CMUT3410 NPN
CMUT7410 PNP

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

ULTRAmini™



SOT-523 CASE

Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMUT3410, and CMUT7410, are low $V_{CE(SAT)}$ silicon transistors in an ULTRAmini™ 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°C)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	1.0	A
Collector Current (Peak)	I_{CM}	1.5	A
Power Dissipation	P_D	250	mW
Operating and Storage Junction Temperature	T_J,T_{stg}	-65 to +150	°C
Thermal Resistance	Θ_{JA}	500	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP NPN	TYP PNP	MAX	UNITS
I_{CBO}	V_{CB}=40V				100	nA
I_{EBO}	V_{EB}=6.0V				100	nA
BV_{CBO}	I_C=100μA	40				V
BV_{CEO}	I_C=10mA	25				V
BV_{EBO}	I_E=100μA	6.0				V
$V_{CE(SAT)}$	I_C=50mA, I_B=5.0mA		20	25	50	mV
$V_{CE(SAT)}$	I_C=100mA, I_B=10mA		35	40	75	mV
$V_{CE(SAT)}$	I_C=200mA, I_B=20mA		75	80	150	mV
$V_{CE(SAT)}$	I_C=500mA, I_B=50mA		130	150	250	mV
$V_{CE(SAT)}$	I_C=800mA, I_B=80mA		200	220	400	mV
$V_{CE(SAT)}$	I_C=1.0A, I_B=100mA		250	275	450	mV
$V_{BE(SAT)}$	I_C=800mA, I_B=80mA				1.1	V
$V_{BE(ON)}$	V_{CE}=1.0V, I_C=10mA				0.9	V
h_{FE}	V_{CE}=1.0V, I_C=10mA	100				
h_{FE}	V_{CE}=1.0V, I_C=100mA	100			300	
h_{FE}	V_{CE}=1.0V, I_C=500mA	100				
h_{FE}	V_{CE}=1.0V, I_C=1.0A	50	125	75		
f_T	V_{CE}=10V, I_C=50mA, f=100MHz	100				MHz
C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz (CMUT3410)				10	pF
C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz (CMUT7410)				15	pF

R0 (28-March 2005)

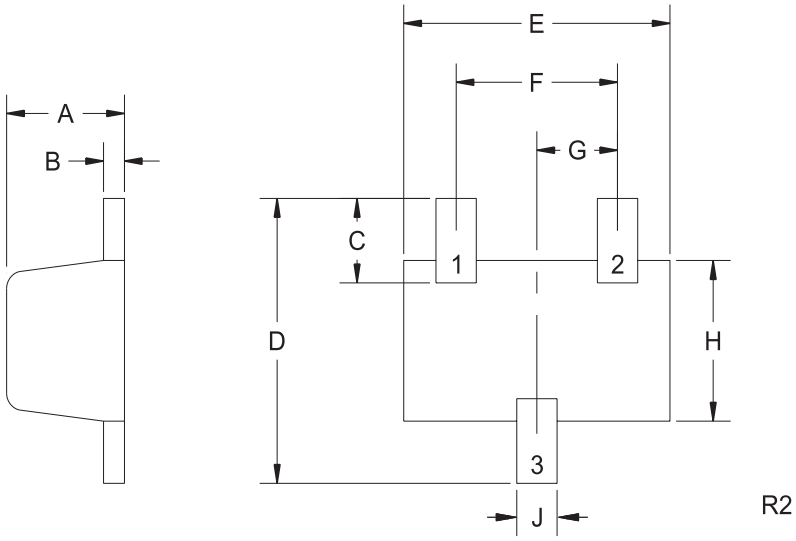
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SOT-523 CASE - MECHANICAL OUTLINE

BOTTOM VIEW



R2

LEAD CODE:
1) BASE
2) EMITTER
3) COLLECTOR

MARKING CODES:
CMUT3410: C43
CMUT7410: C47

DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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)

R0 (28-March 2005)