

CMLT3820G

**SURFACE MOUNT
VERY LOW $V_{CE(SAT)}$
NPN SILICON TRANSISTOR**



www.centrasemi.com

PICOmini™



SOT-563 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLT3820G is a very low $V_{CE(SAT)}$ NPN Transistor, designed for applications where small size and efficiency are the prime requirements. Packaged in a space saving PICOmini™ SOT-563 surface mount package, this component provides performance characteristics suitable for the most demanding size constrained applications.

MARKING CODE: 38G

APPLICATIONS:

- DC/DC Converters
- Voltage Clamping
- Protection Circuits
- Battery powered Cell Phones, Pagers, Digital Cameras, PDAs, Laptops, etc.

FEATURES:

- Device is **Halogen Free** by design
- High Current ($I_C=1.0A$)
- $V_{CE(SAT)}=0.28V$ MAX @ $I_C=1.0A$
- PICOmini™ SOT563 surface mount package
- Complementary PNP device **CMLT7820G**

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

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
V_{CEO}	60	V
V_{EBO}	5.0	V
I_C	1.0	A
I_{CM}	2.0	A
I_B	300	mA
P_D	250	mW
T_J, T_{stg}	-65 to +150	$^\circ C$
θ_{JA}	500	$^\circ C/W$

UNITS

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

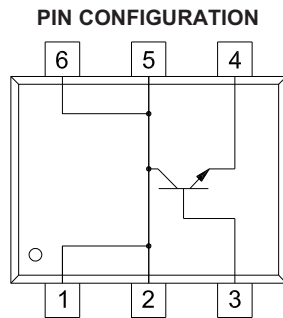
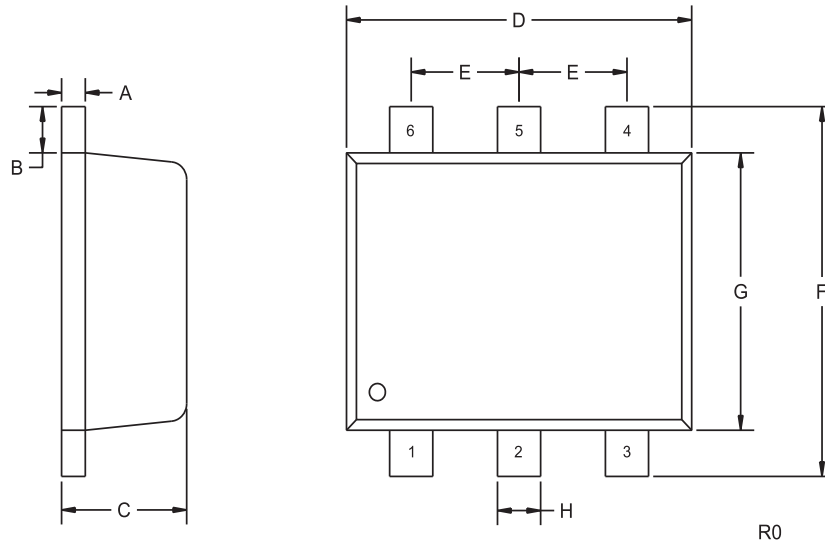
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=60V$		100	nA
I_{EBO}	$V_{EB}=5.0V$		100	nA
BV_{CBO}	$I_C=100\mu A$	80		V
BV_{CEO}	$I_C=10mA$	60		V
BV_{EBO}	$I_E=100\mu A$	5.0		V
$V_{CE(SAT)}$	$I_C=100mA, I_B=1.0mA$		0.115	V
$V_{CE(SAT)}$	$I_C=500mA, I_B=50mA$		0.15	V
$V_{CE(SAT)}$	$I_C=1.0A, I_B=100mA$		0.28	V
$V_{BE(SAT)}$	$I_C=1.0A, I_B=50mA$		1.1	V
$V_{BE(ON)}$	$V_{CE}=5.0V, I_C=1.0A$		0.9	V
h_{FE}	$V_{CE}=5.0V, I_C=1.0mA$	200		
h_{FE}	$V_{CE}=5.0V, I_C=500mA$	200		
h_{FE}	$V_{CE}=5.0V, I_C=1.0A$	100		
f_T	$V_{CE}=10V, I_C=50mA$	150		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		10	pF

R2 (20-January 2010)

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SOT-563 CASE - MECHANICAL OUTLINE



SYMBOL	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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