CMLT8099M

SURFACE MOUNT
DUAL, MATCHED
NPN SILICON TRANSISTORS



SOT-563 CASE

• Device is ***Halogen Free*** by design

Central Semiconductor Corp.
www.centralsemi.com

DESCRIPTION:

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

MARKING CODE: 8CM

APPLICATIONS:

• Small signal general purpose amplifiers

FEATURES:

• Transistor pair matched for $V_{BE(ON)}$

MAXIMUM RATINGS: (T_A=25°C)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Continous Collector Current	I_C	500	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
Thermal Resistance	Θ_{JA}	357	°C/W

ELECTRICAL CHARACTERISTICS PER TRANSISTOR: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	V_{CB}=80V		0.1	μA
I_{EBO}	V_{BE}=6.0V		0.1	μA
BV_{CBO}	I_C=100μA	80		V
BV_{CEO}	I_C=10mA	80		V
BV_{EBO}	I_E=10μA	6.0		V
$V_{CE(SAT)}$	I_C=100mA, I_B=5.0mA		0.4	V
$V_{CE(SAT)}$	I_C=100mA, I_B=10mA		0.3	V
$V_{BE(ON)}$	V_{CE}=5.0V, I_C=10mA	0.6	0.8	V
h_{FE}	V_{CE}=5.0V, I_C=1.0mA	100	300	
h_{FE}	V_{CE}=5.0V, I_C=10mA	100		
h_{FE}	V_{CE}=5.0V, I_C=100mA	75		
f_T	V_{CE}=5.0V, I_C=10mA, f=100MHz	150		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz		6.0	pF
C_{ib}	V_{BE}=0.5V, I_C=0, f=1.0MHz		25	pF

MATCHING CHARACTERISTICS:

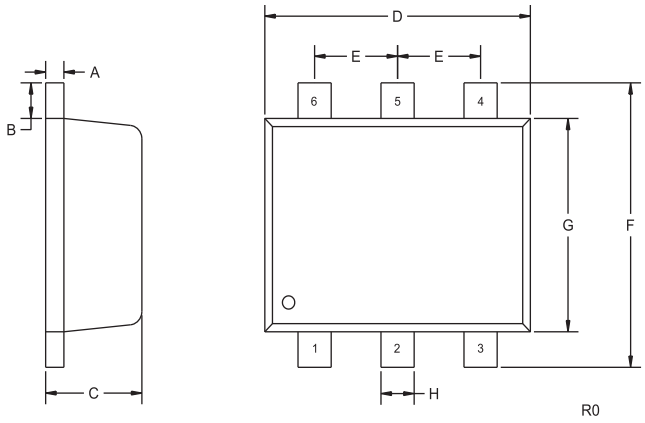
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$\lvert V_{BE1}-V_{BE2}\rvert$	V_{CE}=5.0V, I_C=1.0μA		10	mV
$\lvert V_{BE1}-V_{BE2}\rvert$	V_{CE}=5.0V, I_C=5.0μA		10	mV
$\lvert V_{BE1}-V_{BE2}\rvert$	V_{CE}=5.0V, I_C=10μA		10	mV
$\lvert V_{BE1}-V_{BE2}\rvert$	V_{CE}=5.0V, I_C=100μA		10	mV

R1 (20-January 2010)

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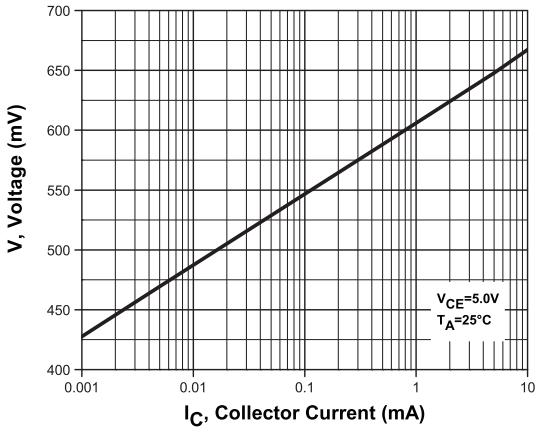
SOT-563 CASE - MECHANICAL OUTLINE



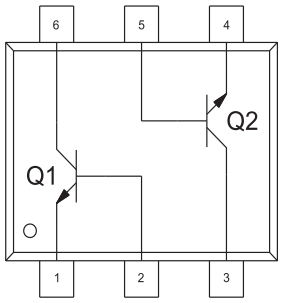
DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.004	0.007	0.10	0.18
B	0.008		0.20	
C	0.022	0.024	0.56	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.061	0.067	1.55	1.70
G	0.047		1.20	
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R0)

CMLT8099M Typical $V_{BE(ON)}$



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