Silicon PNP Transistor

BD170

80V / 1,5A

DATASHEET

OEM – Telefunken

Source: Telefunken Databook 1975

BD 166 · BD 168 · BD 170

Silizium-PNP-Epitaxial-Planar-Leistungstransistoren
Silicon PNP Epitaxial Planar Power Transistors

Anwendungen: Allgemein im NF-Bereich
Applications: *General in AF-range*

Besondere Merkmale:

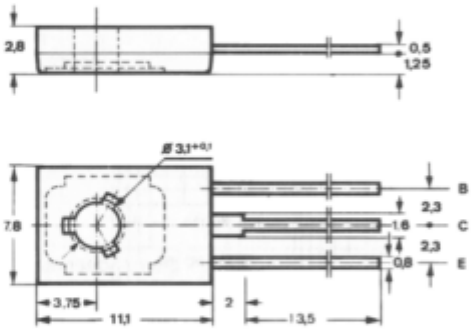
- Verlustleistung 20 W
- Gepaart lieferbar
- BD 166, BD 168, BD 170 sind komplementär zu BD 165, BD 167, BD 169

Features:

- *Power dissipation 20 W*
- *Matched pairs available*
- *BD 166, BD 168, BD 170 are complementary to BD 165, BD 167, BD 169*

Vorläufige technische Daten · *Preliminary specifications*

Abmessungen in mm
Dimensions in mm



Kollektor mit metallischer Montagefläche verbunden
Collector connected metallic surface

Zubehör
Accessories

Isolierscheibe *Isolating washer*	Best. Nr. 119 880
Zahnscheibe *Lock washer*	Best. Nr. 119 881

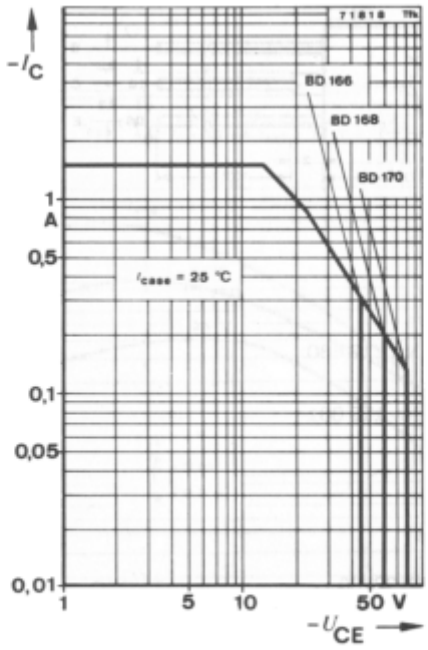
Normgehäuse
Case
12 A 3 DIN 41 869
JEDEC TO 126 (SOT 32)
Gewicht · *Weight*
max. 0,8 g

Absolute Grenzdaten
Absolute maximum ratings

		BD 166	BD 168	BD 170	
Kollektor-Basis-Sperrspannung *Collector-base voltage*	$-U_{CBO}$	45	60	80	V
Kollektor-Emitter-Sperrspannung *Collector-emitter voltage*	$-U_{CEO}$	45	60	80	V
Emitter-Basis-Sperrspannung *Emitter-base voltage*	$-U_{EBO}$		5		V

BD 166 · BD 168 · BD 170

Kollektorstrom *Collector current*	$-I_C$	1,5	A
Kollektorspitzenstrom *Collector peak current*	$-I_{CM}$	3	A
Basisstrom *Base current*	$-I_B$	500	mA
Gesamtverlustleistung *Total power dissipation* $t_{case} \leq 25\,°C$	P_{tot}	20	W
Sperrschichttemperatur *Junction temperature*	t_j	150	°C
Lagerungstemperaturbereich *Storage temperature range*	t_{stg}	−65...+150	°C
Anzugsdrehmoment *Tightening torque*	M_A [1])	70	N cm



