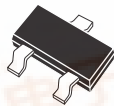


CMPT5087E PNP
CMPT5088E NPN

ENHANCED SPECIFICATION
SURFACE MOUNT ULTRAmulti™
COMPLEMENTARY
SILICON TRANSISTORS

ENHANCED
E
SPECIFICATION



SOT-23 CASE

Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT5087E, and CMPT5088E, are Silicon transistors in an epoxy molded surface mount package with enhanced specifications designed for applications requiring high gain and low noise.

MARKING CODES:

CMPT5087E PNP MARKING CODE: C2QE
CMPT5088E NPN MARKING CODE: C1QE

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

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

SYMBOL

V_{CBO}	50
V_{CEO}	50
V_{EBO}	5.0
I_C	100
P_D	350
T_J, T_{stg}	-65 to +150
θ_{JA}	357

UNITS

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

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

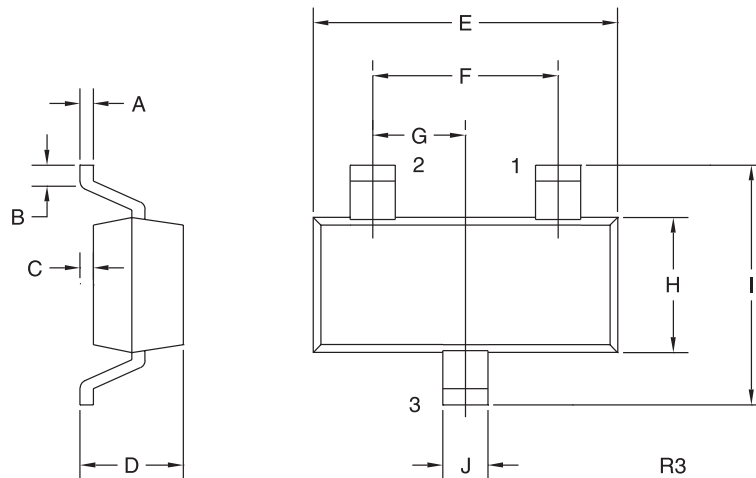
SYMBOL	TEST CONDITIONS	TYP			MAX	UNITS
		MIN	NPN	PNP		
I_{CBO}	$V_{CB}=20\text{V}$				50	nA
I_{EBO}	$V_{EB}=3.0\text{V}$				50	nA
◆ BV_{CBO}	$I_C=100\mu\text{A}$	50	135	150		V
◆ BV_{CEO}	$I_C=1.0\text{mA}$	50	65	105		V
◆ BV_{EBO}	$I_E=100\mu\text{A}$	5.0	8.7	7.5		V
◆ $V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$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

- ◆ Enhanced specification.
- ◆◆ Additional Enhanced specification.

R0 (28-October 2004)

ENHANCED SPECIFICATION
SURFACE MOUNT ULTRAmi[™]
COMPLEMENTARY
SILICON TRANSISTORS

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODES:

CMPT5087E: C2QE
CMPT5088E: C1QE

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)