

CentralTM Semiconductor Corp.

DESCRIPTION:

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

MARKING CODES:

CMUT3410 NPN MARKING CODE: C43
CMUT7410 PNP MARKING CODE: C47

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

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Collector Current
Collector Current (Peak)
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
 θ_{JA} 500

UNITS

V
V
V
A
A
mW
°C
°C/W

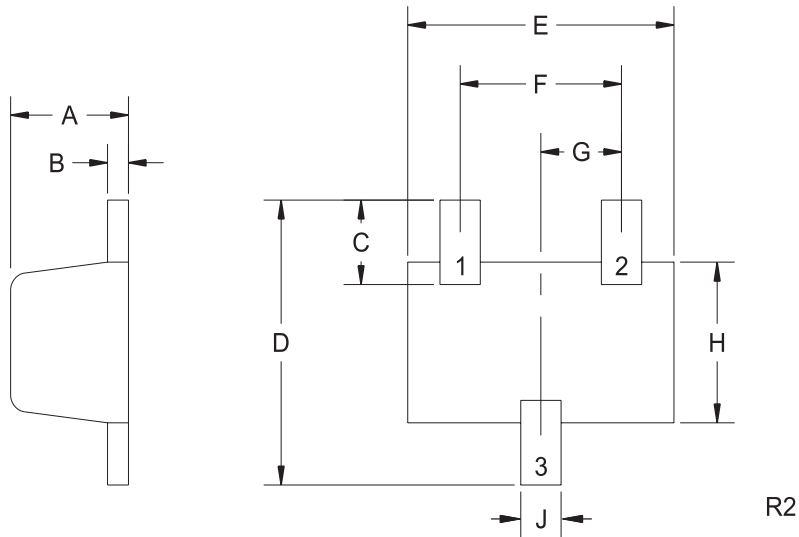
ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	TYP			MAX	UNITS
		MIN	NPN	PNP		
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
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		20	25	50	mV
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		35	40	75	mV
$V_{CE(SAT)}$	$I_C=200\text{mA}, I_B=20\text{mA}$		75	80	150	mV
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		130	150	250	mV
$V_{CE(SAT)}$	$I_C=800\text{mA}, I_B=80\text{mA}$		200	220	400	mV
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$		250	275	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)				10	pF
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$ (CMUT7410)				15	pF

R0 (28-March 2005)

SOT-523 CASE - MECHANICAL OUTLINE

BOTTOM VIEW



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

MARKING CODES:

CMUT3410: C43

CMUT7410: C47

DIMENSIONS				
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)