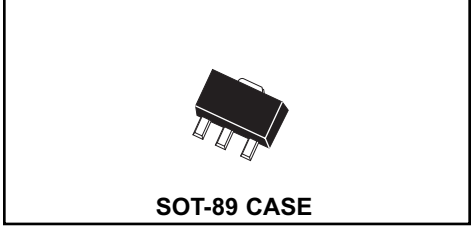


PRELIMINARY

**CXT853**  
**SURFACE MOUNT  
HIGH CURRENT  
SILICON NPN TRANSISTOR**



# Central<sup>TM</sup>

**Semiconductor Corp.**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CXT853 type is a high current, high voltage silicon NPN transistor. Packaged in the SOT-89 surface mount case, the CXT853 is ideal for industrial and consumer applications requiring high energy efficiency in a small package.

**MARKING CODE: FULL PART NUMBER**

**PNP complement: CXT953**

**FEATURES:**

- Low Saturation Voltage:  
 $V_{CE(SAT)} = 0.340V \text{ Max @ } I_C = 5.0A$

**APPLICATIONS:**

- Power Management
- Motor Driving
- DC/DC Converters
- Switching

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

	<b>SYMBOL</b>		<b>UNITS</b>
Collector-Base Voltage	$V_{CBO}$	200	V
Collector-Emitter Voltage	$V_{CEO}$	100	V
Emitter-Base Voltage	$V_{EBO}$	6.0	V
Collector Current	$I_C$	6.0	A
Power Dissipation	$P_D$	1.2	W
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 to +150	$^\circ C$
Thermal Resistance	$\theta_{JA}$	104	$^\circ C/W$

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

<b>SYMBOL</b>	<b>TEST CONDITIONS</b>	<b>MIN</b>	<b>TYP</b>	<b>MAX</b>	<b>UNITS</b>
$I_{CBO}$	$V_{CB}=150V$			10	nA
$I_{CBO}$	$V_{CB}=150V, T_A=100^\circ C$			1.0	$\mu A$
$I_{CER}$	$V_{CE}=150V, R_{BE} \leq 1k\Omega$			10	nA
$I_{EBO}$	$V_{EB}=6.0V$			10	nA
$BV_{CBO}$	$I_C=100\mu A$	200	220		V
$BV_{CER}$	$I_C=10mA, R_{BE} \leq 1k\Omega$	200	210		V
$BV_{CEO}$	$I_C=10mA$	100	110		V
$BV_{EBO}$	$I_E=100\mu A$	6.0	8.0		V
$V_{CE(SAT)}$	$I_C=100mA, I_B=5mA$		22	50	mV
$V_{CE(SAT)}$	$I_C=2.0A, I_B=100mA$		135	170	mV
$V_{CE(SAT)}$	$I_C=5.0A, I_B=500mA$			340	mV
$V_{BE(SAT)}$	$I_C=5.0A, I_B=500mA$			1.25	V

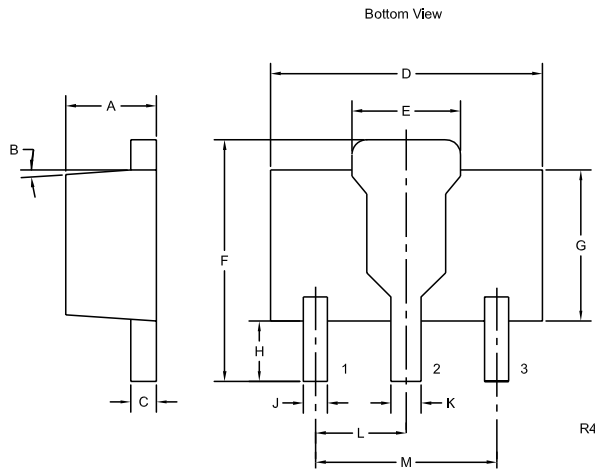
R0 (1-February 2006)

**SURFACE MOUNT  
HIGH CURRENT  
SILICON NPN TRANSISTOR**

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=10\text{mA}$	100			
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=2.0\text{A}$	100	200	300	
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=4.0\text{A}$	50	100		
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=10\text{A}$	20	30		
$f_T$	$V_{CE}=10\text{V}, I_C=100\text{mA}, f=50\text{MHz}$		190		MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		38		pF

**SOT-89 CASE - MECHANICAL OUTLINE**



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)

**LEAD CODE:**

- 1) EMITTER
- 2) COLLECTOR
- 3) BASE

**MARKING CODE:**

CXT853