

CMLT8099M

**SURFACE MOUNT  
DUAL, MATCHED  
NPN SILICON TRANSISTORS**

PICOmini™



**SOT-563 CASE**

• Device is **Halogen Free** by design

**APPLICATIONS:**

- Small signal general purpose amplifiers

**MAXIMUM RATINGS:** (T<sub>A</sub>=25°C)

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



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMLT8099M consists of two individual, isolated 8099 NPN silicon transistors with matched V<sub>BE(ON)</sub> characteristics. This PICOmini™ device is manufactured by the epitaxial planar process and epoxy molded in an SOT-563 surface mount package.

**MARKING CODE: 8CM**

**FEATURES:**

- Transistor pair matched for V<sub>BE(ON)</sub>

SYMBOL		UNITS
V <sub>CBO</sub>	80	V
V <sub>CEO</sub>	80	V
V <sub>EBO</sub>	6.0	V
I <sub>C</sub>	500	mA
P <sub>D</sub>	350	mW
T <sub>J</sub> , T <sub>stg</sub>	-65 to +150	°C
θ <sub>JA</sub>	357	°C/W

**ELECTRICAL CHARACTERISTICS PER TRANSISTOR:** (T<sub>A</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I <sub>CBO</sub>	V <sub>CB</sub> =80V		0.1	μA
I <sub>EBO</sub>	V <sub>BE</sub> =6.0V		0.1	μA
BV <sub>CBO</sub>	I <sub>C</sub> =100μA	80		V
BV <sub>CEO</sub>	I <sub>C</sub> =10mA	80		V
BV <sub>EBO</sub>	I <sub>E</sub> =10μA	6.0		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =5.0mA		0.4	V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA		0.3	V
V <sub>BE(ON)</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =10mA	0.6	0.8	V
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA	100	300	
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =10mA	100		
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =100mA	75		
f <sub>T</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =10mA, f=100MHz	150		MHz
C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1.0MHz		6.0	pF
C <sub>ib</sub>	V <sub>BE</sub> =0.5V, I <sub>C</sub> =0, f=1.0MHz		25	pF

**MATCHING CHARACTERISTICS:**

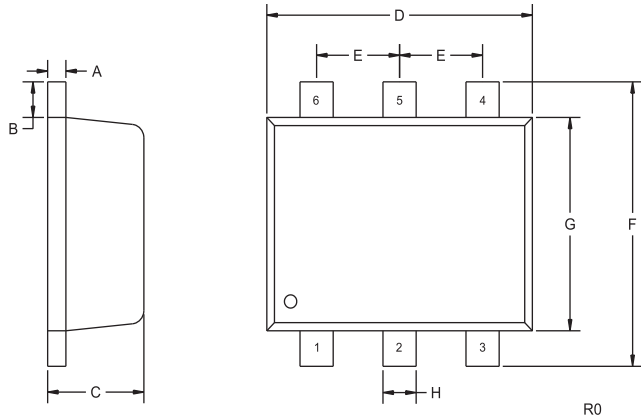
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
V <sub>BE1</sub> -V <sub>BE2</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0μA		10	mV
V <sub>BE1</sub> -V <sub>BE2</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =5.0μA		10	mV
V <sub>BE1</sub> -V <sub>BE2</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =10μA		10	mV
V <sub>BE1</sub> -V <sub>BE2</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =100μA		10	mV

R1 (20-January 2010)

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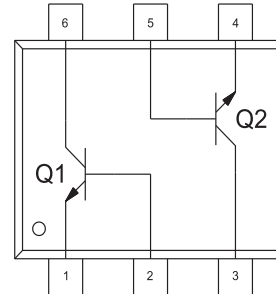
**SOT-563 CASE - MECHANICAL OUTLINE**



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.007	0.10	0.18
B	0.008		0.20	
C	0.022	0.024	0.56	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.061	0.067	1.55	1.70
G	0.047		1.20	
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R0)

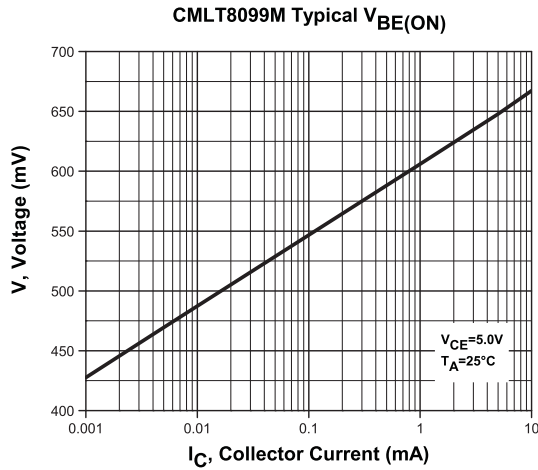
**PIN CONFIGURATION**



**LEAD CODE:**

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

**MARKING CODE: 8CM**



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