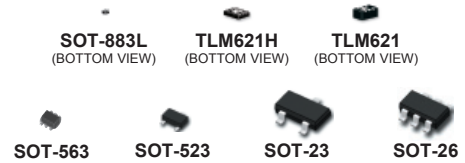


## Small Signal Enhancement-mode MOSFETs

Central Semiconductor manufactures N-Channel and P-Channel small signal Enhancement-mode MOSFETs packaged in the most popular tiny surface mount packages designed for high speed pulsed amplifier and driver applications for a broad range of end products including: Cellphones, SMARTphones, PDAs, MP3 players, GPS navigation, digital cameras, modems, and set top boxes. Additional information is available at [www.centrasemi.com](http://www.centrasemi.com)



Family	BV <sub>DSS</sub> (V) MIN	I <sub>D</sub> (A)	r <sub>DS(ON)</sub> (Ω) MAX	@ I <sub>D</sub> (A)	@ V <sub>GS</sub> (V)	V <sub>GS(th)</sub> (V)		C <sub>iss</sub> (pF) TYP	C <sub>rss</sub> (pF) TYP	t <sub>on</sub> (ns) TYP	t <sub>off</sub> (ns) TYP
						MIN	MAX				
<b>7120</b>	20	1.0	0.14	0.5	2.5	0.5	1.2	220	45	25	140
<b>8120</b>	20	0.86	0.2	0.67	2.5	0.45	1.0	200	80	20	25

**Features:**

- Low r<sub>DS(on)</sub> = 0.14Ω for the 7120G and 0.2Ω for the 8120.
- High Current I<sub>D</sub> = 1.0A for the 7120G and 0.86A for the 8120.
- Available in a variety of package sizes with low profiles. The TLM621H has a maximum profile (height) of 0.4mm.
- Built in ESD protection up to 2kV (7120 and 7120G only).
- Low Threshold Voltage.
- Logic Level Compatible.

**N-Channel:**  
**CTLDM7120-M621H** (TLM621H)  
**CMLDM7120G** (SOT-563)  
**CMPDM7120G** (SOT-23)

**P-Channel:**  
**CTLDM8120-M621H** (TLM621H)  
**CMLDM8120** (SOT-563)  
**CMPDM8120** (SOT-23)

Family	BV <sub>DSS</sub> (V) MIN	I <sub>D</sub> (A)	r <sub>DS(ON)</sub> (Ω) MAX	@ I <sub>D</sub> (A)	@ V <sub>GS</sub> (V)	V <sub>GS(th)</sub> (V)		C <sub>iss</sub> (pF) MAX	C <sub>rss</sub> (pF) MAX	t <sub>on</sub> (ns) TYP	t <sub>off</sub> (ns) TYP
						MIN	MAX				
<b>7003E</b>	50	0.28	<b>2.3</b>	0.05	1.8	0.49	1.2	50	5.0	-	-
<b>7003</b>	50	0.28	3.0	0.05	1.8	0.49	1.0	50	5.0	-	-

**Features:**

- r<sub>DS(on)</sub> = 2.3Ω for the 7003E and 3.0Ω for the 7003.
- Built in ESD protection up to 2kV.
- Low Threshold Voltage.
- Logic Level Compatible.
- Variety of package sizes.

**N-Channel:**  
**CMLDM7003** (SOT-563)  
**CMLDM7003J** (SOT-563)  
**CMLDM7003E** (SOT-563)  
**CMLDM7003JE** (SOT-563)

**P-Channel:**  
**CTLDM7003-M621** (TLM621)  
**CMPDM7003** (SOT-23)

Family	BV <sub>DSS</sub> (V) MIN	I <sub>D</sub> (A)	r <sub>DS(ON)</sub> (Ω) MAX	@ I <sub>D</sub> (A)	@ V <sub>GS</sub> (V)	V <sub>GS(th)</sub> (V)		C <sub>iss</sub> (pF) MAX	C <sub>rss</sub> (pF) MAX	t <sub>on</sub> (ns) MAX	t <sub>off</sub> (ns) MAX
						MIN	MAX				
<b>7002A</b>	60	0.28	2.0	0.5	10	1.0	2.5	50	5.0	20	20
<b>8002A</b>	50	0.28	3.0	0.05	5.0	1.0	2.5	70	7.0	20	20

**Features:**

- r<sub>DS(on)</sub> = 2.0Ω for the 7002A and 3.0Ω for the 8002A.
- Low V<sub>DS(on)</sub>.
- Fast Switching.
- Low Threshold Voltage.
- Logic Level Compatible.
- Variety of package sizes with low profiles. The TLM621H has a maximum profile (height) of 0.4mm.

