

CZT5338

**SURFACE MOUNT
NPN SILICON
POWER TRANSISTOR**



www.centrasemi.com

**POWER
223™**



SOT-223 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT5338 type is an NPN silicon power transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high current amplification and switching capability.

MARKING: FULL PART NUMBER

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

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

SYMBOL

V_{CBO} 100
 V_{CEO} 100
 V_{EBO} 6.0
 I_C 5.0
 I_B 1.0
 P_D 2.0
 T_J, T_{stg} -65 to +150
 θ_{JA} 62.5

UNITS

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

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

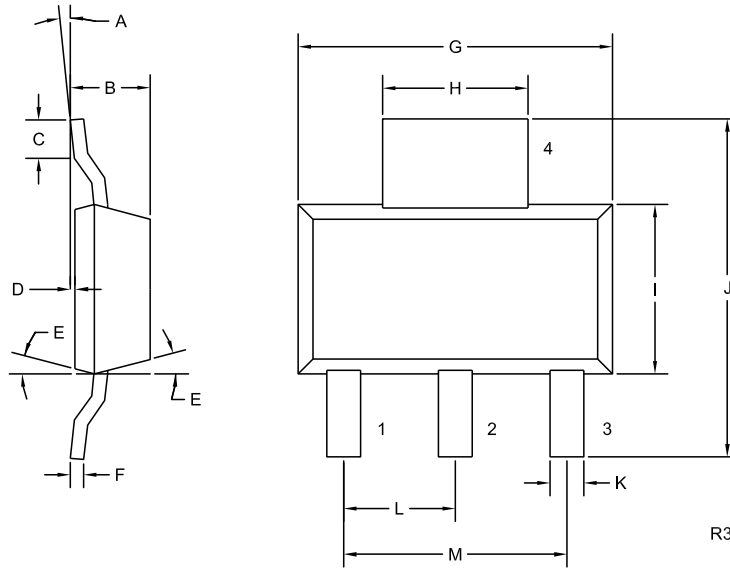
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=100V$		10	μA
I_{CEO}	$V_{CE}=90V$		100	μA
I_{EBO}	$V_{BE}=6.0V$		100	μA
BV_{CEO}	$I_C=50\text{mA}$	100		V
$V_{CE(SAT)}$	$I_C=2.0A, I_B=200\text{mA}$		0.7	V
$V_{CE(SAT)}$	$I_C=5.0A, I_B=500\text{mA}$		1.2	V
$V_{BE(SAT)}$	$I_C=2.0A, I_B=200\text{mA}$		1.2	V
$V_{BE(SAT)}$	$I_C=5.0A, I_B=500\text{mA}$		1.8	V
h_{FE}	$V_{CE}=2.0V, I_C=500\text{mA}$	30		
h_{FE}	$V_{CE}=2.0V, I_C=2.0A$	30	120	
h_{FE}	$V_{CE}=2.0V, I_C=5.0A$	20		
f_T	$V_{CE}=10V, I_C=500\text{mA}, f=10\text{MHz}$	30		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0\text{MHz}$		250	pF
C_{ib}	$V_{BE}=2.0V, I_C=0, f=1.0\text{MHz}$		1000	pF
t_d	$V_{CC}=40V, V_{BE}=3.0V, I_C=2.0A, I_{B1}=200\text{mA}$		100	ns
t_r	$V_{CC}=40V, V_{BE}=3.0V, I_C=2.0A, I_{B1}=200\text{mA}$		100	ns
t_s	$V_{CC}=40V, I_C=2.0A, I_{B1}=I_{B2}=200\text{mA}$		2.0	μs
t_f	$V_{CC}=40V, I_C=2.0A, I_{B1}=I_{B2}=200\text{mA}$		200	ns

R5 (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			
	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)

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