CTLT3820-M563

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

Top View Bottom View

TLM563 CASE

Central™ Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CTLT3820-M563 is a very low $V_{CE(SAT)}$ NPN Transistor packaged in a space saving 1.6 x 1.6mm TLM™ surface mount package. This device is a TLM™ equivalent of the popular CMLT3820G, SOT-563 device, featuring enhanced thermal characteristics, a package footprint compatible with standard SOT-563 mounting pad geometries, and a height profile of only 0.4mm.

MARKING CODE: CKT

• Device is ***Halogen Free*** by design

APPLICATIONS:

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

FEATURES:

- High Current (I_C=1.0A)
- $V_{CE(SAT)}$=0.28V MAX @ I_C=1.0A
- Low Profile 0.4mm Package compatible with SOT-563 mounting pad geometries.
- Complementary PNP device **CTLT7820-M563**

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
Continuous Base Current	I_B	300	mA
Power Dissipation	P_D	500	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
Thermal Resistance	Θ_{JA}	250	°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

R0 (24-September 2009)

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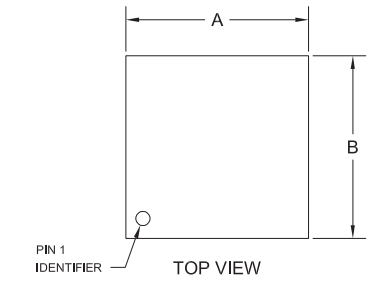
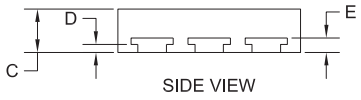
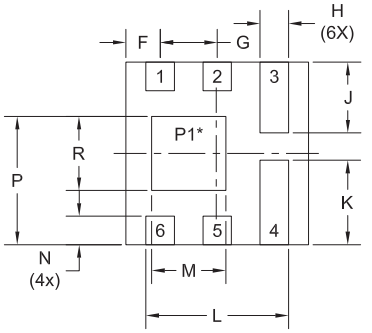
TLM563 CASE - MECHANICAL OUTLINE







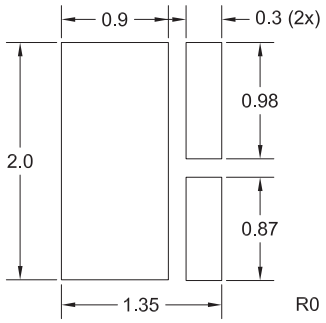
* Exposed pad P1 common to pins 1, 2, 5, and 6.

DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.062	0.064	1.57	1.63
B	0.062	0.064	1.57	1.63
C	0.014	0.017	0.36	0.43
D	0.002	0.004	0.04	0.10
E	0.004	0.006	0.10	0.16
F	0.011	0.013	0.27	0.33
G	0.019	0.021	0.47	0.53
H	0.009	0.011	0.22	0.28
J	0.023	0.026	0.59	0.65
K	0.028	0.030	0.71	0.77
L	0.048	0.050	1.22	1.28
M	0.024	0.027	0.62	0.68
N	0.009	0.011	0.22	0.28
P	0.043	0.045	1.09	1.16
R	0.024	0.027	0.62	0.68

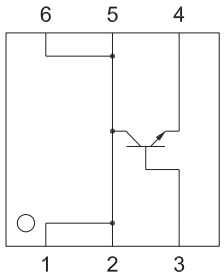
TLM563 (REV:R1)

SUGGESTED MOUNTING PADS

(Dimensions in mm)



PIN CONFIGURATION



LEAD CODE:
1) COLLECTOR
2) COLLECTOR
3) BASE
4) EMITTER
5) COLLECTOR
6) COLLECTOR

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