CXT3820

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

SOT-89 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CXT3820 is a very low $V_{CE(SAT)}$ NPN transistor designed for applications where electrical and thermal efficiency are prime requirements. Packaged in an industry standard SOT-89 case, this device brings updated electrical specifications and characteristics suitable for the most demanding designs.

MARKING: FULL PART NUMBER

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
- SOT-89 surface mount package
- Complementary PNP device **CXT7820**

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	1.2	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
Thermal Resistance	Θ_{JA}	104	°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 (21-April 2009)

Central™
Semiconductor Corp.

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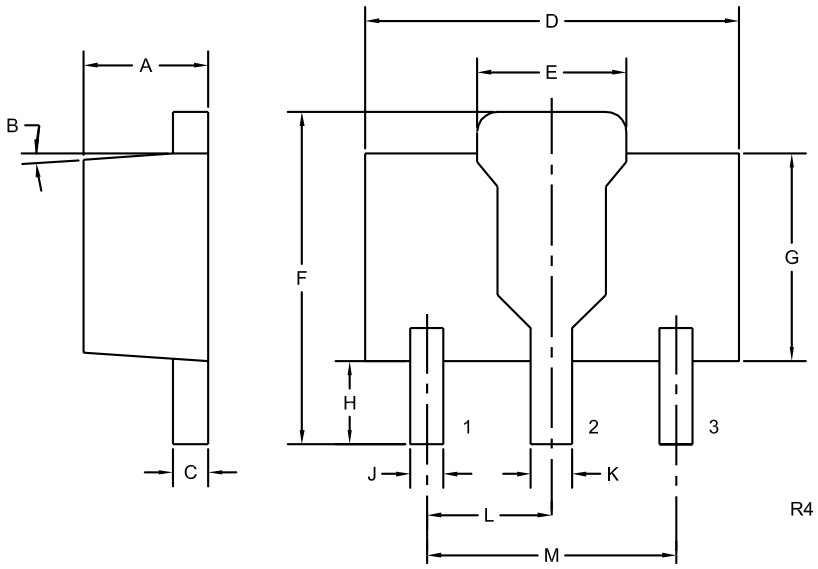
SOT-89 CASE - MECHANICAL OUTLINE



BOTTOM VIEW

LEAD CODE:
1) EMITTER
2) COLLECTOR
3) BASE

MARKING:
FULL PART NUMBER

DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.055	0.067	1.40	1.70
B	4°		4°	
C	0.014	0.018	0.35	0.46
D	0.173	0.185	4.40	4.70
E	0.064	0.074	1.62	1.87
F	0.146	0.177	3.70	4.50
G	0.090	0.106	2.29	2.70
H	0.028	0.051	0.70	1.30
J	0.014	0.019	0.36	0.48
K	0.017	0.023	0.44	0.58
L	0.059		1.50	
M	0.118		3.00	

SOT-89 (REV: R4)

R0 (21-April 2009)