

**CMLT491E**  
**SURFACE MOUNT**  
**PICOMini™**  
**NPN SILICON TRANSISTOR**

**PICOmini™**



**SOT-563 CASE**

# Central™

**Semiconductor Corp.**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMLT491E type is an NPN Low  $V_{CE(Sat)}$  1.0 Amp transistor, epoxy molded in a space saving PICOMini™ SOT-563 surface mount package and designed for applications requiring a high current capability and low saturation voltages.

**MARKING CODE: L49**

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

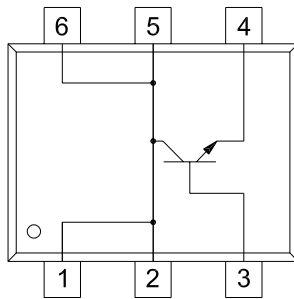
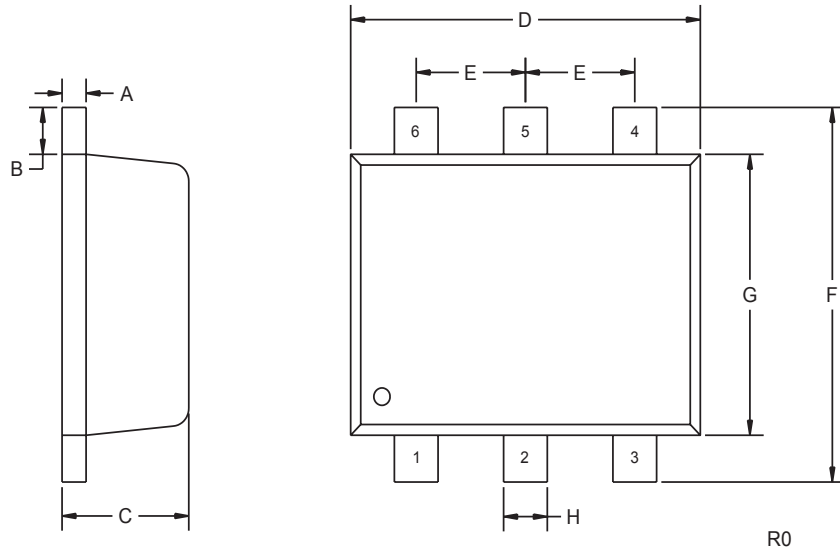
	<b>SYMBOL</b>		<b>UNITS</b>
Collector-Base Voltage	$V_{CBO}$	80	V
Collector-Emitter Voltage	$V_{CEO}$	60	V
Emitter-Base Voltage	$V_{EBO}$	5.0	V
Collector Current	$I_C$	1.0	A
Base Current	$I_B$	200	mA
Collector Current (Peak)	$I_{CM}$	2.0	A
Power Dissipation	$P_D$	250	mW
Operating and Storage			
Junction Temperature	$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
Thermal Resistance	$\theta_{JA}$	500	$^\circ\text{C/W}$

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

<b>SYMBOL</b>	<b>TEST CONDITIONS</b>	<b>MIN</b>	<b>MAX</b>	<b>UNITS</b>
$I_{CBO}$	$V_{CB}=60\text{V}$		100	nA
$I_{EBO}$	$V_{EB}=4.0\text{V}$		100	nA
$BV_{CBO}$	$I_C=100\mu\text{A}$	80		V
$BV_{CEO}$	$I_C=10\text{mA}$	60		V
$BV_{EBO}$	$I_E=100\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.20	V
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$		0.40	V
$V_{BE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$		1.1	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{A}$		1.0	V
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	200		
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=500\text{mA}$	200	600	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{A}$	50		
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{A}$	15		
$f_T$	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	150		MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		10	pF

R2 (7-August 2003)

**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)

**LEAD CODE:**

- 1) COLLECTOR
- 2) COLLECTOR
- 3) BASE
- 4) EMITTER
- 5) COLLECTOR
- 6) COLLECTOR

Pins 1, 2, 5 and 6 are common.

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