

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

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



Top View Bottom View

TLM621 CASE



www.centralemi.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

V_{CBO} 40
 V_{CEO} 25
 V_{EBO} 6.0
 I_C 1.0
 I_{CM} 1.5
 P_D 0.9
 T_J, T_{stg} -65 to +150
 θ_{JA} 139

UNITS

V
V
V
A
A
W
 $^\circ\text{C}$
 $^\circ\text{C/W}$

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 33mm²

R3 (1-August 2011)

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

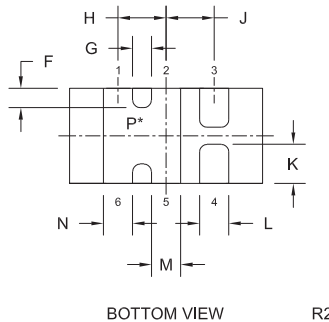
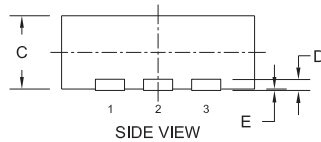
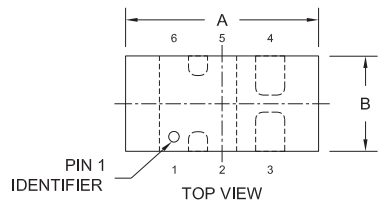
SURFACE MOUNT
COMPLEMENTARY
LOW $V_{CE(SAT)}$
SILICON TRANSISTORS



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

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

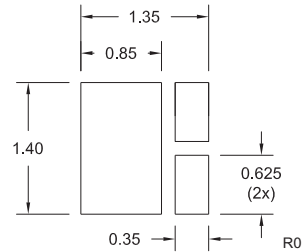


* Exposed pad P connects pins 1, 2, 5, and 6.

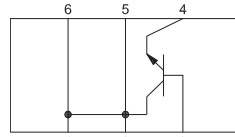
SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.073	0.085	1.850	2.150
B	0.033	0.045	0.850	1.150
C	0.028	0.031	0.700	0.800
D	0.006		0.150	
E	0.000	0.002	0.000	0.050
F	0.008		0.200	
G	0.010		0.250	
H	0.020		0.500	
J	0.020		0.500	
K	0.012	0.020	0.300	0.500
L	0.007	0.012	0.180	0.300
M	0.007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

TLM621 (REV: R2)

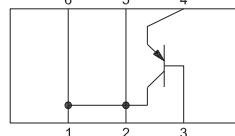
SUGGESTED MOUNTING PADS
(Dimensions in mm)



PIN CONFIGURATIONS



CTLT3410-M621



CTLT7410-M621

LEAD CODES:

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

MARKING CODES:

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