

CMPT5086  
CMPT5086B  
CMPT5087

**SURFACE MOUNT SILICON  
PNP TRANSISTORS**



**SOT-23 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPT5086, CMPT5086B, and CMPT5087 are silicon PNP 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  
CMPT5086B: C2B  
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**

$V_{CB0}$  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)

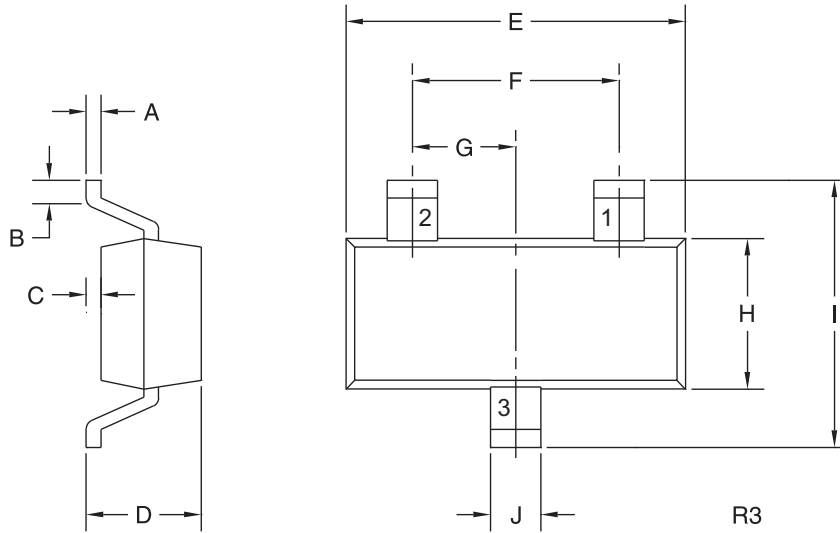
SYMBOL	TEST CONDITIONS	CMPT5086		CMPT5087		UNITS	
		MIN	MAX	MIN	MAX		
$I_{CBO}$	$V_{CB}=10\text{V}$	-	10	-	10	nA	
$I_{CBO}$	$V_{CB}=35\text{V}$	-	50	-	50	nA	
$BV_{CBO}$	$I_C=100\mu\text{A}$	50	-	50	-	V	
$BV_{CEO}$	$I_C=1.0\text{mA}$	50	-	50	-	V	
$BV_{EBO}$	$I_E=100\mu\text{A}$	3.0	-	3.0	-	V	
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	-	0.30	-	0.30	V	
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	-	0.85	-	0.85	V	
$f_T$	$V_{CE}=5.0\text{V}, I_C=500\mu\text{A}, f=20\text{MHz}$	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	
		CMPT5086		CMPT5086B		CMPT5087	
		MIN	MAX	MIN	MAX	MIN	MAX
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=0.1\text{mA}$	150	500	200	400	250	800
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	150		200		250	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	150		200		250	

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**SOT-23 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING CODES:**

CMPT5086: C2P  
 CMPT5086B: C2B  
 CMPT5087: C2Q

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)

R6 (10-February 2017)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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