

CMLT8099

**SURFACE MOUNT SILICON  
DUAL NPN TRANSISTOR**



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMLT8099 consists of two individual, isolated 8099 NPN silicon transistors, manufactured by the epitaxial planar process and epoxy molded in an SOT-563 surface mount package. This device has been designed for small signal general purpose amplifier applications.

**MARKING CODE: C89**

**FEATURES:**

- Device is **Halogen Free** by design
- Current  $I_C=500\text{mA}$
- Voltage  $V_{CEO}=80\text{V}$

**APPLICATIONS:**

- Small signal general purpose amplifiers

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

Collector-Base Voltage	$V_{CBO}$	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	$^\circ\text{C}/\text{W}$

**SYMBOL**

$V_{CBO}$	80	V
$V_{CEO}$	80	V
$V_{EBO}$	6.0	V
$I_C$	500	mA
$P_D$	350	mW
$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
$\Theta_{JA}$	357	$^\circ\text{C}/\text{W}$

**UNITS**

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

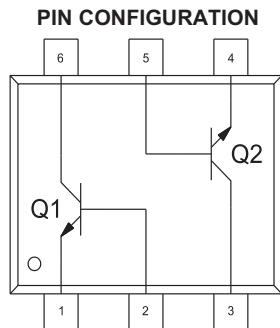
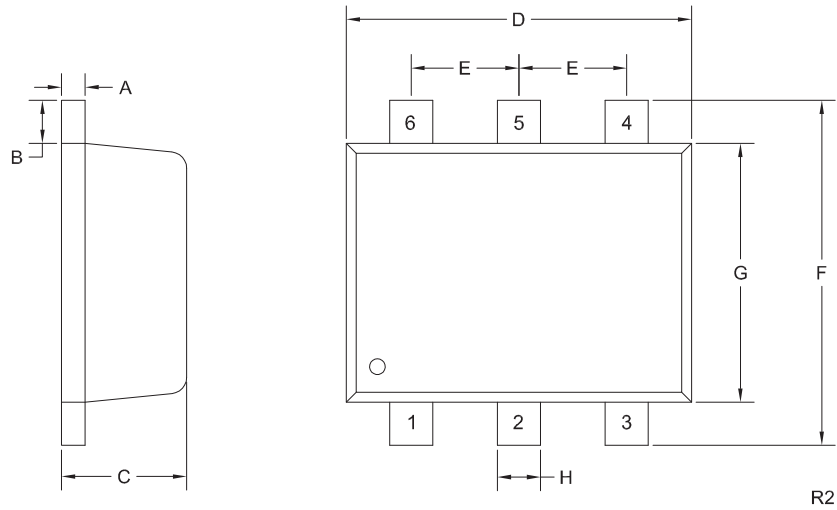
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$I_{CBO}$	$V_{CB}=80\text{V}$		0.1	$\mu\text{A}$
$I_{EBO}$	$V_{BE}=6.0\text{V}$		0.1	$\mu\text{A}$
$BV_{CBO}$	$I_C=100\mu\text{A}$	80		V
$BV_{CEO}$	$I_C=10\text{mA}$	80		V
$BV_{EBO}$	$I_E=10\mu\text{A}$	6.0		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=5.0\text{mA}$		0.4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

R4 (2-May 2019)

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**SOT-563 CASE - MECHANICAL OUTLINE**



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.0027	0.007	0.07	0.18
B	0.008		0.20	
C	0.017	0.024	0.45	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.059	0.067	1.50	1.70
G	0.043	0.051	1.10	1.30
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R2)

**LEAD CODE:**

- 1) Emitter Q1
- 2) Base Q1
- 3) Collector Q1
- 4) Emitter Q2
- 5) Base Q2
- 6) Collector Q2

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## 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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