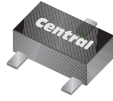


CMUT3410 NPN  
CMUT7410 PNP

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

**ULTRAmi™**



**SOT-523 CASE**

**Central™**  
Semiconductor Corp.

[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMUT3410, and CMUT7410, are low  $V_{CE(SAT)}$  silicon transistors in an ULTRAmi™ surface mount package designed for small signal general purpose amplifier and switching applications, requiring low collector emitter saturation voltage.

**MARKING CODES: CMUT3410: C43  
CMUT7410: C47**

**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  
Operating and Storage Junction Temperature  
Thermal Resistance

**SYMBOL**

$V_{CBO}$  40  
 $V_{CEO}$  25  
 $V_{EBO}$  6.0  
 $I_C$  1.0  
 $I_{CM}$  1.5  
 $P_D$  250  
 $T_J, T_{stg}$  -65 to +150  
 $\theta_{JA}$  500

**UNITS**

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

**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
$V_{BE(SAT)}$	$I_C=800\text{mA}, I_B=80\text{mA}$				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	125	75		
$f_T$	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	100				MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$ (CMUT3410)		6.0		10	pF
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$ (CMUT7410)			10	15	pF

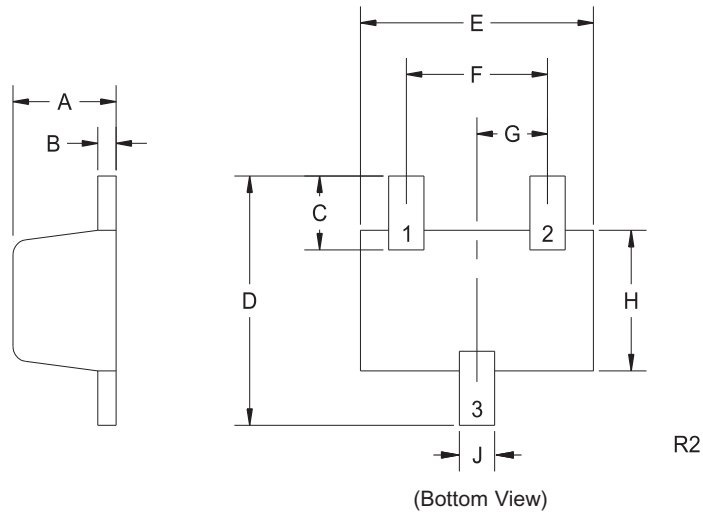
R2 (1-August 2011)

CMUT3410 NPN  
CMUT7410 PNP

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



SOT-523 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Base
- 2) Emitter
- 3) Collector

MARKING CODES:

CMUT3410: C43  
CMUT7410: C47

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)

R2 (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

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**Worldwide Distributors:**  
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