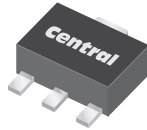


CXT3820

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

POWER<sup>™</sup>  
89



SOT-89 CASE

• Device is **Halogen Free** by design

**FEATURES:**

- 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:** ( $T_A=25^\circ C$ )

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



www.centrasemi.com

**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.

**SYMBOL**

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
$P_D$	1.2	W
$T_J, T_{stg}$	-65 to +150	$^\circ C$
$\theta_{JA}$	104	$^\circ C/W$

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

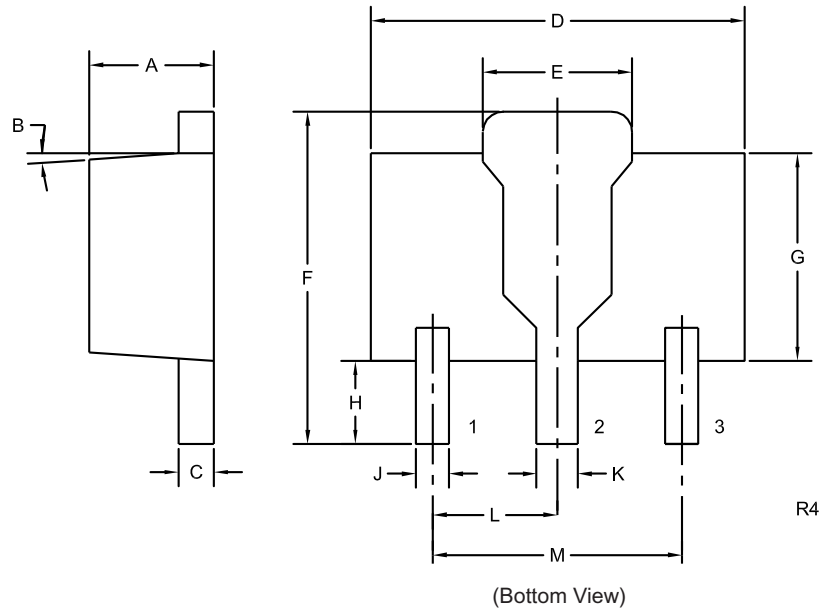
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$I_{CBO}$	$V_{CB}=60V$		100	nA
$I_{EBO}$	$V_{EB}=5.0V$		100	nA
$BV_{CBO}$	$I_C=100\mu A$	80		V
$BV_{CEO}$	$I_C=10mA$	60		V
$BV_{EBO}$	$I_E=100\mu A$	5.0		V
$V_{CE(SAT)}$	$I_C=100mA, I_B=1.0mA$		0.115	V
$V_{CE(SAT)}$	$I_C=500mA, I_B=50mA$		0.15	V
$V_{CE(SAT)}$	$I_C=1.0A, I_B=100mA$		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

R1 (23-February 2010)

**CXT3820**  
**SURFACE MOUNT**  
**VERY LOW  $V_{CE(SAT)}$**   
**NPN SILICON TRANSISTOR**



**SOT-89 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

- 1) Emitter
- 2) Collector
- 3) Base

**MARKING:**  
**FULL PART NUMBER**

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	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)

R1 (23-February 2010)