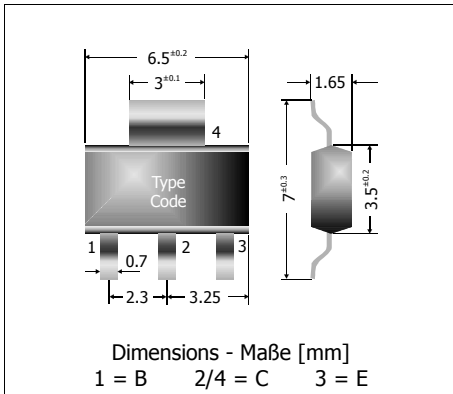


**PZT2222 / PZT2222A**  
**NPN**      **Surface Mount Si-Epitaxial Planar Switching Transistors**      **NPN**  
**Si-Epitaxie-Planar-Schalttransistoren für die Oberflächenmontage**

Version 2006-05-09



Power dissipation      1.3 W  
 Verlustleistung  
 Plastic case      SOT-223  
 Kunststoffgehäuse  
 Weight approx.      0.04 g  
 Gewicht ca.  
 Plastic material has UL classification 94V-0  
 Gehäusematerial UL94V-0 klassifiziert  
 Standard packaging taped and reeled  
 Standard Lieferform gegurtet auf Rolle



**Maximum ratings (T<sub>A</sub> = 25°C)**

**Grenzwerte (T<sub>A</sub> = 25°C)**

		PZT2222	PZT2222A
Collector-Emitter-volt. - Kollektor-Emitter-Spannung	E open	V <sub>CEO</sub> 30 V	40 V
Collector-Base-volt. - Kollektor-Basis-Spannung	B open	V <sub>CBO</sub> 60 V	75 V
Emitter-Base-voltage - Emitter-Basis-Spannung	C open	V <sub>EBO</sub> 5 V	6 V
Power dissipation – Verlustleistung		P <sub>tot</sub> 1.3 W <sup>1)</sup>	
Collector current – Kollektorstrom (dc)		I <sub>C</sub> 600 mA	
Junction temperature – Sperrschichttemperatur		T <sub>j</sub> -55...+150°C	
Storage temperature – Lagerungstemperatur		T <sub>s</sub> -55...+150°C	

**Characteristics (T<sub>j</sub> = 25°C)**

**Kennwerte (T<sub>j</sub> = 25°C)**

			Min.	Typ.	Max.
Collector-cutoff current – Kollektor-Reststrom	I <sub>E</sub> = 0, V <sub>CB</sub> = 50 V	PZT2222	I <sub>CBO</sub> –	–	20 nA
		PZT2222A	I <sub>CBO</sub> –	–	10 nA
	I <sub>E</sub> = 0, V <sub>CB</sub> = 50 V, T <sub>j</sub> = 150°C	PZT2222	I <sub>CBO</sub> –	–	20 µA
		PZT2222A	I <sub>CBO</sub> –	–	10 µA
Emitter-cutoff current – Emitter-Reststrom	I <sub>C</sub> = 0, V <sub>EB</sub> = 3 V	I <sub>EBO</sub>	–	–	10 nA
Collector saturation voltage – Kollektor-Sättigungsspannung <sup>2)</sup>	I <sub>C</sub> = 150 mA, I <sub>B</sub> = 15 mA	PZT2222	V <sub>CEsat</sub> –	–	0.4 V
		PZT2222A	V <sub>CEsat</sub> –	–	0.3 V
	I <sub>C</sub> = 500 mA, I <sub>B</sub> = 50 mA	PZT2222	V <sub>CEsat</sub> –	–	1.6 V
		PZT2222A	V <sub>CEsat</sub> –	–	1.0 V

1 Mounted on P.C. board with 3 mm<sup>2</sup> copper pad at each terminal  
 Montage auf Leiterplatte mit 3 mm<sup>2</sup> Kupferbelag (Löt-pad) an jedem Anschluss  
 2 Tested with pulses t<sub>p</sub> = 300 µs, duty cycle ≤ 2% – Gemessen mit Impulsen t<sub>p</sub> = 300 µs, Schaltverhältnis ≤ 2%

**Characteristics (T<sub>j</sub> = 25°C)**
**Kennwerte (T<sub>j</sub> = 25°C)**

			Min.	Typ.	Max.
Base saturation voltage – Basis-Sättigungsspannung <sup>2)</sup>					
I <sub>C</sub> = 150 mA, I <sub>B</sub> = 15 mA	PZT2222	V <sub>BEsat</sub>	–	–	1.3 V
	PZT2222A	V <sub>BEsat</sub>	–	–	1.2 V
I <sub>C</sub> = 500 mA, I <sub>B</sub> = 50 mA	PZT2222	V <sub>BEsat</sub>	–	–	2.6 V
	PZT2222A	V <sub>BEsat</sub>	–	–	2.0 V
DC current gain – Kollektor-Basis-Stromverhältnis					
I <sub>C</sub> = 0.1 mA, V <sub>CE</sub> = 10 V I <sub>C</sub> = 1 mA, V <sub>CE</sub> = 10 V I <sub>C</sub> = 10 mA, V <sub>CE</sub> = 10 V I <sub>C</sub> = 150 mA, V <sub>CE</sub> = 10 V <sup>2)</sup>		h <sub>FE</sub>	35	–	–
		h <sub>FE</sub>	50	–	–
		h <sub>FE</sub>	75	–	–
		h <sub>FE</sub>	100	–	300
I <sub>C</sub> = 500 mA, V <sub>CE</sub> = 10 V <sup>2)</sup>	PZT2222	h <sub>FE</sub>	30	–	–
	PZT2222A	h <sub>FE</sub>	40	–	–
Gain-Bandwidth Product – Transitfrequenz					
I <sub>C</sub> = 20 mA, V <sub>CE</sub> = 20 V, f = 100 MHz		f <sub>T</sub>	200 MHz	–	–
Collector-Base Capacitance – Kollektor-Basis-Kapazität					
V <sub>CB</sub> = 10 V, I <sub>E</sub> = i <sub>e</sub> = 0, f = 1 MHz		C <sub>CBO</sub>	–	–	8 pF
Emitter-Base Capacitance – Emitter-Basis-Kapazität					
V <sub>EB</sub> = 0.5 V, I <sub>C</sub> = i <sub>c</sub> = 0, f = 1 MHz		C <sub>EBO</sub>	–	–	30 pF
Switching times – Schaltzeiten					
delay time	I <sub>Con</sub> = 150 mA I <sub>Bon</sub> = 15 mA - I <sub>Boff</sub> = 15 mA	t <sub>d</sub>	–	–	10 ns
rise time		t <sub>r</sub>	–	–	25 ns
storage time		t <sub>s</sub>	–	–	225 ns
fall time		t <sub>f</sub>	–	–	60 ns
Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft		R <sub>thA</sub>	< 93 K/W <sup>1)</sup>		
Thermal resistance junction to soldering point Wärmewiderstand Sperrschicht – Lötpad		R <sub>thS</sub>	< 27 K/W		
Recommended complementary PNP transistors Empfohlene komplementäre PNP-Transistoren			PZT2907, PZT2907A		

<sup>2)</sup> Tested with pulses t<sub>p</sub> = 300 μs, duty cycle ≤ 2% – Gemessen mit Impulsen t<sub>p</sub> = 300 μs, Schaltverhältnis ≤ 2%

<sup>1)</sup> Mounted on P.C. board with 3 mm<sup>2</sup> copper pad at each terminal  
Montage auf Leiterplatte mit 3 mm<sup>2</sup> Kupferbelag (Lötpad) an jedem Anschluss