**N-Channel:**  
**CTLDM7002A-M621** (TLM621)  
**CTLDM7002A-M621H** (TLM621H)  
**CMLDM7002A** (SOT-563)  
**CMLDM7002AJ** (SOT-563)  
**CMPDM7002A** (SOT-23)  
**CMXDM7002A** (SOT-26)

**P-Channel:**  
**CTLDM8002A-M621** (TLM621)  
**CTLDM8002A-M621H** (TLM621H)  
**CMLDM8002A** (SOT-563)  
**CMLDM8002AJ** (SOT-563)  
**CMPDM8002A** (SOT-23)

**N-Channel & P-Channel:**  
**CMLM0708A** (SOT-563)

Family	BV <sub>DSS</sub> (V) MIN	I <sub>D</sub> (A)	r <sub>DS(ON)</sub> (Ω) MAX	@ I <sub>D</sub> (A)	@ V <sub>GS</sub> (V)	V <sub>GS(th)</sub> (V)		C <sub>iss</sub> (pF) TYP	C <sub>rss</sub> (pF) TYP	t <sub>on</sub> (ns) TYP	t <sub>off</sub> (ns) TYP
						MIN	MAX				
<b>7001</b>	20	0.1	3.0	0.01	4.0	0.6	0.9	9.0	4.0	50	75
<b>8001</b>	20	0.1	8.0	0.01	4.0	0.6	1.1	45	15	35	80

**Features:**

- r<sub>DS(on)</sub> = 3.0Ω for the 7001 and 8.0Ω for the 8001.
- Low Threshold Voltage / Logic Level Compatible.
- Very small package sizes, with low profiles. The SOT-883L has a maximum profile (height) of 0.4mm.

**N-Channel:**  
**CEDM7001** (SOT-883L)  
**CMUDM7001** (SOT-523)

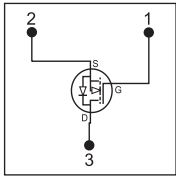
**P-Channel:**  
**CEDM8001** (SOT-883L)  
**CMUDM8001** (SOT-523)

**E** Indicates Enhanced Specification Device. Enhanced Specification in **Bold**

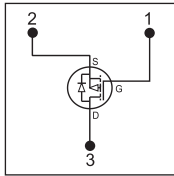


# Small Signal Enhancement-mode MOSFETs

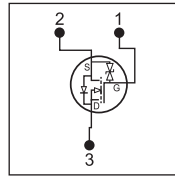
## Schematic Drawings



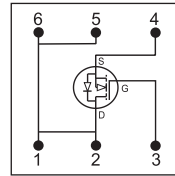
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CMPDM7002A  
CMUDM7001



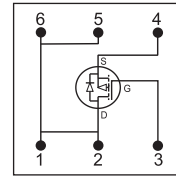
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CMPDM8002A  
CMPDM8120  
CMUDM8001



