

CMLT491E
SURFACE MOUNT
PICOmini™
NPN SILICON TRANSISTOR



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

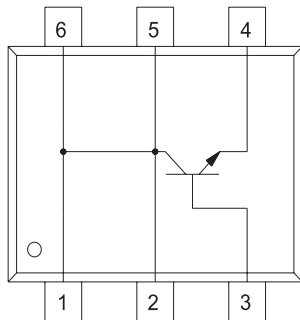
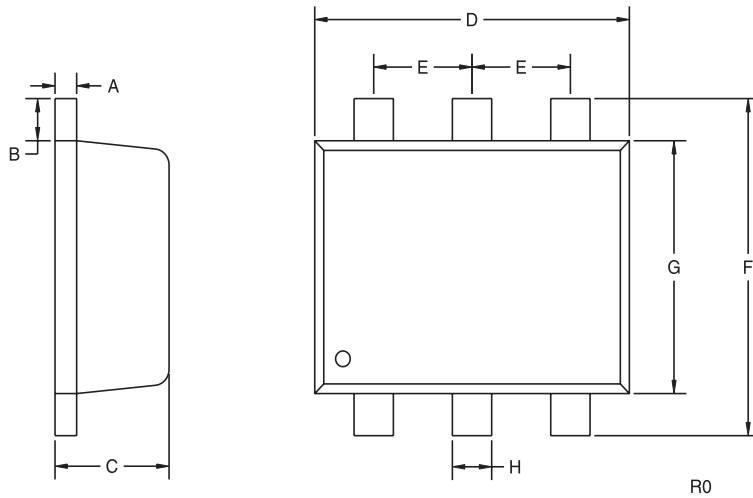
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	80	V
Collector-Emitter Voltage	V_{CE0}	60	V
Emitter-Base Voltage	V_{EB0}	5.0	V
Collector Current	I_C	1.0	A
Base Current	I_B	200	mA
Collector Current (Peak)	I_{CM}	2.0	A
Power Dissipation	P_D	250	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	500	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CB0}	$V_{CB}=60\text{V}$		100	nA
I_{EB0}	$V_{EB}=4.0\text{V}$		100	nA
BV_{CB0}	$I_C=100\mu\text{A}$	80		V
BV_{CE0}	$I_C=10\text{mA}$	60		V
BV_{EB0}	$I_E=100\mu\text{A}$	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

R1 (13-November 2002)

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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