

CMLT591E

**SURFACE MOUNT SILICON
PNP TRANSISTOR**



SOT-563 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLT591E is a PNP Low $V_{CE(SAT)}$ 1.0 Amp transistor, epoxy molded in a space saving SOT-563 surface mount package and designed for applications requiring a high current capability and low saturation voltages.

MARKING CODE: L59

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

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

SYMBOL

V_{CBO}	80
V_{CEO}	60
V_{EBO}	5.0
I_C	1.0
I_{CM}	2.0
I_B	200
P_D	250
T_J, T_{stg}	-65 to +150
Θ_{JA}	500

UNITS

V
V
V
A
A
mA
mW
$^{\circ}\text{C}$
$^{\circ}\text{C/W}$

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

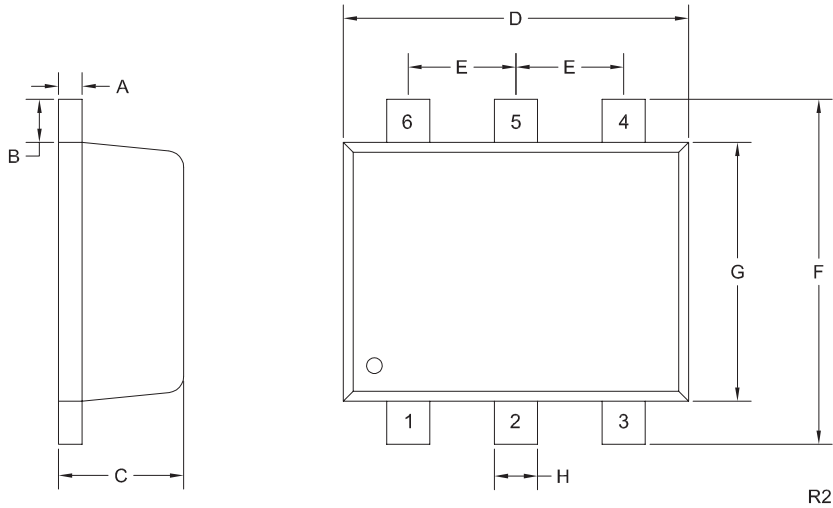
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=60\text{V}$			100	nA
I_{EBO}	$V_{EB}=4.0\text{V}$			100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	80			V
BV_{CEO}	$I_C=10\text{mA}$	60			V
BV_{EBO}	$I_E=100\mu\text{A}$	5.0			V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.20	V
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$			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}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		14	20	pF

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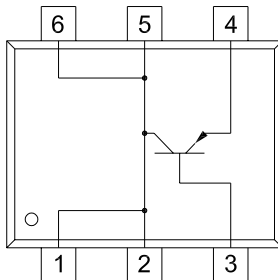


SOT-563 CASE - MECHANICAL OUTLINE



R2

PIN CONFIGURATION



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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DIMENSIONS

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)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd 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

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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