



## SMALL SIGNAL NPN TRANSISTOR

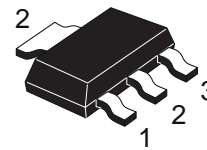
PRELIMINARY DATA

Type	Marking
STZTA42	ZTA42

- SILICON EPITAXIAL PLANAR NPN HIGH VOLTAGE TRANSISTOR
- SOT-223 PLASTIC PACKAGE FOR SURFACE MOUNTING CIRCUITS
- TAPE AND REEL PACKING
- THE PNP COMPLEMENTARY TYPE IS STZTA92

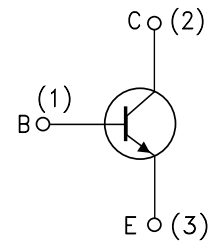
### APPLICATIONS

- VIDEO AMPLIFIER CIRCUITS (RGB CATHODE CURRENT CONTROL)
- TELEPHONE WIRELINE INTERFACE (HOOK SWITCHES, DIALER CIRCUITS)



SOT-223

### INTERNAL SCHEMATIC DIAGRAM



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage ( $I_E = 0$ )	300	V
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )	300	V
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )	6	V
$I_C$	Collector Current	0.5	A
$I_{CM}$	Collector Peak Current	0.6	A
$P_{tot}$	Total Dissipation at $T_C = 25\text{ }^\circ\text{C}$	1.5	W
$T_{stg}$	Storage Temperature	-65 to 150	$^\circ\text{C}$
$T_j$	Max. Operating Junction Temperature	150	$^\circ\text{C}$

## STZTA42

### THERMAL DATA

$R_{thj-amb}$	Thermal Resistance Junction-Ambient	Max	83.3	$^{\circ}\text{C}/\text{W}$
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• Device mounted on a PCB area of  $1\text{ cm}^2$ .

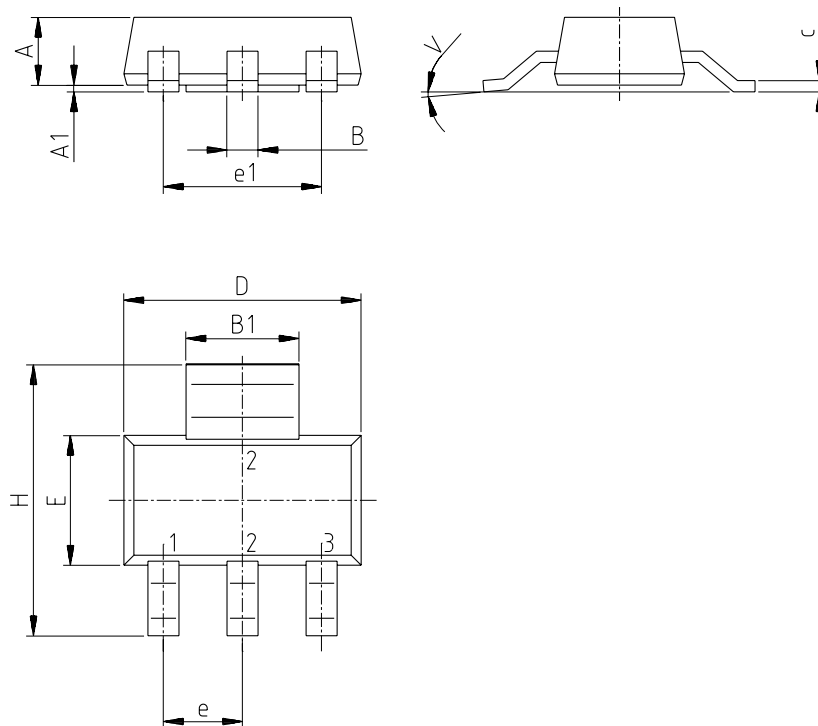
### ELECTRICAL CHARACTERISTICS ( $T_{case} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cut-off Current ( $I_E = 0$ )	$V_{CB} = 200\text{ V}$			100	nA
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_E = 0$ )	$I_C = 100\text{ }\mu\text{A}$	300			V
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage ( $I_B = 0$ )	$I_C = 1\text{ mA}$	300			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_C = 0$ )	$I_E = 100\text{ }\mu\text{A}$	6			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 20\text{ mA}$ $I_B = 2\text{ mA}$			0.5	V
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage	$I_C = 20\text{ mA}$ $I_B = 2\text{ mA}$			0.9	V
$h_{FE}^*$	DC Current Gain	$I_C = 1\text{ mA}$ $V_{CE} = 10\text{ V}$ $I_C = 10\text{ mA}$ $V_{CE} = 10\text{ V}$ $I_C = 30\text{ mA}$ $V_{CE} = 10\text{ V}$	25 40 40			
$f_T$	Transition Frequency	$I_C = 10\text{ mA}$ $V_{CE} = 20\text{ V}$ $f = 20\text{ MHz}$	50			MHz
$C_{CBO}$	Collector-Base Capacitance	$I_E = 0$ $V_{CB} = 10\text{ V}$ $f = 1\text{ MHz}$		6		pF
$C_{EBO}$	Emitter-Base Capacitance	$I_C = 0$ $V_{EB} = 2\text{ V}$ $f = 1\text{ MHz}$		22		pF

\* Pulsed: Pulse duration =  $300\text{ }\mu\text{s}$ , duty cycle  $\leq 1.5\%$

## SOT-223 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			1.80			0.071
B	0.60	0.70	0.80	0.024	0.027	0.031
B1	2.90	3.00	3.10	0.114	0.118	0.122
c	0.24	0.26	0.32	0.009	0.010	0.013
D	6.30	6.50	6.70	0.248	0.256	0.264
e		2.30			0.090	
e1		4.60			0.181	
E	3.30	3.50	3.70	0.130	0.138	0.146
H	6.70	7.00	7.30	0.264	0.276	0.287
V			10°			10°
A1		0.02				



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