

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		CMPT5086B		CMPT5087		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=10\text{V}$	-	10	-	10	-	10	nA
I_{CBO}	$V_{CB}=35\text{V}$	-	50	-	50	-	50	nA
BV_{CBO}	$I_C=100\mu\text{A}$	50	-	50	-	50	-	V
BV_{CEO}	$I_C=1.0\text{mA}$	50	-	50	-	50	-	V
BV_{EBO}	$I_E=100\mu\text{A}$	3.0	-	3.0	-	3.0	-	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	-	0.30	-	0.30	-	0.30	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	-	0.85	-	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	-	40	-	MHz
C_{ob}	$V_{CB}=5.0\text{V}, I_E=0, f=1.0\text{MHz}$	-	4.0	-	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	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	-	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	-	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	

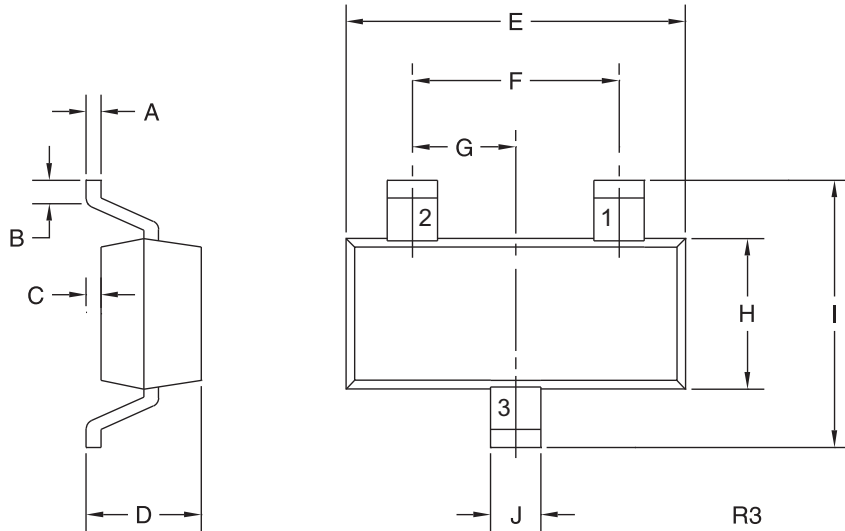
R6 (10-February 2017)

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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



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).

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