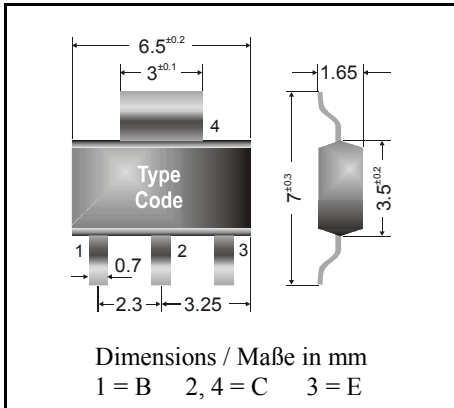


NPN

Surface mount Si-Epitaxial Planar Transistors
Si-Epitaxial Planar Transistoren für die Oberflächenmontage

NPN



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

Maximum ratings (T_A = 25°C)

Grenzwerte (T_A = 25°C)

			BSP 40 BSP 41	BSP 42 BSP 43
Collector-Emitter-voltage	B open	V _{CE0}	60 V	80 V
Collector-Base-voltage	E open	V _{CB0}	70 V	90 V
Emitter-Base-voltage	C open	V _{EB0}	5 V	
Power dissipation – Verlustleistung		P _{tot}	1.3 W ¹⁾	
Collector current – Kollektorstrom (dc)		I _C	1 A	
Peak Collector current – Kollektor-Spitzenstrom		I _{CM}	2 A	
Peak Base current – Basis-Spitzenstrom		I _{BM}	200 mA	
Junction temperature – Sperrschichttemperatur		T _j	150°C	
Storage temperature – Lagerungstemperatur		T _S	- 65...+ 150°C	

Characteristics (T_j = 25°C)

Kennwerte (T_j = 25°C)

		Min.	Typ.	Max.
Collector-Base cutoff current – Kollektorreststrom				
I _E = 0, V _{CB} = 60 V	I _{CB0}	–	–	100 nA
I _E = 0, V _{CB} = 60 V, T _j = 150°C	I _{CB0}	–	–	50 µA
Emitter-Base cutoff current – Emitterreststrom				
I _C = 0, V _{EB} = 5 V	I _{EB0}	–	–	100 nA
Collector saturation volt. – Kollektor-Sättigungssp. ²⁾				
I _C = 150 mA, I _B = 15 mA	V _{CEsat}	–	–	250 mV
I _C = 500 mA, I _B = 50 mA	V _{CEsat}	–	–	500 mV

¹⁾ Mounted on P.C. board with 3 mm² copper pad at each terminal
 Montage auf Leiterplatte mit 3 mm² Kupferbelag (Löt-pad) an jedem Anschluß

²⁾ Tested with pulses t_p = 300 µs, duty cycle ≤ 2% – Gemessen mit Impulsen t_p = 300 µs, Schaltverhältnis ≤ 2%

Characteristics ($T_j = 25^\circ\text{C}$)Kennwerte ($T_j = 25^\circ\text{C}$)

		Min.	Typ.	Max.
Base saturation voltage – Basis-Sättigungsspannung ¹⁾				
$I_C = 150\text{ mA}, I_B = 15\text{ mA}$	V_{BEsat}	–	–	1 V
$I_C = 500\text{ mA}, I_B = 50\text{ mA}$	V_{BEsat}	–	–	1.2 V
DC current gain – Kollektor-Basis-Stromverhältnis ¹⁾				
- $V_{CE} = 5\text{ V}, - I_C = 100\text{ }\mu\text{A}$	BSP 40 h_{FE}	10	–	–
- $V_{CE} = 5\text{ V}, - I_C = 100\text{ mA}$	BSP 42 h_{FE}	40	–	120
- $V_{CE} = 5\text{ V}, - I_C = 500\text{ mA}$	h_{FE}	30	–	–
- $V_{CE} = 5\text{ V}, - I_C = 100\text{ }\mu\text{A}$	BSP 41 h_{FE}	30	–	–
- $V_{CE} = 5\text{ V}, - I_C = 100\text{ mA}$	BSP 43 h_{FE}	100	–	300
- $V_{CE} = 5\text{ V}, - I_C = 500\text{ mA}$	h_{FE}	50	–	–
Gain-Bandwidth Product – Transitfrequenz				
$V_{CE} = 5\text{ V}, I_C = 10\text{ mA}, f = 100\text{ MHz}$	f_T	100 MHz	–	–
Thermal resistance – Wärmewiderstand				
junction to ambient air – Sperrschicht zu umgebender Luft	R_{thA}			93 K/W ²⁾
junction to soldering point – Sperrschicht zu Lötpad	R_{thS}			12 K/W
Recommended complementary PNP transistors Empfohlene komplementäre PNP-Transistoren		BSP 30, BSP 31, BSP 32, BSP 33		

¹⁾ Tested with pulses $t_p = 300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$ – Gemessen mit Impulsen $t_p = 300\text{ }\mu\text{s}$, Schaltverhältnis $\leq 2\%$

²⁾ Mounted on P.C. board with 3 mm^2 copper pad at each terminal

Montage auf Leiterplatte mit 3 mm^2 Kupferbelag (Lötpad) an jedem Anschluß

This datasheet has been downloaded from:

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Datasheets for electronic components.