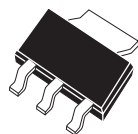


**CZT3120**  
**SURFACE MOUNT**  
**NPN SILICON SWITCHING**  
**POWER TRANSISTOR**

**POWER**  
**223**



**SOT-223 CASE**

Central<sup>TM</sup>

Semiconductor Corp.

**DESCRIPTION:**

The Central Semiconductor CZT3120 NPN Switching Power Transistor, manufactured by the epitaxial planar process, combines both power and high speed switching characteristics in a SOT-223 Surface Mount Package. Typical applications include drivers, DC-DC converters, and general fast switching applications.

**MARKING CODE: FULL PART NUMBER**

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

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

**SYMBOL**

$V_{CB0}$  120  
 $V_{CEO}$  70  
 $V_{EBO}$  7.0  
 $I_C$  3.0  
 $P_D$  2.0  
  
 $T_J, T_{stg}$  -65 to +150  
 $\theta_{JA}$  62.5

**UNITS**

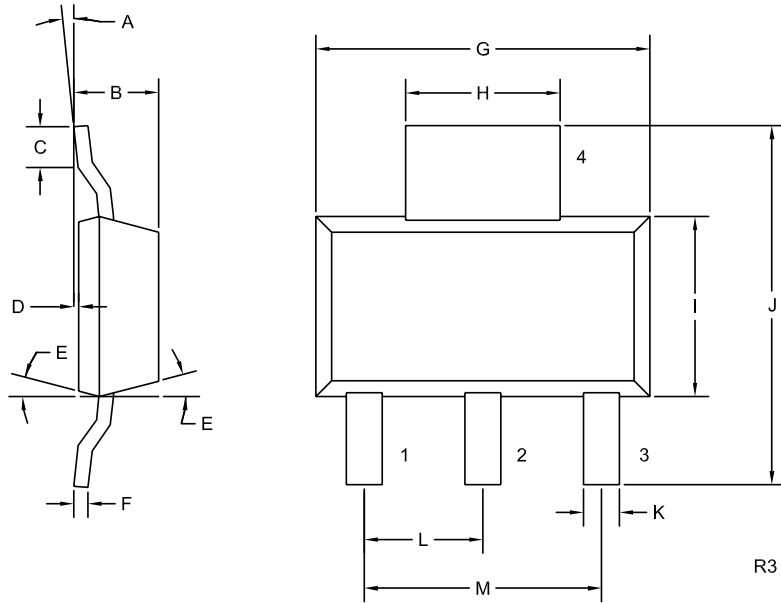
V  
 V  
 V  
 A  
 W  
  
 $^\circ\text{C}$   
 $^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{CBO}$	$V_{CB}=80\text{V}$			1.0	$\mu\text{A}$
$I_{EBO}$	$V_{EB}=5.0\text{V}$			1.0	$\mu\text{A}$
$BV_{CBO}$	$I_C=50\mu\text{A}$	120	160		V
$BV_{CEO}$	$I_C=10\text{mA}$	70	90		V
$BV_{EBO}$	$I_E=50\mu\text{A}$	7.0	15		V
$V_{CE(SAT)}$	$I_C=2.0\text{A}, I_B=200\text{mA}$		250	500	mV
$V_{BE(ON)}$	$I_C=2.0\text{A}, V_{CE}=1.0\text{V}$		0.95	1.1	V
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	100	170		
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=500\text{mA}$	100	165	300	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=3.0\text{A}$	40	75		
$f_T$	$V_{CE}=10\text{V}, I_C=500\text{mA}, f=1.0\text{MHz}$	8.0			MHz

R2 (17-June 2004)

**SOT-223 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING CODE:**

**FULL PART NUMBER**

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0°	10°	0°	10°
B	0.059	0.071	1.50	1.80
C	0.018	---	0.45	---
D	0.000	0.004	0.00	0.10
E	15°		15°	
F	0.009	0.014	0.23	0.35
G	0.248	0.264	6.30	6.70
H	0.114	0.122	2.90	3.10
I	0.130	0.146	3.30	3.70
J	0.264	0.287	6.70	7.30
K	0.024	0.033	0.60	0.85
L	0.091		2.30	
M	0.181		4.60	

SOT-223 (REV: R3)

R2 (17-June 2004)