



CMLT3820G

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



**Central™
Semiconductor Corp.**

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.

MAXIMUM RATINGS: (T_A=25°C)

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

FEATURES:

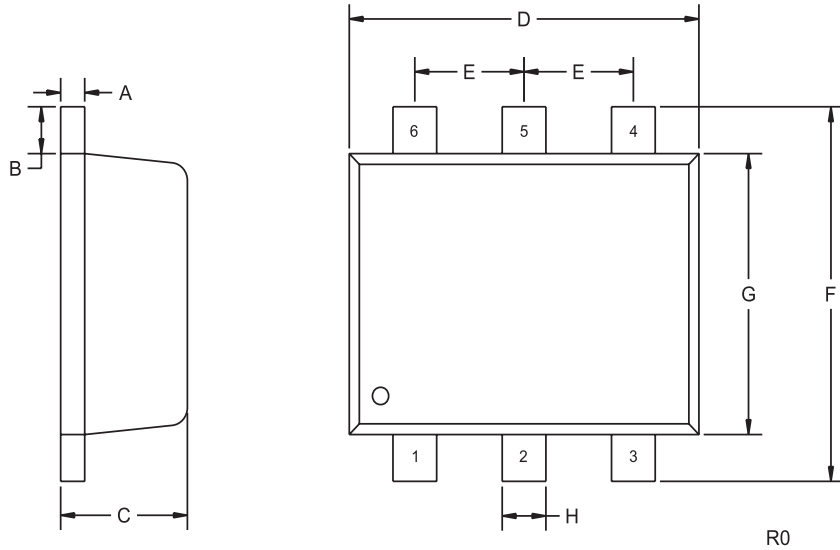
- Device is **Halogen Free** by design
- High Current (I_C=1.0A)
- V_{CE(SAT)}=0.28V MAX @ I_C=1.0A
- PICOmini™ SOT563 surface mount package
- Complementary PNP device **CMLT7820G**

SYMBOL		UNITS
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	°C
θ _{JA}	500	°C/W

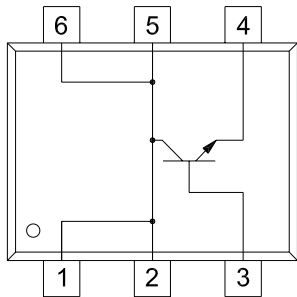
ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

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 =100µA	80		V
BV _{CEO}	I _C =10mA	60		V
BV _{EBO}	I _E =100µA	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

SOT-563 CASE - MECHANICAL OUTLINE



PIN CONFIGURATION



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.)

MARKING CODE: 38G