

CMPT5086
CMPT5086B
CMPT5087

**SURFACE MOUNT SILICON
PNP TRANSISTORS**



SOT-23 CASE



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
 θ_{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)

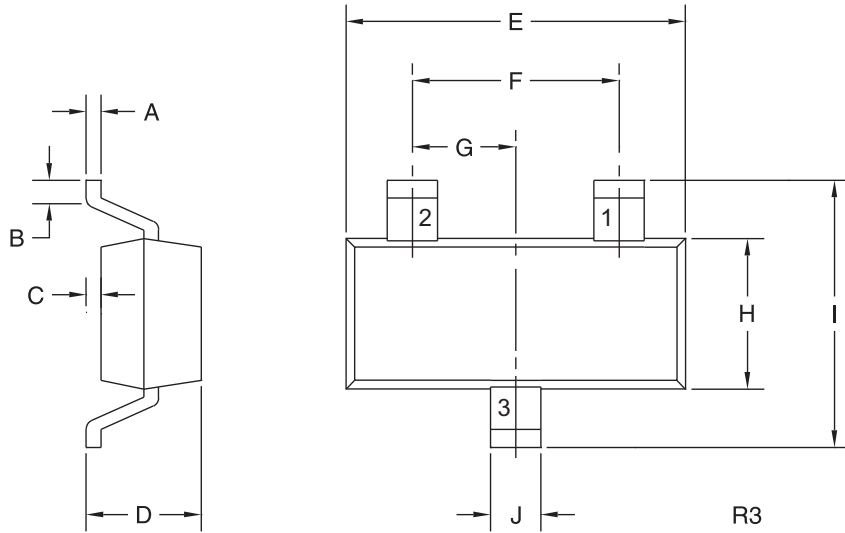
| SYMBOL | TEST CONDITIONS | CMPT5086 | | CMPT5087 | | UNITS | |
|---------------|--|----------|------|-----------|------|----------|-----|
| | | MIN | MAX | MIN | MAX | | |
| I_{CBO} | $V_{CB}=10\text{V}$ | - | 10 | - | 10 | nA | |
| I_{CBO} | $V_{CB}=35\text{V}$ | - | 50 | - | 50 | nA | |
| BV_{CBO} | $I_C=100\mu\text{A}$ | 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:

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 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



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

DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2nd 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

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).

CONTACT US

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