CMLT7820G

SURFACE MOUNT
PICOmini™
VERY LOW $V_{CE(SAT)}$
PNP SILICON TRANSISTOR

PICOmini™

SOT-563 CASE

Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLT7820G is a very low $V_{CE(SAT)}$ PNP 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: 78G

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)
- $V_{CE(SAT)}$=0.34V MAX @ I_C=1.0A
- PICOmini™ SOT563 surface mount package
- Complementary NPN device **CMLT3820G**

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Continuous Collector Current	I_C	1.0	A
Peak Collector Current	I_{CM}	2.0	A
Base Current	I_B	300	mA
Power Dissipation	P_D	250	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
Thermal Resistance	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		0.175	V
$V_{CE(SAT)}$	I_C=500mA, I_B=50mA		0.18	V
$V_{CE(SAT)}$	I_C=1.0A, I_B=100mA		0.34	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	150		
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		15	pF

R1 (30-September 2008)

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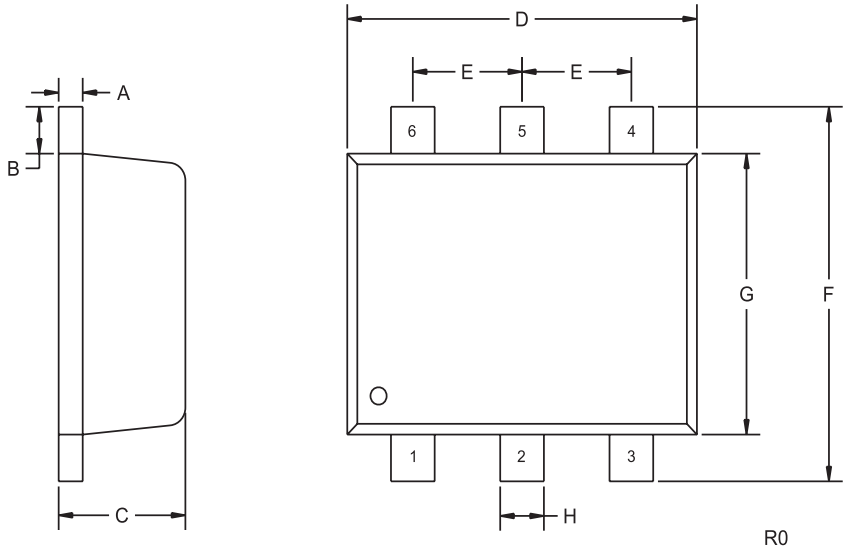
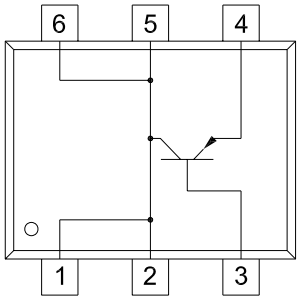
SOT-563 CASE - MECHANICAL OUTLINE



R0

PIN CONFIGURATION



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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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