

CZT5338

**SURFACE MOUNT SILICON
NPN POWER TRANSISTOR**

**POWER
223™**



SOT-223 CASE



www.centra-semi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT5338 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}	$V_{CB}=100\text{V}$		10	μA
I_{CEO}	$V_{CE}=90\text{V}$		100	μA
I_{EBO}	$V_{BE}=6.0\text{V}$		100	μA
BV_{CEO}	$I_C=50\text{mA}$	100		V
$V_{CE(SAT)}$	$I_C=2.0\text{A}, I_B=200\text{mA}$		0.7	V
$V_{CE(SAT)}$	$I_C=5.0\text{A}, I_B=500\text{mA}$		1.2	V
$V_{BE(SAT)}$	$I_C=2.0\text{A}, I_B=200\text{mA}$		1.2	V
$V_{BE(SAT)}$	$I_C=5.0\text{A}, I_B=500\text{mA}$		1.8	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$	30		
h_{FE}	$V_{CE}=2.0\text{V}, I_C=2.0\text{A}$	30	120	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=5.0\text{A}$	20		
f_T	$V_{CE}=10\text{V}, I_C=500\text{mA}, f=10\text{MHz}$	30		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		250	pF
C_{ib}	$V_{BE}=2.0\text{V}, I_C=0, f=1.0\text{MHz}$		1000	pF
t_d	$V_{CC}=40\text{V}, V_{BE}=3.0\text{V}, I_C=2.0\text{A}, I_{B1}=200\text{mA}$		100	ns
t_r	$V_{CC}=40\text{V}, V_{BE}=3.0\text{V}, I_C=2.0\text{A}, I_{B1}=200\text{mA}$		100	ns
t_s	$V_{CC}=40\text{V}, I_C=2.0\text{A}, I_{B1}=I_{B2}=200\text{mA}$		2.0	μs
t_f	$V_{CC}=40\text{V}, I_C=2.0\text{A}, I_{B1}=I_{B2}=200\text{mA}$		200	ns

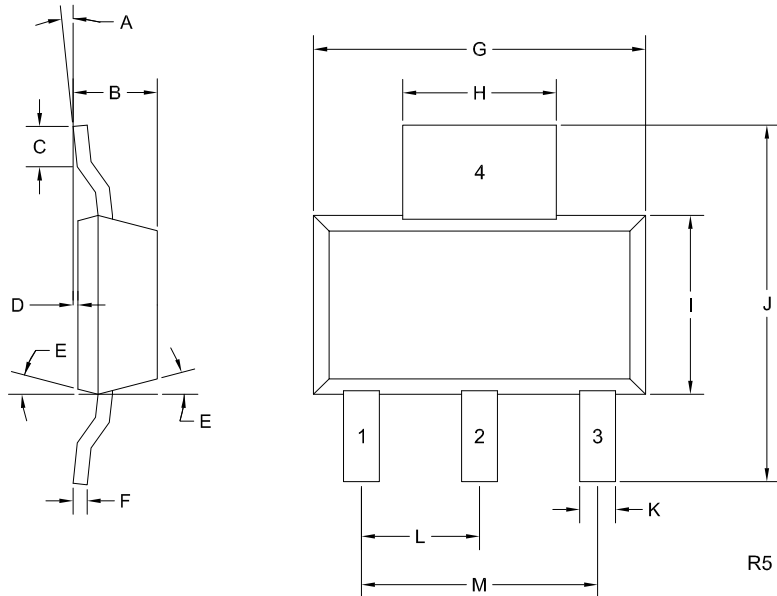
R7 (9-May 2019)

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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	
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	10°		10°	
F	0.009	0.014	0.23	0.35
G	0.248	0.270	6.30	6.85
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: R5)

R7 (9-May 2019)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

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