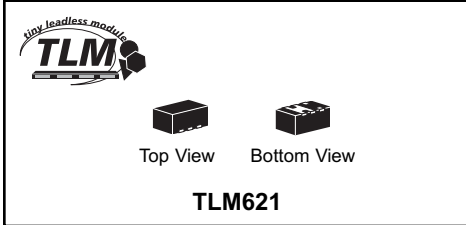




CTLDM7003-M621

**SURFACE MOUNT  
TINY LEADLESS MODULE™  
ENHANCEMENT-MODE  
N-CHANNEL MOSFET**



# Central™ Semiconductor Corp.

**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:**

- Device is **Halogen Free** by design
- Device is **RoHS** compliant
- ESD Protection up to 2kV
- Low  $r_{DS(ON)}$
- Low Threshold Voltage
- Fast Switching
- Logic Level Compatible
- Small TLM™ 2x1mm Package

**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

**SYMBOL**

$V_{DS}$	50
$V_{DG}$	50
$V_{GS}$	12
$I_D$	280
$I_{DM}$	1.5
$P_D$	0.9
$T_J, T_{stg}$	-65 to +150
$\Theta_{JA}$	139

**UNITS**

V
V
V
mA
A
W
°C
°C/W

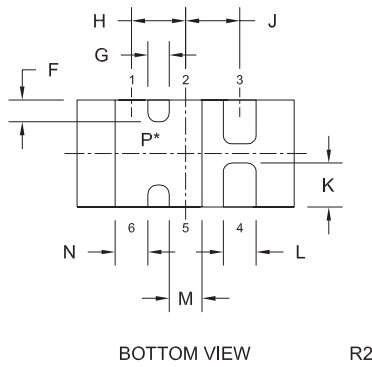
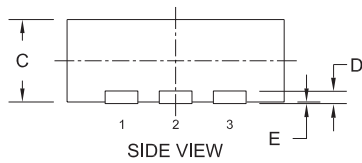
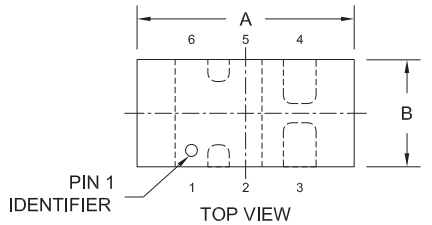
**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{GSSF}, I_{GSSR}$	$V_{GS}=5V$			100	nA
$I_{GSSF}, I_{GSSR}$	$V_{GS}=10V$			2.0	$\mu\text{A}$
$I_{GSSF}, I_{GSSR}$	$V_{GS}=12V$			2.0	$\mu\text{A}$
$I_{DSS}$	$V_{DS}=50V, V_{GS}=0V$			50	nA
$BV_{DSS}$	$V_{GS}=0V, I_D=10\mu\text{A}$	50			V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.49		1.0	V
$V_{SD}$	$V_{GS}=0V, I_S=115\text{mA}$			1.4	V
$r_{DS(ON)}$	$V_{GS}=1.8V, I_D=50\text{mA}$		1.6	3.0	$\Omega$
$r_{DS(ON)}$	$V_{GS}=2.5V, I_D=50\text{mA}$		1.3	2.5	$\Omega$
$r_{DS(ON)}$	$V_{GS}=5.0V, I_D=50\text{mA}$		1.1	2.0	$\Omega$
$g_{FS}$	$V_{DS}=10V, I_D=200\text{mA}$	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

Notes: (1) FR-4 Epoxy PCB with copper mounting pad area of 33mm<sup>2</sup>.

R0 (29-April 2008)

**TLM621 CASE - MECHANICAL OUTLINE**

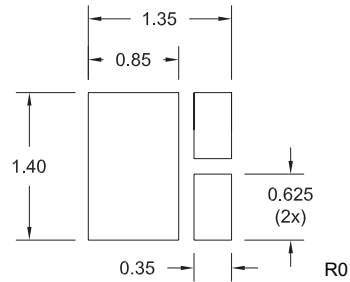


R2  
\*Exposed pad P connects pins 1, 2, 5, and 6.

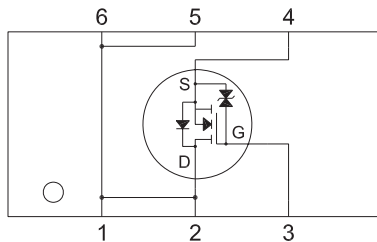
SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.073	0.085	1.850	2.150
B	0.033	0.045	0.850	1.150
C	0.028	0.031	0.700	0.800
D	0.006		0.150	
E	0.000	0.002	0.000	0.050
F	0.008		0.200	
G	0.010		0.250	
H	0.020		0.500	
J	0.020		0.500	
K	0.012	0.020	0.300	0.500
L	0.007	0.012	0.180	0.300
M	0.007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

TLM621 (REV: R2)

**SUGGESTED MOUNTING PADS**  
(Dimensions in mm)



**PIN CONFIGURATION**



**LEAD CODE:**

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

**MARKING CODE: CS**