



PZT3906

SMALL SIGNAL PNP TRANSISTOR

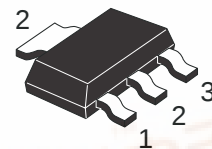
PRELIMINARY DATA

Type	Marking
PZT3906	3906

- SILICON EPITAXIAL PLANAR PNP TRANSISTOR
- SOT-223 PLASTIC PACKAGE FOR SURFACE MOUNTING CIRCUITS
- TAPE AND REEL PACKING
- THE NPN COMPLEMENTARY TYPE IS PZT3904

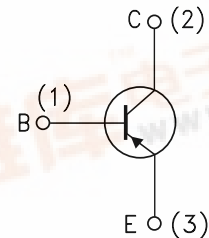
APPLICATIONS

- WELL SUITABLE FOR SMD MOTHER BOARD ASSEMBLY
- SMALL LOAD SWITCH TRANSISTOR WITH HIGH GAIN AND LOW SATURATION VOLTAGE



SOT-223

INTERNAL SCHEMATIC DIAGRAM



SC08810

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	-60	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	-40	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	-6	V
I_C	Collector Current	-200	mA
P_{tot}	Total Dissipation at $T_C = 25^\circ\text{C}$	1	W
T_{stg}	Storage Temperature	-65 to 150	$^\circ\text{C}$
T_j	Max. Operating Junction Temperature	150	$^\circ\text{C}$

PZT3906

THERMAL DATA

$R_{thj-amb}$ •	Thermal Resistance Junction-Ambient	Max	125	°C/W
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• Device mounted on a PCB of 1 cm²

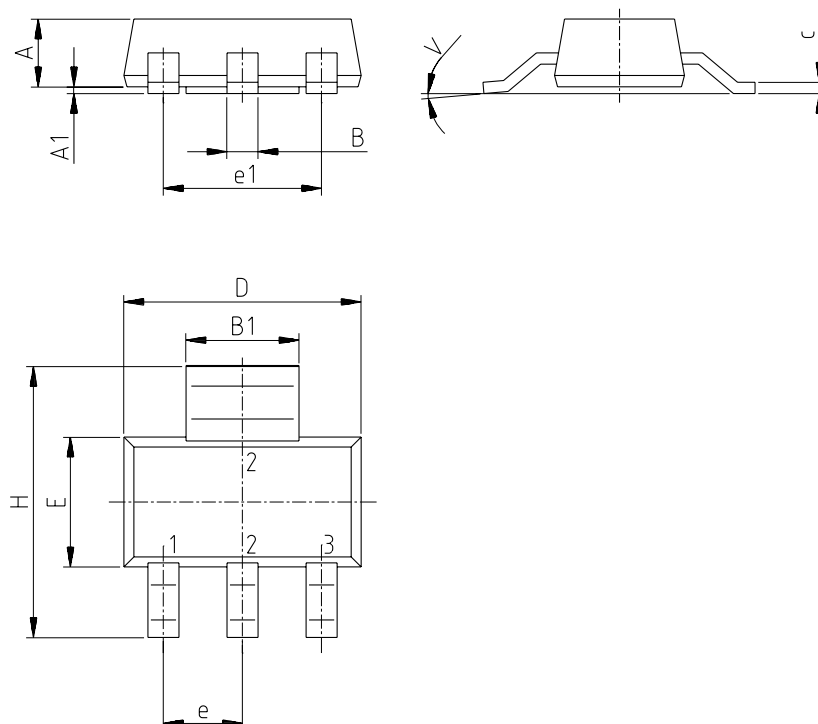
ELECTRICAL CHARACTERISTICS ($T_{case} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEX}	Collector Cut-off Current ($V_{BE} = 3\text{ V}$)	$V_{CE} = -30\text{ V}$			-50	nA
I_{BEX}	Collector Cut-off Current ($V_{BE} = 3\text{ V}$)	$V_{CE} = -30\text{ V}$			-50	nA
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage ($I_B = 0$)	$I_C = -1\text{ mA}$	-40			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_E = 0$)	$I_C = -10\text{ }\mu\text{A}$	-60			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_C = 0$)	$I_E = -10\text{ }\mu\text{A}$	-6			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = -10\text{ mA}$ $I_B = -1\text{ mA}$ $I_C = -50\text{ mA}$ $I_B = -5\text{ mA}$			-0.25 -0.4	V V
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage	$I_C = -10\text{ mA}$ $I_B = -1\text{ mA}$ $I_C = -50\text{ mA}$ $I_B = -5\text{ mA}$	-0.65		-0.85 -0.95	V V
h_{FE}^*	DC Current Gain	$I_C = -0.1\text{ mA}$ $V_{CE} = -1\text{ V}$ $I_C = -1\text{ mA}$ $V_{CE} = -1\text{ V}$ $I_C = -10\text{ mA}$ $V_{CE} = -1\text{ V}$ $I_C = -50\text{ mA}$ $V_{CE} = -1\text{ V}$ $I_C = -100\text{ mA}$ $V_{CE} = -1\text{ V}$	60 80 100 60 30		300	
f_T	Transition Frequency	$I_C = -10\text{ mA}$ $V_{CE} = -20\text{ V}$ $f = 100\text{ MHz}$	250			MHz
NF	Noise Figure	$V_{CE} = -5\text{ V}$ $I_C = -0.1\text{ mA}$ $f = 10\text{ Hz}$ to 15.7 KHz $R_G = 1\text{ K}\Omega$		4		dB
C_{CBO}	Collector-Base Capacitance	$I_E = 0$ $V_{CB} = -5\text{ V}$ $f = 100\text{ KHz}$		6		pF
C_{EBO}	Emitter-Base Capacitance	$I_C = 0$ $V_{EB} = -0.5\text{ V}$ $f = 100\text{ KHz}$		25		pF
t_d	Delay Time	$I_C = -10\text{ mA}$ $I_B = -1\text{ mA}$ $V_{CC} = -3\text{ V}$			35	ns
t_r	Rise Time				35	ns
t_s	Storage Time	$I_C = -10\text{ mA}$ $I_{B1} = -I_{B2} = -1\text{ mA}$ $V_{CC} = -3\text{ V}$			225	ns
t_f	Fall Time				72	ns

* Pulsed: Pulse duration = 300 μs , duty cycle $\leq 2\%$

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				



P008B

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