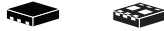




### CTLDM7003T-M563D

### SURFACE MOUNT DUAL N-CHANNEL SILICON MOSFET



Top View Bottom View

### TLM563D CASE

# Central<sup>TM</sup> Semiconductor Corp.

### DESCRIPTION:

The CENTRAL SEMICONDUCTOR CTLDM7003T-M563D is a Dual N-channel MOSFET packaged in a space saving 1.6 x 1.6mm TLM<sup>TM</sup> surface mount package. This device is a TLM<sup>TM</sup> equivalent of the popular CMLDM7003T, SOT-563 device, featuring enhanced thermal characteristics, a package footprint compatible with standard SOT-563 mounting pad geometries, and a height profile of only 0.4mm.

### MARKING CODE: CJA

### FEATURES:

- Device is **Halogen Free** by design
- Device is **RoHS** compliant
- ESD protection up to 2kV
- Dual MOSFETs
- Low  $r_{DS(ON)}$  (1.6Ω TYP @  $V_{GS}=1.8V$ )
- TLM563D with a package profile of 0.4mm, compatible with SOT-563 mounting geometries

### APPLICATIONS:

- Load Power Switches
- DC/DC Converters
- Battery powered devices including Cell Phones, PDAs, Digital Cameras, MP3 Players, etc.

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

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 (Note 1)

SYMBOL		UNITS
$V_{DS}$	50	V
$V_{DG}$	50	V
$V_{GS}$	12	V
$I_D$	280	mA
$I_{DM}$	1.5	A
$P_D$	350	mW
$T_J, T_{stg}$	-65 to +150	$^{\circ}C$
$\theta_{JA}$	357	$^{\circ}C/W$

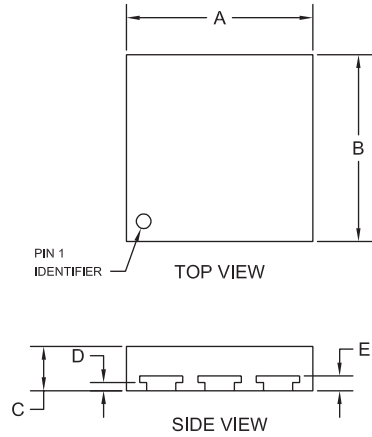
### ELECTRICAL CHARACTERISTICS PER TRANSISTOR: ( $T_A=25^{\circ}C$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{GSSF}, I_{GSSR}$	$V_{GS}=5.0V, V_{DS}=0$			50	nA
$I_{GSSF}, I_{GSSR}$	$V_{GS}=10V, V_{DS}=0$			0.5	$\mu A$
$I_{GSSF}, I_{GSSR}$	$V_{GS}=12V, V_{DS}=0$			1.0	$\mu A$
$I_{DSS}$	$V_{DS}=50V, V_{GS}=0$			50	nA
$BV_{DSS}$	$V_{GS}=0, I_D=10\mu A$	50			V
$V_{GS(th)}$	$V_{DS}=10V, I_D=250\mu A$	0.75		1.2	V
$V_{SD}$	$V_{GS}=0, I_S=115mA$			1.4	V
$r_{DS(ON)}$	$V_{GS}=1.8V, I_D=50mA$		1.6	2.3	$\Omega$
$r_{DS(ON)}$	$V_{GS}=2.5V, I_D=50mA$		1.3	1.9	$\Omega$
$r_{DS(ON)}$	$V_{GS}=5.0V, I_D=50mA$		1.1	1.5	$\Omega$
$g_{FS}$	$V_{DS}=10V, I_D=200mA$	200			mS
$C_{rss}$	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$			5.0	pF
$C_{iss}$	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$			50	pF
$C_{oss}$	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$			25	pF

Notes: (1) Mounted on 2 inch square FR4 PCB with copper mounting pad area of 1.8mm<sup>2</sup>.

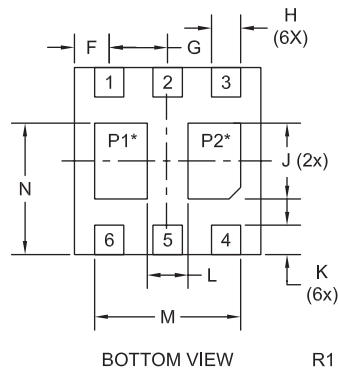
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**TLM563D CASE - MECHANICAL OUTLINE**



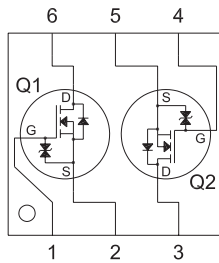
DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.062	0.064	1.57	1.63
B	0.062	0.064	1.57	1.63
C	0.014	0.017	0.36	0.43
D	0.002	0.004	0.04	0.10
E	0.004	0.006	0.10	0.16
F	0.011	0.013	0.27	0.33
G	0.019	0.021	0.47	0.53
H	0.009	0.011	0.22	0.28
J	0.024	0.027	0.62	0.68
K	0.009	0.011	0.22	0.28
L	0.013	0.015	0.32	0.38
M	0.048	0.050	1.22	1.28
N	0.043	0.045	1.09	1.16

TLM563D (REV:R1)

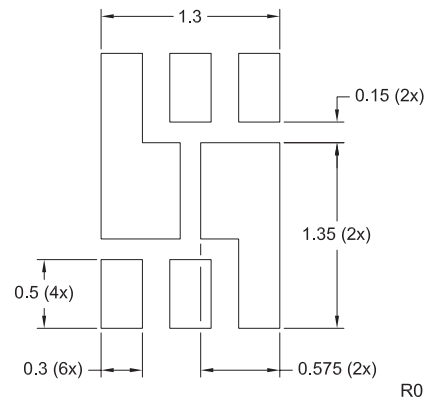


\*Note:  
-Exposed pad P1 common to pin 6.  
-Exposed pad P2 common to pin 3.

**PIN CONFIGURATION**



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



**LEAD CODE:**

- 1) GATE Q1
- 2) SOURCE Q1
- 3) DRAIN Q2
- 4) GATE Q2
- 5) SOURCE Q2
- 6) DRAIN Q1

**MARKING CODE: CJA**

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