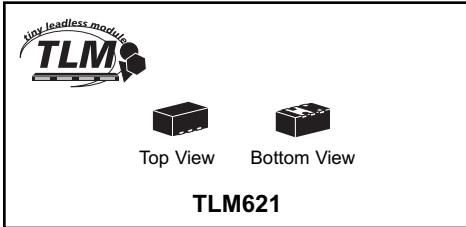




CTLDM7003-M621

**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
Θ_{JA}	139

UNITS

V
V
V
mA
A
W
°C
°C/W

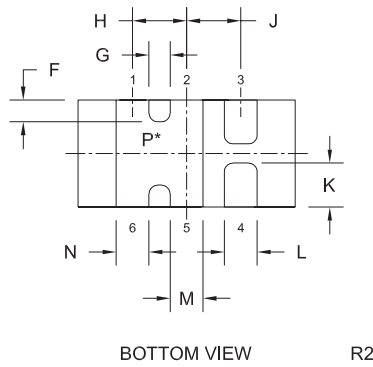
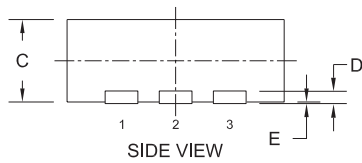
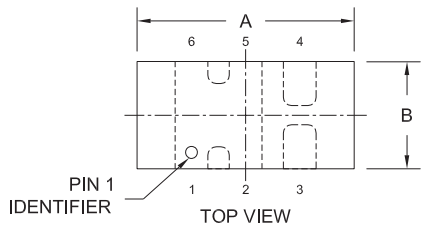
ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

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	μA
I_{GSSF}, I_{GSSR}	$V_{GS}=12V$			2.0	μA
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	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
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 33mm².

R0 (29-April 2008)

TLM621 CASE - MECHANICAL OUTLINE

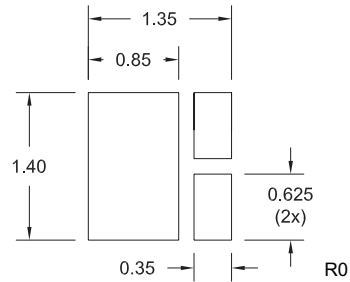


R2
*Exposed pad P connects pins 1, 2, 5, and 6.

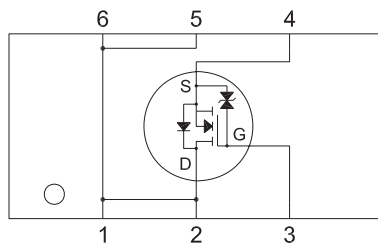
SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.073	0.085	1.850	2.150
B	0.033	0.045	0.850	1.150
C	0.028	0.031	0.700	0.800
D	0.006		0.150	
E	0.000	0.002	0.000	0.050
F	0.008		0.200	
G	0.010		0.250	
H	0.020		0.500	
J	0.020		0.500	
K	0.012	0.020	0.300	0.500
L	0.007	0.012	0.180	0.300
M	0.007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

R0 (29-April 2008)