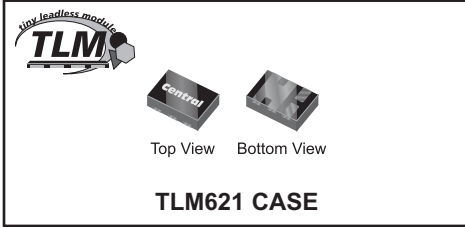


CTLT3410-M621 (NPN)  
CTLT7410-M621 (PNP)

**SURFACE MOUNT  
COMPLEMENTARY  
LOW  $V_{CE(SAT)}$   
SILICON TRANSISTORS**



www.centrasemi.com



**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CTLT3410-M621 and CTLT7410-M621 are Low  $V_{CE(SAT)}$  transistors in a very small leadless 1x2mm surface mount package, designed for applications where small size, operational efficiency, and low energy consumption are prime requirements. Due to the leadless package design, these devices are capable of dissipating up to 3 times the power of similar devices in comparable sized surface mount packages.

**MARKING CODES: CTLT3410-M621: CB  
CTLT7410-M621: CD**

**APPLICATIONS:**

- DC - DC Converters
- Switching Circuits
- LCD Backlighting
- Battery Powered Portable Equipment

**FEATURES:**

- High Operational Efficiency
- High Power to Footprint Ratio
- $V_{CE(SAT)}$  @ 1.0A = 250mV TYP
- High Collector Current
- Small TLM621 1x2mm Package

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

Collector-Base Voltage  
Collector-Emitter Voltage  
Emitter-Base Voltage  
Continuous Collector Current  
Peak Collector Current  
Power Dissipation (Note 1)  
Operating and Storage Junction Temperature  
Thermal Resistance (Note 1)

SYMBOL		UNITS
$V_{CBO}$	40	V
$V_{CEO}$	25	V
$V_{EBO}$	6.0	V
$I_C$	1.0	A
$I_{CM}$	1.5	A
$P_D$	0.9	W
$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
$\theta_{JA}$	139	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	NPN TYP	PNP TYP	MAX	UNITS
$I_{CBO}$	$V_{CB}=40\text{V}$				100	nA
$I_{EBO}$	$V_{EB}=6.0\text{V}$				100	nA
$BV_{CBO}$	$I_C=100\mu\text{A}$	40				V
$BV_{CEO}$	$I_C=10\text{mA}$	25				V
$BV_{EBO}$	$I_E=100\mu\text{A}$	6.0				V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		25	30	50	mV
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		40	50	75	mV
$V_{CE(SAT)}$	$I_C=200\text{mA}, I_B=20\text{mA}$		80	95	150	mV
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		190	205	250	mV
$V_{CE(SAT)}$	$I_C=800\text{mA}, I_B=80\text{mA}$		290	320	400	mV
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$		360	400	450	mV

Notes (1) FR-4 Epoxy PCB with copper mounting pad area of  $33\text{mm}^2$

R3 (1-August 2011)

**CTLT3410-M621 (NPN)  
CTLT7410-M621 (PNP)**

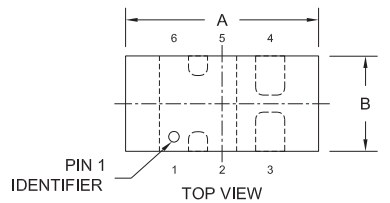
**SURFACE MOUNT  
COMPLEMENTARY  
LOW  $V_{CE(SAT)}$   
SILICON TRANSISTORS**



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

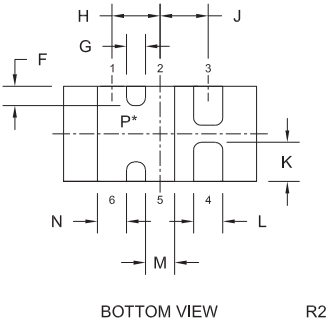
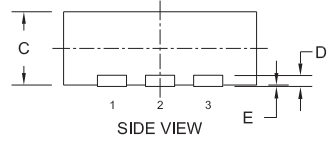
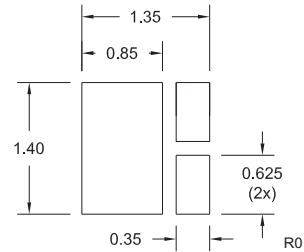
SYMBOL	TEST CONDITIONS	MIN	NPN		PNP		MAX	UNITS
			TYP	TYP	TYP	TYP		
$V_{BE(SAT)}$	$I_C=80\text{mA}$ , $I_B=80\text{mA}$						1.1	V
$V_{BE(ON)}$	$V_{CE}=1.0\text{V}$ , $I_C=10\text{mA}$						0.9	V
$h_{FE}$	$V_{CE}=1.0\text{V}$ , $I_C=10\text{mA}$	100						
$h_{FE}$	$V_{CE}=1.0\text{V}$ , $I_C=100\text{mA}$	100					300	
$h_{FE}$	$V_{CE}=1.0\text{V}$ , $I_C=500\text{mA}$	100						
$h_{FE}$	$V_{CE}=1.0\text{V}$ , $I_C=1.0\text{A}$	50						
$f_T$	$V_{CE}=10\text{V}$ , $I_C=50\text{mA}$ , $f=100\text{MHz}$	100						MHz
$C_{ob}$	$V_{CB}=10\text{V}$ , $I_E=0$ , $f=1.0\text{MHz}$ (CMLT3410-M621)		6.0				10	pF
$C_{ob}$	$V_{CB}=10\text{V}$ , $I_E=0$ , $f=1.0\text{MHz}$ (CMLT7410-M621)				10		15	pF

**TLM621 CASE - MECHANICAL OUTLINE**

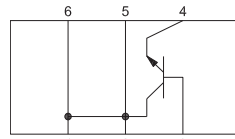


SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.073	0.085	1.850	2.150
B	0.033	0.045	0.850	1.150
C	0.028	0.031	0.700	0.800
D	0.006		0.150	
E	0.000	0.002	0.000	0.050
F	0.008		0.200	
G	0.010		0.250	
H	0.020		0.500	
J	0.020		0.500	
K	0.012	0.020	0.300	0.500
L	0.007	0.012	0.180	0.300
M	0.007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

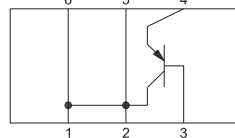
**SUGGESTED MOUNTING PADS**  
(Dimensions in mm)



**PIN CONFIGURATIONS**



**CTLT3410-M621**



**CTLT7410-M621**

**LEAD CODES:**

- 1) Collector
- 2) Collector
- 3) Base
- 4) Emitter
- 5) Collector
- 6) Collector

**MARKING CODES:**

**CTLT3410-M621: CB**  
**CTLT7410-M621: CD**

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

R3 (1-August 2011)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> 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

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### 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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### CONTACT US

#### Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centrasemi.com](http://www.centrasemi.com)

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