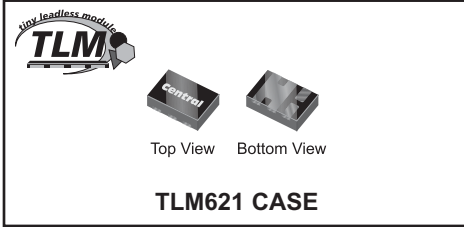


CTLT3410-M621 (NPN)  
CTLT7410-M621 (PNP)

**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	$V_{CBO}$	40	V
Collector-Emitter Voltage	$V_{CEO}$	25	V
Emitter-Base Voltage	$V_{EBO}$	6.0	V
Continuous Collector Current	$I_C$	1.0	A
Peak Collector Current	$I_{CM}$	1.5	A
Power Dissipation (Note 1)	$P_D$	0.9	W
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
Thermal Resistance (Note 1)	$\theta_{JA}$	139	$^\circ\text{C/W}$

**SYMBOL**

$V_{CBO}$	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	$^\circ\text{C/W}$

**UNITS**

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

SYMBOL	TEST CONDITIONS	MIN	NPN		MAX	UNITS
			TYP	PNP TYP		
$I_{CBO}$	$V_{CB}=40\text{V}$				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)**

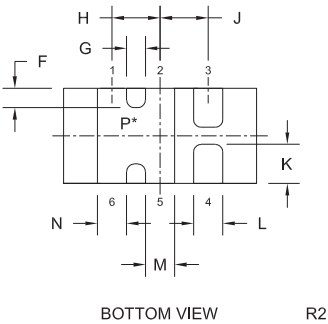
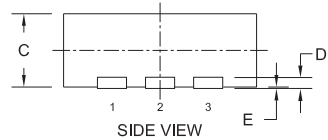
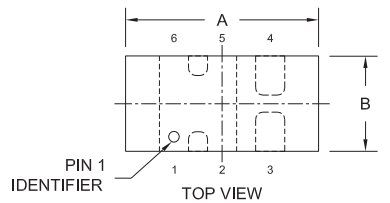
**SURFACE MOUNT  
COMPLEMENTARY  
LOW  $V_{CE(SAT)}$   
SILICON TRANSISTORS**



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

SYMBOL	TEST CONDITIONS	MIN	NPN		PNP		MAX	UNITS
			TYP	TYP	TYP	TYP		
$V_{BE(SAT)}$	$I_C=800\text{mA}$ , $I_B=80\text{mA}$						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**

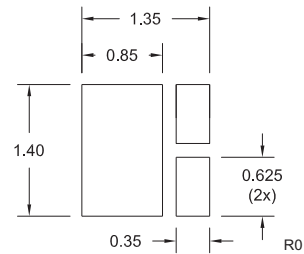


\* Exposed pad P connects pins 1, 2, 5, and 6.

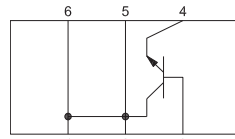
SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.073	0.085	1.850	2.150
B	0.033	0.045	0.850	1.150
C	0.028	0.031	0.700	0.800
D	0.006		0.150	
E	0.000	0.002	0.000	0.050
F	0.008		0.200	
G	0.010		0.250	
H	0.020		0.500	
J	0.020		0.500	
K	0.012	0.020	0.300	0.500
L	0.007	0.012	0.180	0.300
M	0.007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

TLM621 (REV: R2)

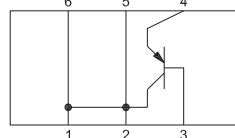
**SUGGESTED MOUNTING PADS**  
(Dimensions in mm)



**PIN 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

R3 (1-August 2011)