

CMPT5086  
CMPT5087

**SURFACE MOUNT  
PNP SILICON TRANSISTOR**



**SOT-23 CASE**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPT5086 and CMPT5087 are PNP silicon transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring high gain and low noise.

**MARKING CODES: CMPT5086: C2P  
CMPT5087: C2Q**

**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**

$V_{CBO}$  50  
 $V_{CEO}$  50  
 $V_{EBO}$  3.0  
 $I_C$  50  
 $P_D$  350  
 $T_J, T_{stg}$  -65 to +150  
 $\theta_{JA}$  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	CMPT5086		CMPT5087		UNITS
		MIN	MAX	MIN	MAX	
$I_{CBO}$	$V_{CB}=10\text{V}$	-	10	-	10	nA
$I_{CBO}$	$V_{CB}=35\text{V}$	-	50	-	50	nA
$BV_{CBO}$	$I_C=100\mu\text{A}$	50	-	50	-	V
$BV_{CEO}$	$I_C=1.0\text{mA}$	50	-	50	-	V
$BV_{EBO}$	$I_E=100\mu\text{A}$	3.0	-	3.0	-	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	-	0.30	-	0.30	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	-	0.85	-	0.85	V
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=0.1\text{mA}$	150	500	250	800	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	150	-	250	-	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	150	-	250	-	
$f_T$	$V_{CE}=5.0\text{V}, I_C=500\mu\text{A}, f=20\text{MHz}$	40	-	40	-	MHz
$C_{ob}$	$V_{CB}=5.0\text{V}, I_E=0, f=1.0\text{MHz}$	-	4.0	-	4.0	pF
$h_{fe}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	150	600	250	900	
NF	$V_{CE}=5.0\text{V}, I_C=20\text{mA}, R_S=10\text{k}\Omega,$ $f=10\text{Hz to } 15.7\text{kHz}$	-	3.0	-	2.0	dB
NF	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}, R_S=3.0\text{k}\Omega, f=1.0\text{kHz}$	-	3.0	-	2.0	dB

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SOT-23 CASE - MECHANICAL OUTLINE



**LEAD CODE:**

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

**MARKING CODES:**

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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)

R5 (1-February 2010)

# Mouser Electronics

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