLM™ 2x1mm package.

MARKING CODE: CS

FEATURES:

- ESD Protection up to 2kV
- Low $r_{DS(ON)}$
- Low Threshold Voltage
- Fast Switching
- Logic Level Compatible
- Small TLM™ 2x1mm Package

| SYMBOL | | UNITS |
|----------------|-------------|--------------------|
| V_{DS} | 50 | V |
| V_{DG} | 50 | V |
| V_{GS} | 12 | V |
| I_D | 280 | mA |
| I_{DM} | 1.5 | A |
| P_D | 0.9 | W |
| T_J, T_{stg} | -65 to +150 | $^\circ\text{C}$ |
| θ_{JA} | 139 | $^\circ\text{C/W}$ |

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|----------------------|---|------|-------|-----|---------------|
| I_{GSSF}, I_{GSSR} | $V_{GS}=5.0V$ | | | 100 | nA |
| I_{GSSF}, I_{GSSR} | $V_{GS}=10V$ | | | 2.0 | μA |
| I_{GSSF}, I_{GSSR} | $V_{GS}=12V$ | | | 2.0 | μA |
| I_{DSS} | $V_{DS}=50V, V_{GS}=0$ | | | 50 | nA |
| BV_{DSS} | $V_{GS}=0, I_D=10\mu\text{A}$ | 50 | | | V |
| $V_{GS(th)}$ | $V_{DS}=V_{GS}, I_D=250\mu\text{A}$ | 0.49 | | 1.0 | V |
| V_{SD} | $V_{GS}=0, I_S=115\text{mA}$ | | | 1.4 | V |
| $r_{DS(ON)}$ | $V_{GS}=1.8V, I_D=50\text{mA}$ | | 1.6 | 3.0 | Ω |
| $r_{DS(ON)}$ | $V_{GS}=2.5V, I_D=50\text{mA}$ | | 1.3 | 2.5 | Ω |
| $r_{DS(ON)}$ | $V_{GS}=5.0V, I_D=50\text{mA}$ | | 1.1 | 2.0 | Ω |
| gFS | $V_{DS}=10V, I_D=200\text{mA}$ | 200 | | | mS |
| C_{rss} | $V_{DS}=25V, V_{GS}=0, f=1.0\text{MHz}$ | | | 5.0 | pF |
| C_{iss} | $V_{DS}=25V, V_{GS}=0, f=1.0\text{MHz}$ | | | 50 | pF |
| C_{oss} | $V_{DS}=25V, V_{GS}=0, f=1.0\text{MHz}$ | | | 25 | pF |
| $Q_g(tot)$ | $V_{DS}=25V, V_{GS}=4.5V, I_D=100\text{mA}$ | | 0.764 | | nC |
| Q_{gs} | $V_{DS}=25V, V_{GS}=4.5V, I_D=100\text{mA}$ | | 0.148 | | nC |
| Q_{gd} | $V_{DS}=25V, V_{GS}=4.5V, I_D=100\text{mA}$ | | 0.156 | | nC |

Notes: (1) FR-4 Epoxy PCB with copper mounting pad area of 33mm².h

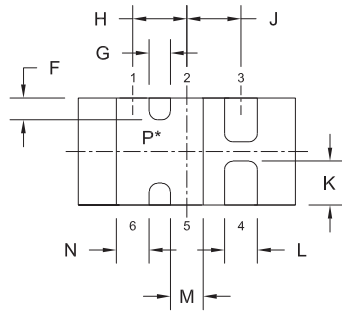
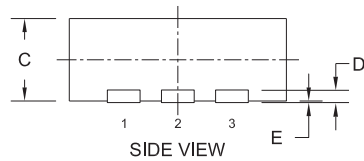
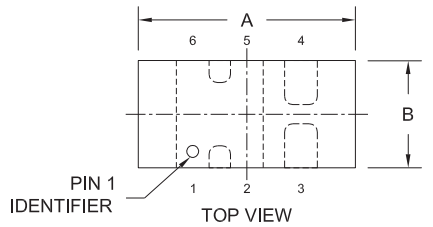
R2 (9-February 2015)

