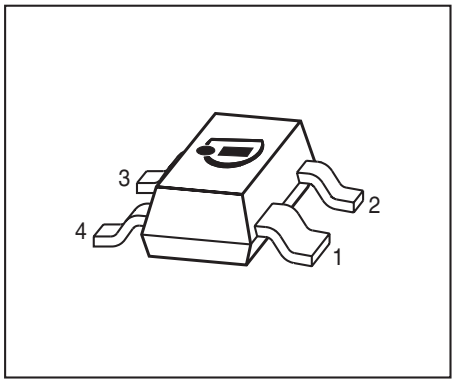
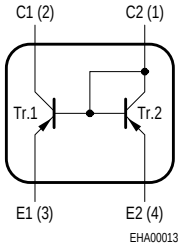
PNP Silicon Double Transistor



- To be used as a current mirror
- Good thermal coupling and V_{BE} matching
- High current gain
- Low collector-emitter saturation voltage
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101



Type	Marking	Pin Configuration				Package
BCV62A	3Js	1 = C2	2 = C1	3 = E1	4 = E2	SOT143
BCV62B	3Ks	1 = C2	2 = C1	3 = E1	4 = E2	SOT143
BCV62C	3Ls	1 = C2	2 = C1	3 = E1	4 = E2	SOT143

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-emitter voltage (transistor T1)	V_{CEO}	30	V
Collector-base voltage (open emitter) (transistor T1)	V_{CBO}	30	
Emitter-base voltage	V_{EBS}	6	
DC collector current	I_C	100	mA
Peak collector current	I_{CM}	200	
Base peak current (transistor T1)	I_{BM}	200	
Total power dissipation, T_S = 99 °C	P_{tot}	300	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

Junction - soldering point[1)]	R_{thJS}	≤170	K/W

[1]For calculation of R_{thJA} please refer to Application Note AN077 (Thermal Resistance Calculation)

Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter		Symbol	Values			Unit
			min.	typ.	max.	
DC Characteristics of T1						
Collector-emitter breakdown voltage I_C = 10 mA, I_B = 0		$V_{(BR)CEO}$	30	-	-	V
Collector-base breakdown voltage I_C = 10 µA, I_E = 0		$V_{(BR)CBO}$	30	-	-	
Emitter-base breakdown voltage I_E = 10 µA, I_C = 0		$V_{(BR)EBO}$	6	-	-	
Collector cutoff current V_{CB} = 30 V, I_E = 0		I_{CBO}	-	-	15	nA
Collector cutoff current V_{CB} = 30 V, I_E = 0 , T_A = 150 °C		I_{CBO}	-	-	5	µA
DC current gain 1) I_C = 0.1 mA, V_{CE} = 5 V		h_{FE}	100	-	-	-
DC current gain 1) I_C = 2 mA, V_{CE} = 5 V		h_{FE}				
	BCV62A		125	180	220	
	BCV62B		220	290	475	
	BCV62C		420	520	800	
Collector-emitter saturation voltage1) I_C = 10 mA, I_B = 0.5 mA I_C = 100 mA, I_B = 5 mA		V_{CEsat}	 - -	 75 250	 300 650	mV
Base-emitter saturation voltage 1) I_C = 10 mA, I_B = 0.5 mA I_C = 100 mA, I_B = 5 mA		V_{BEsat}	 - -	 700 850	 - -	
Base-emitter voltage 1) I_C = 2 mA, V_{CE} = 5 V I_C = 10 mA, V_{CE} = 5 V		$V_{BE(ON)}$	 600 -	 650 -	 750 820	