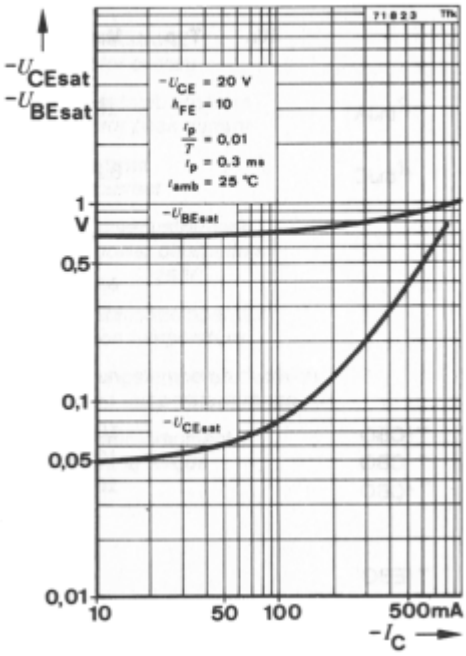
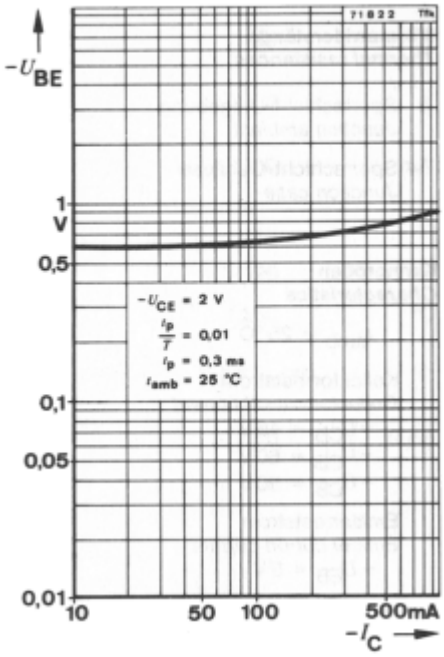
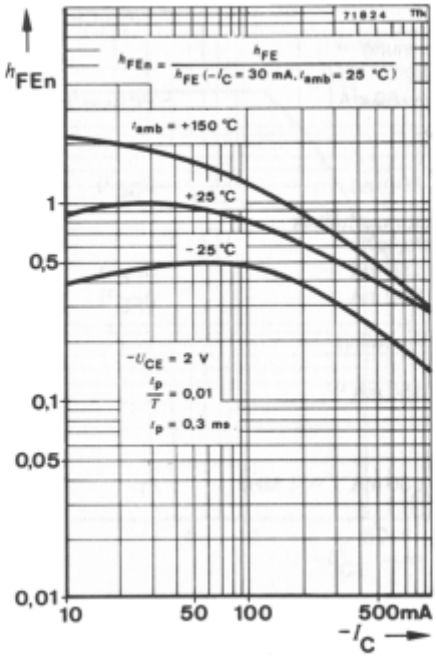
[1]) mit M3-Schraube und Zahnscheibe
with screw M3 and lock washer

Best. Nr. 119 881

BD 166 · BD 168 · BD 170

Wärmewiderstände ***Thermal resistances***			Min.	Typ.	Max.	
Sperrschicht-Umgebung *Junction ambient*		R_{thJA}			100	°C/W
Sperrschicht-Gehäuse *Junction case*		R_{thJC}			6,25	°C/W

Kenngrößen ***Characteristics***						
t_{amb} = 25 °C						
Kollektorreststrom *Collector cut-off current*						
$-U_{CB}$ = 45 V	**BD 166**	$-I_{CBO}$			100	µA
$-U_{CB}$ = 60 V	**BD 168**	$-I_{CBO}$			100	µA
$-U_{CB}$ = 80 V	**BD 170**	$-I_{CBO}$			100	µA
Emitterreststrom *Emitter cut-off current*						
$-U_{EB}$ = 5 V		$-I_{EBO}$			1	mA
Kollektor-Emitter-Durchbruchspannung *Collector-emitter breakdown voltage*						
$-I_C$ = 100 mA	**BD 166**	$-U_{(BR)CEO}$ [1]	45			V
	BD 168	$-U_{(BR)CEO}$ [1]	60			V
	BD 170	$-U_{(BR)CEO}$ [1]	80			V
Kollektor-Sättigungsspannung *Collector saturation voltage*						
$-I_C$ = 500 mA, $-I_B$ = 50 mA		$-U_{CEsat}$ [1]			500	mV
Basis-Emitter-Spannung *Base-emitter voltage*						
$-U_{CE}$ = 2 V, $-I_C$ = 500 mA		$-U_{BE}$ [1]			950	mV
Kollektor-Basis-Gleichstromverhältnis *DC forward current transfer ratio*						
$-U_{CE}$ = 2 V, $-I_C$ = 150 mA		h_{FE} [1]	40			
$-U_{CE}$ = 2 V, $-I_C$ = 500 mA		h_{FE} [1]	15			
Für Paare gilt das h_{FE}-Verhältnis *h_{FE} matched pair ratio*						
$-U_{CE}$ = 2 V, $-I_C$ = 150 mA [1]					1,4	
Transitfrequenz *Gain bandwidth product*						
$-U_{CE}$ = 2 V, $-I_C$ = 500 mA, f = 1 MHz		f_T	3			MHz

[1] $\frac{t_p}{t}$ = 0,01 t_p = 0,3 ms

BD 166 · BD 168 · BD 170