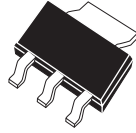


CZT5338
NPN SILICON
POWER TRANSISTOR

POWER
223



SOT-223 CASE

CentralTM

Semiconductor Corp.

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 CODE: FULL PART NUMBER

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

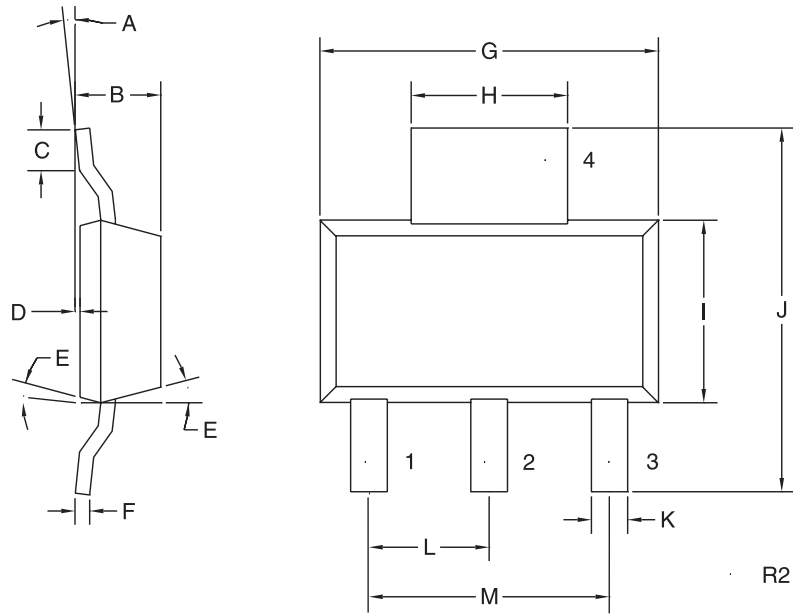
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Continuous Collector Current	I_C	5.0	A
Base Current	I_B	1.0	A
Power Dissipation	P_D	2.0	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
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	MAX	UNITS
I_{CBO}	$V_{CB}=100\text{V}$		10	μA
I_{EBO}	$V_{BE}=6.0\text{V}$		100	μA
I_{CEO}	$V_{CE}=90\text{V}$		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

R3 (26-September 2002)

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°	7°	0°	7°
B	0.063	0.067	1.60	1.70
C	0.022		0.55	
D	0.001	0.004	0.03	0.10
E	15°		15°	
F	0.009	0.013	0.23	0.33
G	0.248	0.264	6.30	6.71
H	0.114	0.122	2.90	3.10
I	0.130	0.146	3.30	3.71
J	0.264	0.287	6.71	7.29
K	0.024	0.031	0.61	0.79
L	0.091		2.31	
M	0.181		4.60	

SOT-223 (REV: R2)