CTLDM7003-M621

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



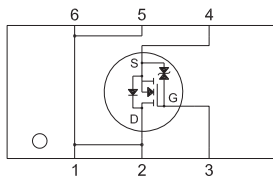
TLM621 CASE - MECHANICAL OUTLINE



BOTTOM VIEW R2

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

PIN CONFIGURATION

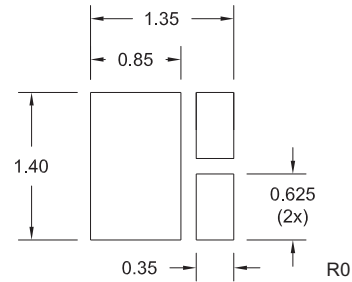


| SYMBOL | DIMENSIONS | | | |
|--------|------------|-------|-------------|-------|
| | INCHES | | MILLIMETERS | |
| | MIN | MAX | MIN | MAX |
| A | 0.073 | 0.085 | 1.850 | 2.150 |
| B | 0.033 | 0.045 | 0.850 | 1.150 |
| C | 0.028 | 0.031 | 0.700 | 0.800 |
| D | 0.006 | | 0.150 | |
| E | 0.000 | 0.002 | 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)



LEAD CODE:

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

MARKING CODE: CS

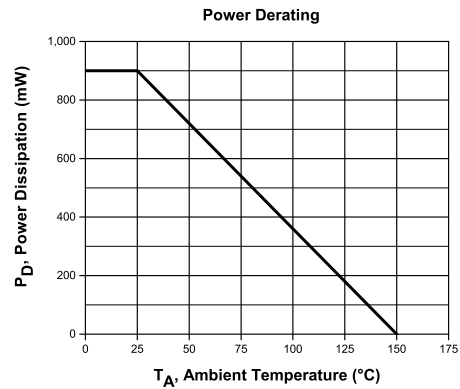
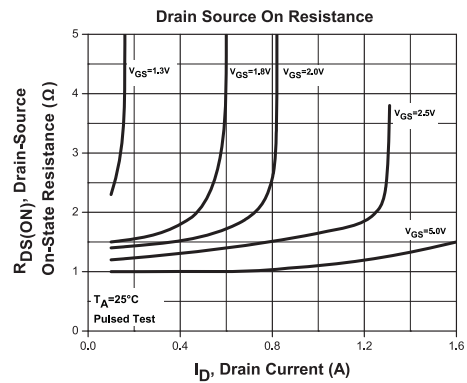
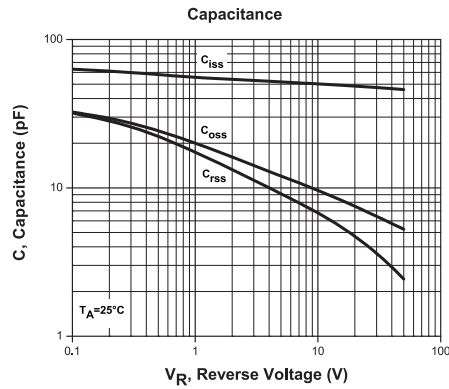
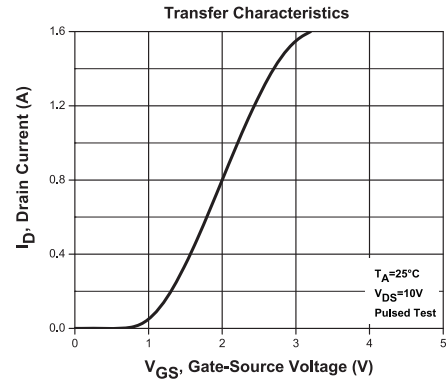
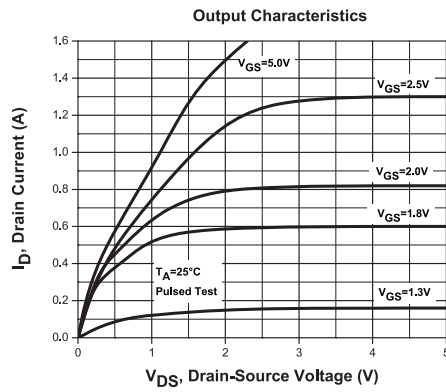
R2 (9-February 2015)

CTLDM7003-M621

SURFACE MOUNT SILICON
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TYPICAL ELECTRICAL CHARACTERISTICS



R2 (9-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).

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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.centrasemi.com/terms



<http://www.centrasemi.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.

| <u>Central Part Number</u> | <u>Replacement</u> |
|----------------------------|--------------------|
| 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@centrasemi.com.

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.