



**CXT3090L**

**SURFACE MOUNT  
LOW  $V_{CE(SAT)}$   
NPN POWER TRANSISTOR**



**SOT-89 CASE**

# Central<sup>TM</sup>

**Semiconductor Corp.**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CXT3090L is a Low  $V_{CE(SAT)}$  NPN Transistor in a Power SOT-89 surface mount package, designed for DC-DC converters for mobile systems and LAN cards, motor control, power management and strobe flash units.

**MARKING: FULL PART NUMBER**

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

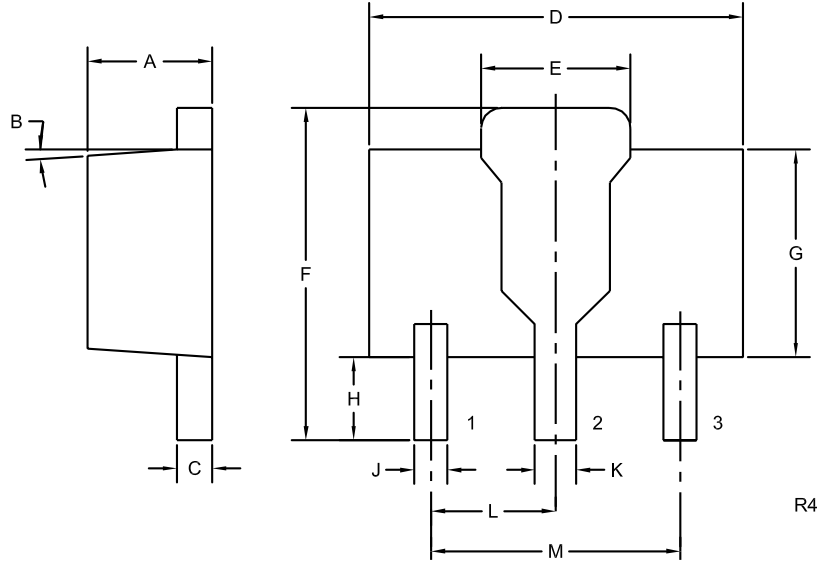
Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Peak Pulse Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL		UNITS
$V_{CBO}$	45	V
$V_{CEO}$	15	V
$V_{EBO}$	6.0	V
$I_C$	3.0	A
$I_{CM}$	5.0	A
$P_D$	1.2	W
$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
$\theta_{JA}$	104	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{CBO}$	$V_{CB}=20\text{V}$			100	nA
$I_{EBO}$	$V_{EB}=5.0\text{V}$			100	nA
$BV_{CBO}$	$I_C=10\mu\text{A}$	45			V
$BV_{CEO}$	$I_C=10\text{mA}$	15			V
$BV_{EBO}$	$I_E=10\mu\text{A}$	6.0			V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=1.0\text{mA}$		30	50	mV
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=20\text{mA}$		60	150	mV
$V_{CE(SAT)}$	$I_C=2.0\text{A}, I_B=200\text{mA}$		85	200	mV
$V_{CE(SAT)}$	$I_C=3.0\text{A}, I_B=60\text{mA}$		145	300	mV
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$	200			
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=1.0\text{A}$	200			
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=3.0\text{A}$	150			
$C_{ob}$	$V_{CB}=10\text{V}, f=1.0\text{MHz}$			100	pF
$f_T$	$V_{CE}=10\text{V}, I_C=500\text{mA}$	100			MHz

SOT-89 CASE - MECHANICAL OUTLINE



BOTTOM VIEW

**LEAD CODE:**

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

**MARKING:**

**FULL PART NUMBER**

SYMBOL	DIMENSIONS			
	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)