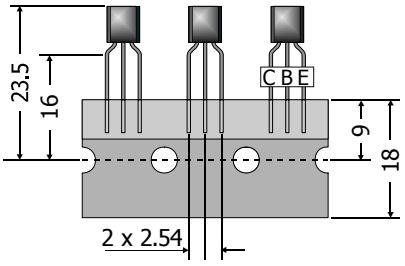
Diotec Semiconductor

2N5550 / 2N5551

NPN **General Purpose Si-Epitaxial Planar Transistors**
Si-Epitaxial Planar-Transistoren für universellen Einsatz **NPN**

Version 2006-06-17



Dimensions - Maße [mm]

Power dissipation Verlustleistung	625 mW
Plastic case Kunststoffgehäuse	TO-92 (10D3)
Weight approx. – Gewicht ca.	0.18 g
Plastic material has UL classification 94V-0 Gehäusematerial UL94V-0 klassifiziert	
Standard packaging taped in ammo pack Standard Lieferform gegurtet in Ammo-Pack	

Maximum ratings (T_A = 25°C) Grenzwerte (T_A = 25°C)

			2N5550	2N5551
Collector-Emitter-volt. – Kollektor-Emitter-Spannung	B open	V_{CEO}	140 V	160 V
Collector-Base-voltage – Kollektor-Basis-Spannung	E open	V_{CBO}	160 V	180 V
Emitter-Base-voltage – Emitter-Basis-Spannung	C open	V_{EBO}	6 V	
Power dissipation – Verlustleistung		P_{tot}	625 mW [1])	
Collector current – Kollektorstrom (dc)		I_C	600 mA	
Junction temperature – Sperrschichttemperatur Storage temperature – Lagerungstemperatur		T_j T_S	-55...+150°C -55...+150°C	

Characteristics (T_j = 25°C) Kennwerte (T_j = 25°C)

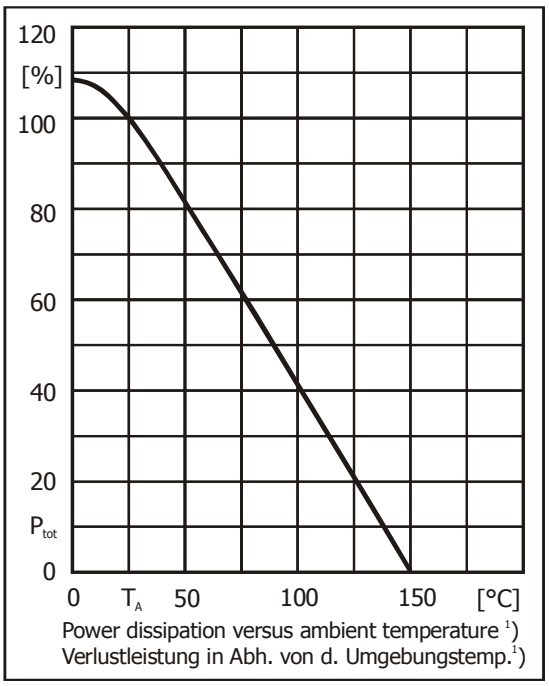
			Min.	Typ.	Max.
DC current gain – Kollektor-Basis-Stromverhältnis [2])					
V_{CE} = 5 V, I_C = 1 mA	2N5550	h_{FE}	60	–	–
V_{CE} = 5 V, I_C = 10 mA	2N5550	h_{FE}	60	–	250
V_{CE} = 5 V, I_C = 50 mA	2N5550	h_{FE}	20	–	–
V_{CE} = 5 V, I_C = 1 mA	2N5551	h_{FE}	80	–	–
V_{CE} = 5 V, I_C = 10 mA	2N5551	h_{FE}	80	–	250
V_{CE} = 5 V, I_C = 50 mA	2N5551	h_{FE}	30	–	–
Collector-Emitter saturation voltage – Kollektor-Emitter-Sättigungsspg. [2])					
I_C = 10 mA, I_B = 1 mA	2N5550	V_{CEsat}	–	–	0.15 V
	2N5551	V_{CEsat}	–	–	0.15 V
I_C = 50 mA, I_B = 5 mA	2N5550	V_{CEsat}	–	–	0.25 V
	2N5551	V_{CEsat}	–	–	0.20 V

1 Valid, if leads are kept at ambient temperature at a distance of 2 mm from case
Gültig wenn die Anschlussdrähte in 2 mm Abstand vom Gehäuse auf Umgebungstemperatur gehalten werden

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

Characteristics (T_j = 25°C) **Kennwerte (T_j = 25°C)**

			Min.	Typ.	Max.
Base-Emitter saturation voltage – Basis-Emitter-Sättigungsspannung [2])					
I_C = 10 mA, I_B = 1 mA	2N5550	V_{BEsat}	–	–	1.0 V
I_C = 50 mA, I_B = 5 mA	2N5550	V_{BEsat}	–	–	1.2 V
I_C = 10 mA, I_B = 1 mA	2N5551	V_{BEsat}	–	–	1.0 V
I_C = 50 mA, I_B = 5 mA	2N5551	V_{BEsat}	–	–	1.0 V
Collector-Base cutoff current – Kollektor-Base-Reststrom					
V_{CB} = 100 V, (E open)	2N5550	I_{CBO}	–	–	100 nA
V_{CB} = 120 V, (E open)	2N5551	I_{CBO}	–	–	50 nA
Emitter-Base cutoff current – Emitter-Basis-Reststrom					
V_{EB} = 4 V, (C open)		I_{EBO}	–	–	50 nA
Gain-Bandwidth Product – Transitfrequenz					
I_C = 10 mA, V_{CE} = 10 V, f = 100 MHz		f_T	100 MHz	–	300 MHz
Collector-Base Capacitance – Kollektor-Basis-Kapazität					
V_{CB} = 10 V, I_E = i_e = 0, f = 1 MHz		C_{CBO}	–	–	6 pF
Noise figure – Rauschzahl					
V_{CE} = 5 V, I_C = 200 µA, R_G = 2 kΩ,	2N5550	F	–	–	10 dB
f = 30 Hz ... 15 kHz	2N5551	F	–	–	8 dB
Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft		R_{thA}	< 200 K/W [1])		
Recommended complementary PNP transistors Empfohlene komplementäre PNP-Transistoren			2N5400 / 2N5401		



Power dissipation versus ambient temperature [1])
Verlustleistung in Abh. von d. Umgebungstemp.[1])

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Gültig wenn die Anschlussdrähte in 2 mm Abstand vom Gehäuse auf Umgebungstemperatur gehalten werden

