

CZT2680

**SURFACE MOUNT  
HIGH VOLTAGE  
NPN SILICON  
SWITCHING POWER TRANSISTOR**



www.centrasemi.com

**POWER  
223™**



**SOT-223 CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CZT2680 NPN High Voltage 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 and general high voltage switching applications.

**MARKING: FULL PART NUMBER**

**MAXIMUM RATINGS:** (T<sub>A</sub>=25°C)

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

**SYMBOL**

V <sub>CBO</sub>	250
V <sub>CEO</sub>	200
V <sub>EBO</sub>	6.0
I <sub>C</sub>	1.5
I <sub>CM</sub>	2.0
P <sub>D</sub>	2.0
T <sub>J</sub> , T <sub>stg</sub>	-65 to +150
θ <sub>JA</sub>	62.5

**UNITS**

V
V
V
A
A
W
°C
°C/W

**ELECTRICAL CHARACTERISTICS:** (T<sub>A</sub>=25°C unless otherwise noted)

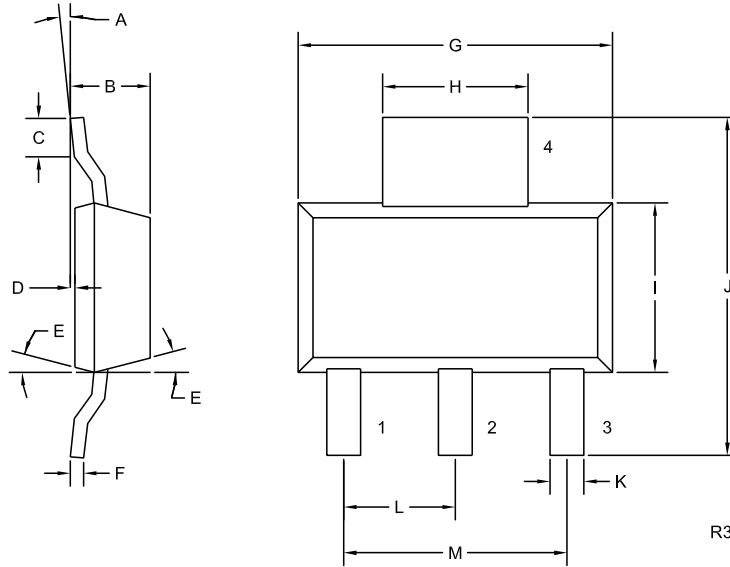
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I <sub>CBO</sub>	V <sub>CB</sub> =200V			100	nA
BV <sub>CBO</sub>	I <sub>C</sub> =100µA	250	435		V
BV <sub>CEO</sub>	I <sub>C</sub> =20mA	200	275		V
BV <sub>EBO</sub>	I <sub>E</sub> =100µA	6.0	9.0		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA		45	150	mV
V <sub>CE(SAT)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		95	200	mV
V <sub>CE(SAT)</sub>	I <sub>C</sub> =1.0A, I <sub>B</sub> =150mA		135	500	mV
V <sub>BE(SAT)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		0.83	1.10	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =1.0A, I <sub>B</sub> =150mA		0.95	1.20	V
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =20mA	40	105		
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =500mA	40	90		
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0A	15	47		
f <sub>T</sub>	V <sub>CE</sub> =20V, I <sub>C</sub> =100mA, f=1.0MHz	50	80		MHz
C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1.0MHz			30	pF
t <sub>on</sub>	I <sub>C</sub> =500mA, V <sub>CC</sub> =20V, I <sub>B1</sub> = I <sub>B2</sub> =50mA		0.3		µs
t <sub>off</sub>	I <sub>C</sub> =500mA, V <sub>CC</sub> =20V, I <sub>B1</sub> = I <sub>B2</sub> =50mA		1.0		µs

R3 (1-March 2010)

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**SOT-223 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING:**

**FULL PART NUMBER**

SYMBOL	DIMENSIONS		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)

R3 (1-March 2010)