



# THE DATASHEET OF CMPT5087 TR



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<sub>A</sub>=25°C)**

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

**SYMBOL**

V<sub>CB0</sub> 50  
V<sub>CEO</sub> 50  
V<sub>EBO</sub> 3.0  
I<sub>C</sub> 50  
P<sub>D</sub> 350  
T<sub>J</sub>, T<sub>stg</sub> -65 to +150  
θ<sub>JA</sub> 357

**UNITS**

V  
V  
V  
mA  
mW  
°C  
°C/W

**ELECTRICAL CHARACTERISTICS: (T<sub>A</sub>=25°C unless otherwise noted)**

SYMBOL	TEST CONDITIONS	CMPT5086		CMPT5087		UNITS
		MIN	MAX	MIN	MAX	
I <sub>CB0</sub>	V <sub>CB</sub> =10V	-	10	-	10	nA
I <sub>CB0</sub>	V <sub>CB</sub> =35V	-	50	-	50	nA
BV <sub>CB0</sub>	I <sub>C</sub> =100μA	50	-	50	-	V
BV <sub>CEO</sub>	I <sub>C</sub> =1.0mA	50	-	50	-	V
BV <sub>EBO</sub>	I <sub>E</sub> =100μA	3.0	-	3.0	-	V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA	-	0.30	-	0.30	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA	-	0.85	-	0.85	V
f <sub>T</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =500μA, f=20MHz	40	-	40	-	MHz
C <sub>ob</sub>	V <sub>CB</sub> =5.0V, I <sub>E</sub> =0, f=1.0MHz	-	4.0	-	4.0	pF
h <sub>fe</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA, f=1.0kHz	150	600	250	900	
NF	V <sub>CE</sub> =5.0V, I <sub>C</sub> =20mA, R <sub>S</sub> =10kΩ, f=10Hz to 15.7kHz	-	3.0	-	2.0	dB
NF	V <sub>CE</sub> =5.0V, I <sub>C</sub> =100μA, R <sub>S</sub> =3.0kΩ, f=1.0kHz	-	3.0	-	2.0	dB

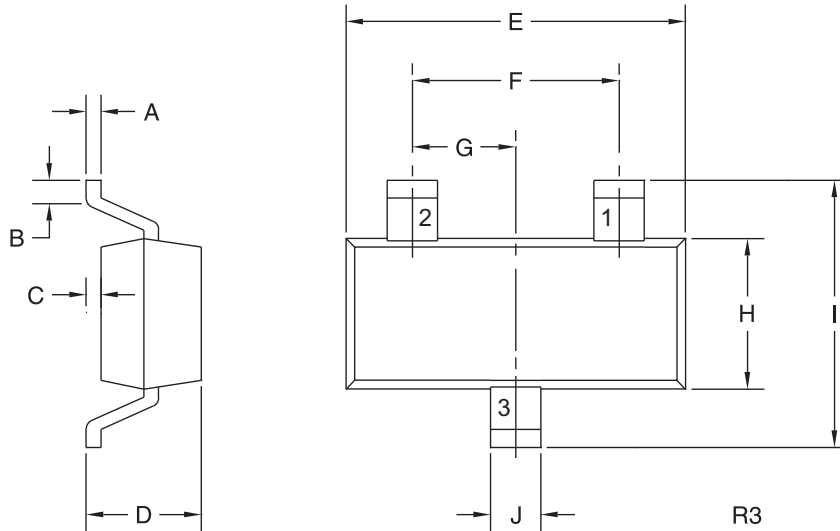
		CMPT5086		CMPT5086B		CMPT5087	
		MIN	MAX	MIN	MAX	MIN	MAX
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =0.1mA	150	500	200	400	250	800
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA	150		200		250	
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =10mA	150		200		250	

CMPT5086  
 CMPT5086B  
 CMPT5087



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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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- ✓ Excess Inventory Management