

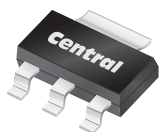


**THE DATASHEET OF  
CBCP68 TR PBFREE**



CBCP68 NPN  
CBCP69 PNP

**SURFACE MOUNT SILICON  
COMPLEMENTARY  
SMALL SIGNAL TRANSISTORS**



**SOT-223 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CBCP68 and CBCP69 are complementary silicon transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring high current capability.

**MARKING: FULL PART NUMBER**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$ )

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

**SYMBOL**

$V_{CES}$  25  
 $V_{CEO}$  20  
 $V_{EBO}$  5.0  
 $I_C$  1.0  
 $I_{CM}$  2.0  
 $I_B$  100  
 $I_{BM}$  200  
 $P_D$  2.0  
 $T_J, T_{stg}$  -65 to +150  
 $\theta_{JA}$  62.5

**UNITS**

V  
V  
V  
A  
A  
mA  
mA  
W  
 $^\circ\text{C}$   
 $^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

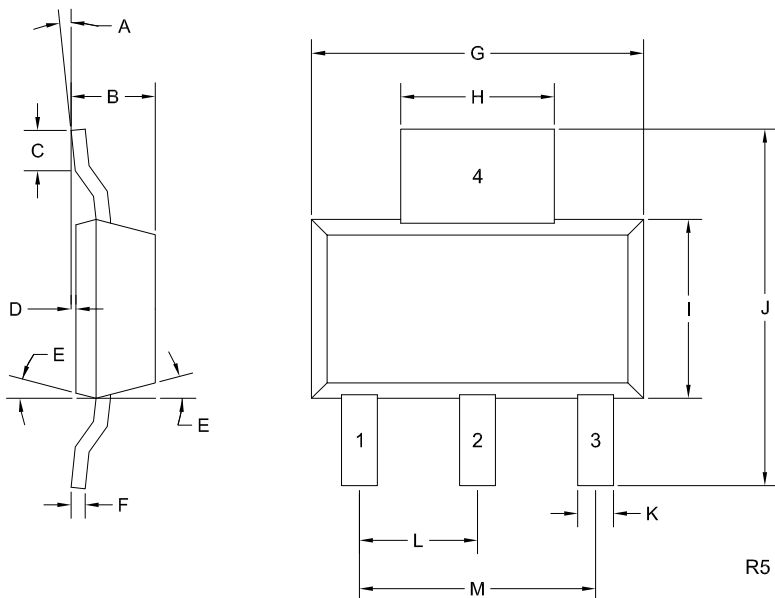
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{CBO}$	$V_{CB}=25\text{V}$			10	$\mu\text{A}$
$I_{CBO}$	$V_{CB}=25\text{V}, T_A=150^\circ\text{C}$			1.0	mA
$I_{EBO}$	$V_{EB}=5.0\text{V}$			10	$\mu\text{A}$
$BV_{CBO}$	$I_C=10\mu\text{A}$	25			V
$BV_{CEO}$	$I_C=10\text{mA}$	20			V
$BV_{EBO}$	$I_E=1.0\mu\text{A}$	5.0			V
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$			0.5	V
$V_{BE(ON)}$	$V_{CE}=10\text{V}, I_C=5.0\text{mA}$		0.6		V
$V_{BE(ON)}$	$V_{CE}=1.0\text{V}, I_C=1.0\text{A}$			1.0	V
$h_{FE}$	$V_{CE}=10\text{V}, I_C=5.0\text{mA}$	50			
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=500\text{mA}$	85		375	
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=1.0\text{A}$	60			
$f_T$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=20\text{MHz}$	65			MHz
$C_{ob}$	$V_{CB}=5.0\text{V}, I_E=0, f=450\text{kHz}$		25		pF

CBCP68 NPN  
CBCP69 PNP

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**SOT-223 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING:**

**FULL PART NUMBER**

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0°	10°	0°	10°
B	0.059	0.071	1.50	1.80
C	0.018	---	0.45	---
D	0.000	0.004	0.00	0.10
E	10°		10°	
F	0.009	0.014	0.23	0.35
G	0.248	0.270	6.30	6.85
H	0.114	0.122	2.90	3.10
I	0.130	0.146	3.30	3.70
J	0.264	0.287	6.70	7.30
K	0.024	0.033	0.60	0.85
L	0.091		2.30	
M	0.181		4.60	

SOT-223 (REV: R5)

R7 (30-April 2019)

## 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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