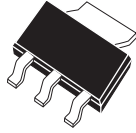


CZT2680

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

**POWER
223™**



SOT-223 CASE

Central™
Semiconductor Corp.

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 CODE: FULL PART NUMBER

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

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	250	V
Collector-Emitter Voltage	V_{CEO}	200	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	1.5	A
Peak Collector Current	I_{CM}	2.0	A
Power Dissipation	P_D	2.0	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	62.5	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=200\text{V}$			100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	250	435		V
BV_{CEO}	$I_C=20\text{mA}$	200	275		V
BV_{EBO}	$I_E=100\mu\text{A}$	6.0	9.0		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		45	150	mV
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		95	200	mV
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=150\text{mA}$		135	500	mV
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.83	1.10	V
$V_{BE(SAT)}$	$I_C=1.0\text{A}, I_B=150\text{mA}$		0.95	1.20	V

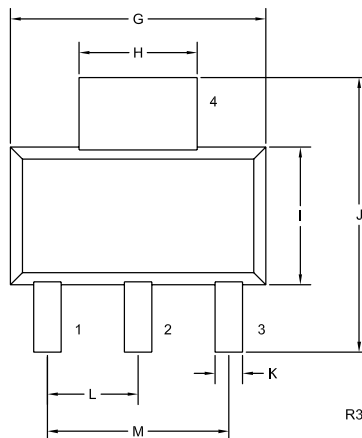
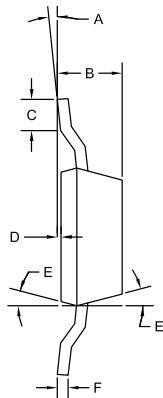
R2 (17-June 2004)

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

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
h_{FE}	$V_{CE}=5.0\text{V}$, $I_C=20\text{mA}$	40	105		
h_{FE}	$V_{CE}=5.0\text{V}$, $I_C=500\text{mA}$	40	90		
h_{FE}	$V_{CE}=5.0\text{V}$, $I_C=1.0\text{A}$	15	47		
f_T	$V_{CE}=20\text{V}$, $I_C=100\text{mA}$, $f=1.0\text{MHz}$	50	80		MHz
C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=1.0\text{MHz}$			30	pF
t_{on}	$I_C=500\text{mA}$, $V_{CC}=20\text{V}$, $I_{B1}=I_{B2}=50\text{mA}$		0.3		μs
t_{off}	$I_C=500\text{mA}$, $V_{CC}=20\text{V}$, $I_{B1}=I_{B2}=50\text{mA}$		1.0		μs

SOT-223 CASE - MECHANICAL OUTLINE



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)

LEAD CODE:

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

MARKING CODE:

FULL PART NUMBER

R2 (17-June 2004)