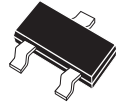


CMPT5087E PNP  
CMPT5088E NPN

**ENHANCED SPECIFICATION  
SURFACE MOUNT ULTRAmulti™  
COMPLEMENTARY  
SILICON TRANSISTORS**

**ENHANCED  
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:** ( $T_A=25^\circ\text{C}$ )

	SYMBOL		UNITS
◆ Collector-Base Voltage	$V_{CBO}$	50	V
◆ Collector-Emitter Voltage	$V_{CEO}$	50	V
◆ Emitter-Base Voltage	$V_{EBO}$	5.0	V
Collector Current	$I_C$	100	mA
Power Dissipation	$P_D$	350	mW
Operating and Storage			
Junction Temperature	$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
Thermal Resistance	$\theta_{JA}$	357	$^\circ\text{C/W}$

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

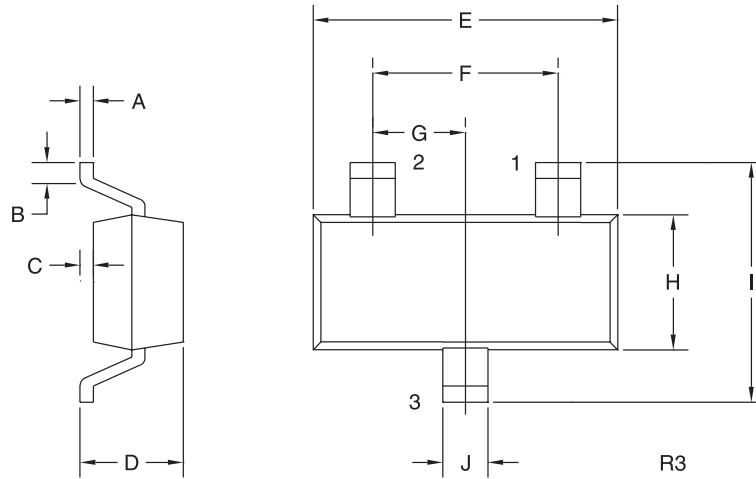
SYMBOL	TEST CONDITIONS	TYP			UNITS	
		MIN	NPN	PNP		
$I_{CBO}$	$V_{CB}=20\text{V}$			50	nA	
$I_{EBO}$	$V_{EB}=3.0\text{V}$			50	nA	
◆ $BV_{CBO}$	$I_C=100\mu\text{A}$	50	135	150	V	
◆ $BV_{CEO}$	$I_C=1.0\text{mA}$	50	65	105	V	
◆ $BV_{EBO}$	$I_E=100\mu\text{A}$	5.0	8.7	7.5	V	
◆ $V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		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<sup>TM</sup>  
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)