



**THE DATASHEET OF  
CMPT8099 TR PBFREE**



CMPT8099 NPN  
CMPT8599 PNP

**SURFACE MOUNT  
COMPLEMENTARY  
SILICON TRANSISTORS**



**SOT-23 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPT8099 and CMPT8599 are complementary silicon transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for general purpose audio amplifier applications.

**MARKING CODES: CMPT8099: CKB  
CMPT8599: C2W**

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

Collector-Base Voltage	$V_{CB0}$	80	V
Collector-Emitter Voltage	$V_{CEO}$	80	V
Emitter-Base Voltage	$V_{EBO}$	6.0	V
Continuous Collector Current	$I_C$	500	mA
Power Dissipation	$P_D$	350	mW
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
Thermal Resistance	$\theta_{JA}$	357	$^\circ\text{C/W}$

SYMBOL	CMPT8099	CMPT8599	UNITS
$V_{CB0}$	80	80	V
$V_{CEO}$	80	80	V
$V_{EBO}$	6.0	5.0	V
$I_C$		500	mA
$P_D$		350	mW
$T_J, T_{stg}$		-65 to +150	$^\circ\text{C}$
$\theta_{JA}$		357	$^\circ\text{C/W}$

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

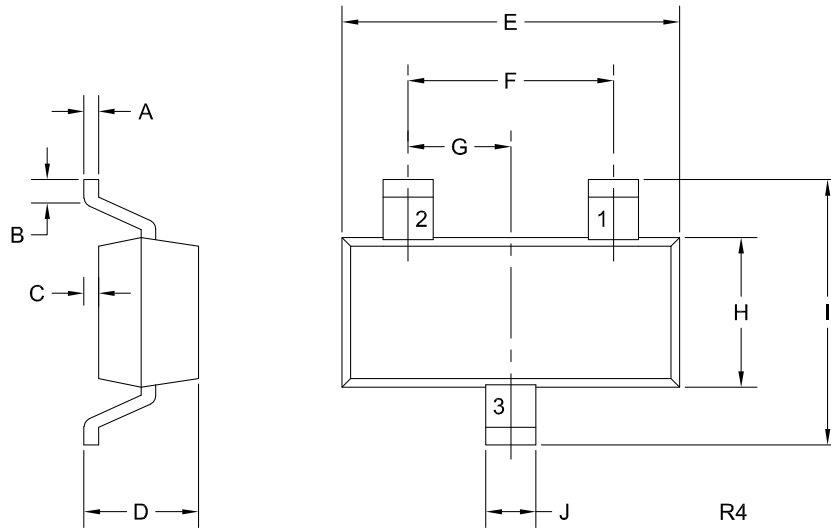
SYMBOL	TEST CONDITIONS	CMPT8099		CMPT8599		UNITS
		MIN	MAX	MIN	MAX	
$I_{CBO}$	$V_{CB}=80\text{V}$		0.1		0.1	$\mu\text{A}$
$I_{EBO}$	$V_{BE}=6.0\text{V}$		0.1		-	$\mu\text{A}$
$I_{EBO}$	$V_{BE}=4.0\text{V}$		-		0.1	$\mu\text{A}$
$BV_{CB0}$	$I_C=100\mu\text{A}$	80		80		V
$BV_{CEO}$	$I_C=10\text{mA}$	80		80		V
$BV_{EBO}$	$I_E=10\mu\text{A}$	6.0		5.0		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=5.0\text{mA}$		0.4		0.4	V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		0.3		0.3	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	0.6	0.8	0.6	0.8	V
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	100	300	100	300	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	100		100		
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	75		75		
$f_T$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	150		150		MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		6.0		4.5	pF
$C_{ib}$	$V_{BE}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		60		30	pF

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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODES:

CMPT8099: CKB  
 CMPT8599: C2W

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	0.044	0.89	1.12
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	0.104	2.10	2.64
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R4)

R6 (2-May 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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- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
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