



**THE DATASHEET OF  
CMPT5086 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:** ( $T_A=25^\circ\text{C}$ )

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)

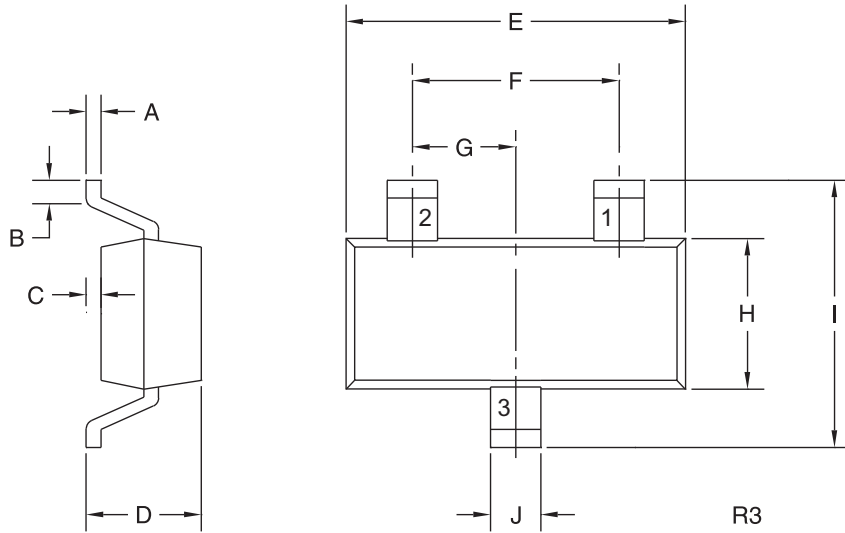
| SYMBOL        | TEST CONDITIONS  | CMPT5086 |      | CMPT5087  |      | UNITS    |     |
|---------------|--|----------|------|-----------|------|----------|-----|
|               |  | MIN      | MAX  | MIN       | MAX  |          |     |
| $I_{CBO}$     | $V_{CB}=10\text{V}$  | -        | 10   | -         | 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        |     |
| $f_T$         | $V_{CE}=5.0\text{V}, I_C=500\mu\text{A}, f=20\text{MHz}$   | 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            | $V_{CE}=5.0\text{V}, I_C=20\text{mA}, R_S=10\text{k}\Omega,$<br>$f=10\text{Hz to } 15.7\text{kHz}$ | -        | 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      |     |

CMPT5086  
 CMPT5086B  
 CMPT5087



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 PNP TRANSISTORS**

**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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## Looking for pricing, stock, or lifecycle information?

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- [Central Semiconductor Corp Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management