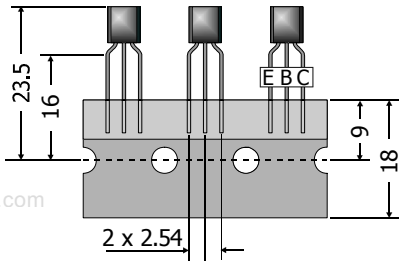
Diotec Semiconductor

2N5172

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

Version 2006-05-15



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	

RoHS Pb WEEE ELV

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

			2N5172
Collector-Emitter-volt. – Kollektor-Emitter-Spannung	B open	V_{CEO}	25 V
Collector-Base-volt. – Kollektor-Basis-Spannung	E open	V_{CBO}	25 V
Emitter-Base-voltage – Emitter-Basis-Spannung	C open	V_{EBO}	5 V
Power dissipation – Verlustleistung		P_{tot}	625 mW [1])
Collector current – Kollektorstrom (dc)		I_C	100 mA
Junction temperature – Sperrschichttemperatur		T_j	-55...+150°C
Storage temperature – Lagerungstemperatur		T_S	-55...+150°C

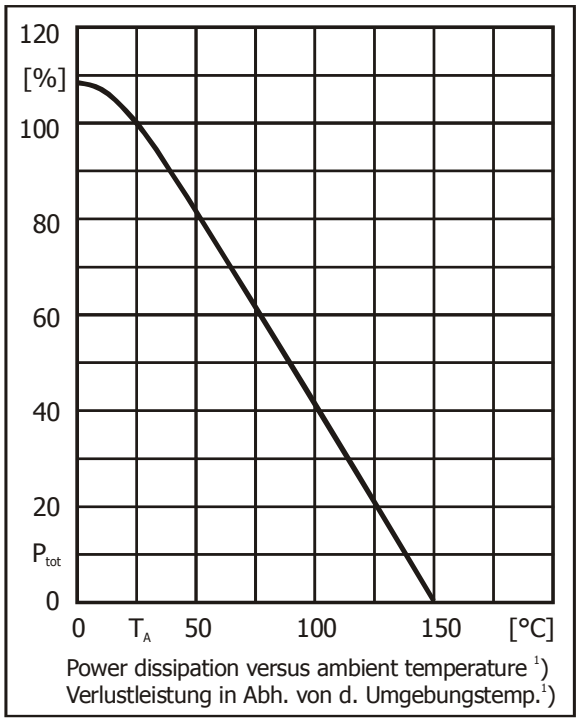
Characteristics (T_j = 25°C) — **Kennwerte (T_j = 25°C)**

		Min.	Typ.	Max.
DC current gain – Kollektor-Basis-Stromverhältnis				
V_{CE} = 10 V, I_C = 10 mA	h_{FE}	100	–	500
Small-Signal current gain – Kleinsignal-Stromverstärkung				
V_{CE} = 10 V, I_C = 1 mA, f = 1.0 kHz	h_{fe}	100	–	750
Collector-Base cutoff current – Kollektor-Basis-Reststrom				
V_{CB} = 25 V (E open)	I_{CBO}	–	–	100 nA
V_{CB} = 25 V, T_j = 100°C (E open)	I_{CBO}	–	–	10 µA
Collector-Emitter cutoff current – Kollektorreststrom				
V_{CE} = 25 V (B-E short)	I_{CES}	–	–	100 nA
Emitter-Base-cutoff current – Emitter-Basis-Reststrom				
V_{EB} = 5 V (C open)	I_{EBO}	–	–	100 nA

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

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

		Min.	Typ.	Max.
Collector-Emitter saturation voltage – Kollektor-Emitter-Sättigungsspg. [2] I_C = 10 mA, I_B = 1 mA	V_{CEsat}	–	–	0.25 V
Base-Emitter saturation voltage – Basis-Emitter-Sättigungsspannung [2] I_C = 10 mA, I_B = 1 mA	V_{BEsat}	–	0.75 V	–
Base-Emitter-voltage – Basis-Emitter-Spannung V_{CE} = 10 V, I_C = 10 mA	$V_{BE(on)}$	0.5 V	–	1.2 V
Gain-Bandwidth Product – Transitfrequenz V_{CE} = 5 V, I_C = 2 mA, f = 20 MHz	f_T	–	120 MHz	–
Collector-Base Capacitance – Kollektor-Basis-Kapazität V_{CB} = 5 V, I_E = i_e = 0, f = 1 MHz	C_{CB0}	1.6 pF	–	10 pF
Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft	R_{thA}	< 200 K/W [1]		



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

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

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