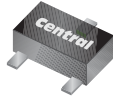


CMUT5087E PNP
CMUT5088E NPN

**ENHANCED SPECIFICATION
SURFACE MOUNT
COMPLEMENTARY
SILICON TRANSISTORS**

ULTRAmTM



SOT-523 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMUT5087E and CMUT5088E are Silicon transistors in an ULTRAmTM surface mount package with enhanced specifications designed for applications requiring high gain and low noise.

**MARKING CODES: CMUT5087E: U87
CMUT5088E: U88**

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

◆ Collector-Base Voltage
◆ Collector-Emitter Voltage
◆ Emitter-Base Voltage
Continuous Collector Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL

V_{CB0}	50	V
V_{CE0}	50	V
V_{EB0}	5.0	V
I_C	100	mA
P_D	350	mW
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
θ_{JA}	357	$^\circ\text{C/W}$

UNITS

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

SYMBOL	TEST CONDITIONS	TYP			UNITS
		MIN	NPN	PNP	
I_{CBO}	$V_{CB}=20V$				50 nA
I_{EBO}	$V_{EB}=3.0V$				50 nA
◆ BV_{CB0}	$I_C=100\mu A$	50	135	150	V
◆ BV_{CE0}	$I_C=1.0mA$	50	65	105	V
◆ BV_{EB0}	$I_E=100\mu A$	5.0	8.7	7.5	V
◆ $V_{CE(SAT)}$	$I_C=10mA, I_B=1.0mA$		45	50	100 mV
◆◆ $V_{CE(SAT)}$	$I_C=100mA, I_B=10mA$		110	225	400 mV
$V_{BE(SAT)}$	$I_C=10mA, I_B=1.0mA$		700	700	800 mV
◆ h_{FE}	$V_{CE}=5.0V, I_C=0.1mA$	300	430	390	900
h_{FE}	$V_{CE}=5.0V, I_C=1.0mA$	300	435	380	
◆ h_{FE}	$V_{CE}=5.0V, I_C=10mA$	300	430	350	
◆◆ h_{FE}	$V_{CE}=5.0V, I_C=100mA$	50	125	75	
◆ f_T	$V_{CE}=5.0V, I_C=500\mu A, f=20MHz$	100			MHz
C_{ob}	$V_{CB}=5.0V, I_E=0, f=1.0MHz$				4.0 pF
C_{ib}	$V_{BE}=0.5V, I_C=0, f=1.0MHz$				15 pF
h_{fe}	$V_{CE}=5.0V, I_C=1.0mA, f=1.0kHz$	350			1400
NF	$V_{CE}=5.0V, I_C=100\mu A, R_S=10k\Omega, f=10Hz$ to 15.7kHz			3.0	dB

- ◆ Enhanced specification
- ◆◆ Additional Enhanced specification

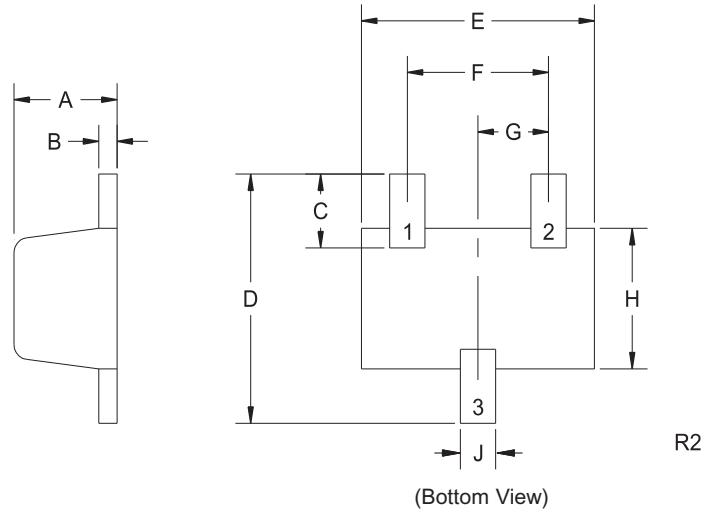
R2 (9-February 2010)

CMUT5087E PNP
 CMUT5088E NPN



**ENHANCED SPECIFICATION
 SURFACE MOUNT
 COMPLEMENTARY
 SILICON TRANSISTORS**

SOT-523 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODES:

CMUT5087E: U87
 CMUT5088E: U88

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 (9-February 2010)

www.centalsemi.com

www.DataSheet4U.com

www.DataSheet4U.com