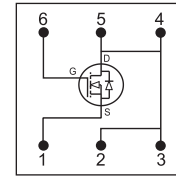
CMPDM7003  
CMPDM7120G



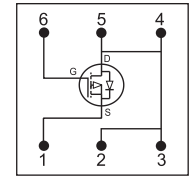
CTLDM7002A-M621



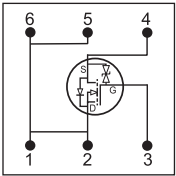
CTLDM8002A-M621  
CMLDM8120



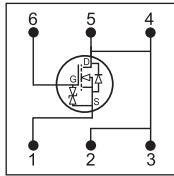
CTLDM7002A-M621H



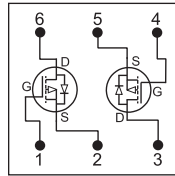
CTLDM8120-M621H  
CTLDM8002A-M621H



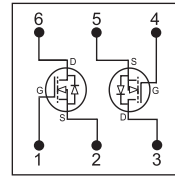
CTLDM7003-M621  
CMLDM7120G



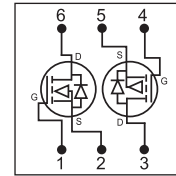
CTLDM7120-M621H



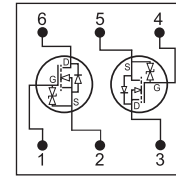
CMLDM8002A



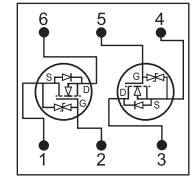
CMLDM7002A  
CMXDM7002A



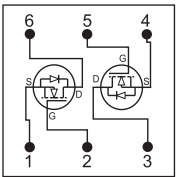
CMLM0708A



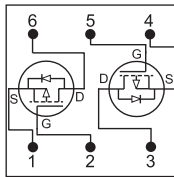
CMLDM7003E  
CMLDM7003



CMLDM7003JE  
CMLDM7003J



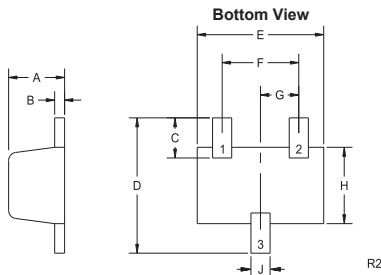
CMLDM7002AJ



CMLDM8002AJ

## Featured SMD Mechanical Specifications

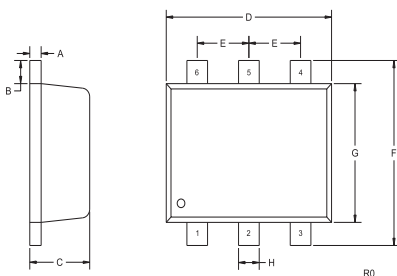
### SOT-523



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.023	0.031	0.58	0.78
B	0.002	0.008	0.04	0.20
C	0.013	0.021	0.34	0.54
D	0.059	0.067	1.50	1.70
E	0.059	0.067	1.50	1.70
F	0.035	0.043	0.90	1.10
G		0.020		0.50
H	0.031	0.039	0.78	0.98
J	0.010	0.014	0.25	0.35

SOT-523 (REV: R2)

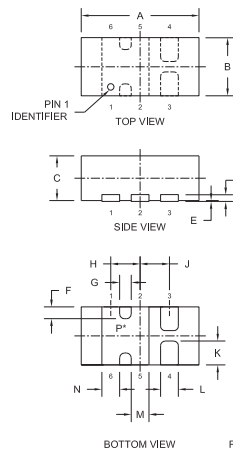
### SOT-563



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.007	0.10	0.18
B		0.008		0.20
C	0.022	0.024	0.56	0.60
D	0.059	0.067	1.50	1.70
E		0.020		0.50
F	0.061	0.067	1.55	1.70
G		0.047		1.20
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R0)

### TLM621

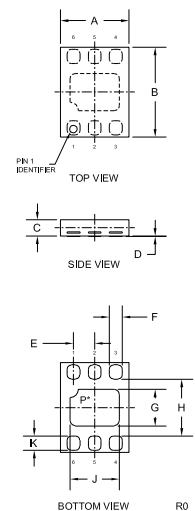


\* Exposed pad P connects pins 1, 2, 5, and 6

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)

### TLM621H



\* Exposed pad P internally connected to pins 3 and 4

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.053	0.065	1.35	1.65
B	0.073	0.085	1.85	2.15
C	0.012	0.016	0.30	0.40
D	0.000	0.002	0.00	0.05
E		0.020		0.50
F	0.008	0.012	0.20	0.30
G	0.027	0.035	0.69	0.89
H	0.053	0.057	1.35	1.45
J	0.039	0.047	0.99	1.19
K	0.011	0.015	0.28	0.38

TLM621H (REV: R0)

**Central**<sup>TM</sup>  
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