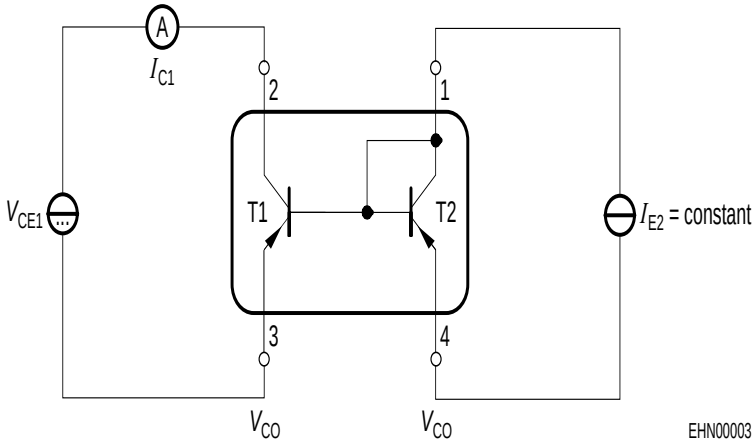
1) Pulse test: t ≤ 300µs, D = 2%

Electrical Characteristics at T_A = 25°C, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Base-emitter forward voltage	V_{BES}				V
I_E = 10 µA		0.4	-	-	
I_E = 250 mA		-	-	1.8	
Matching of transistor T1 and transistor T2	I_{C1} / I_{C2}				-
at I_{E2} = 0.5mA and V_{CE1} = 5V		-	-	-	
T_A = 25 °C		0.7	-	1.3	
T_A = 150 °C		0.7	-	1.3	
Thermal coupling of transistor T1 and transistor T2 [1] T1: V_{CE} = 5V Maximum current of thermal stability of I_{C1}	I_{E2}	-	5	-	mA
AC characteristics of transistor T1					
Transition frequency	f_T	-	250	-	MHz
I_C = 10 mA, V_{CE} = 5 V, f = 100 MHz					
Collector-base capacitance	C_{cb}	-	1.5	-	pF
V_{CB} = 10 V, f = 1 MHz					
Emitter-base capacitance	C_{eb}	-	8	-	
V_{EB} = 0.5 V, f = 1 MHz					
Noise figure	F	-	2	-	dB
I_C = 200 µA, V_{CE} = 5 V, R_S = 2 kΩ, f = 1 kHz, Δ f = 200 Hz					
Short-circuit input impedance	h_{11e}	-	4.5	-	kΩ
I_C = 1 mA, V_{CE} = 10 V, f = 1 kHz					
Open-circuit reverse voltage transf.ratio	h_{12e}	-	2	-	10^{-4}
I_C = 1 mA, V_{CE} = 10 V, f = 1 kHz					
Short-circuit forward current transf.ratio	h_{21e}	100	-	900	-
I_C = 1 mA, V_{CE} = 10 V, f = 1 kHz					
Open-circuit output admittance	h_{22e}	-	30	-	µS
I_C = 1 mA, V_{CE} = 10 V, f = 1 kHz					

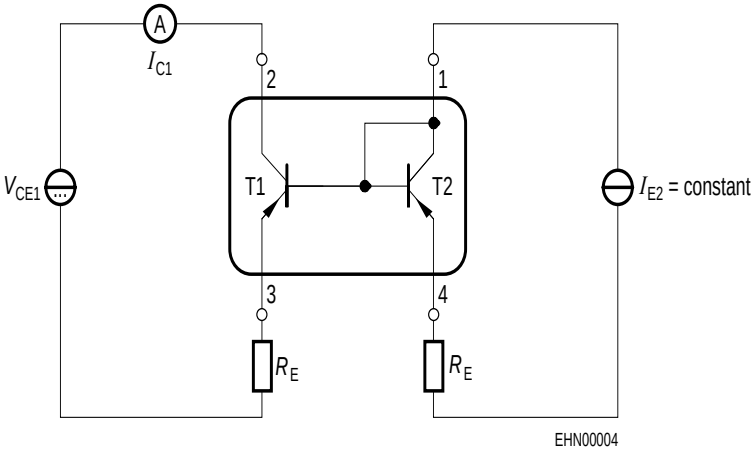
1) Witout emitter resistor. Device mounted on alumina 15mm x 16.5mm x 0.7mm

Test circuit for current matching



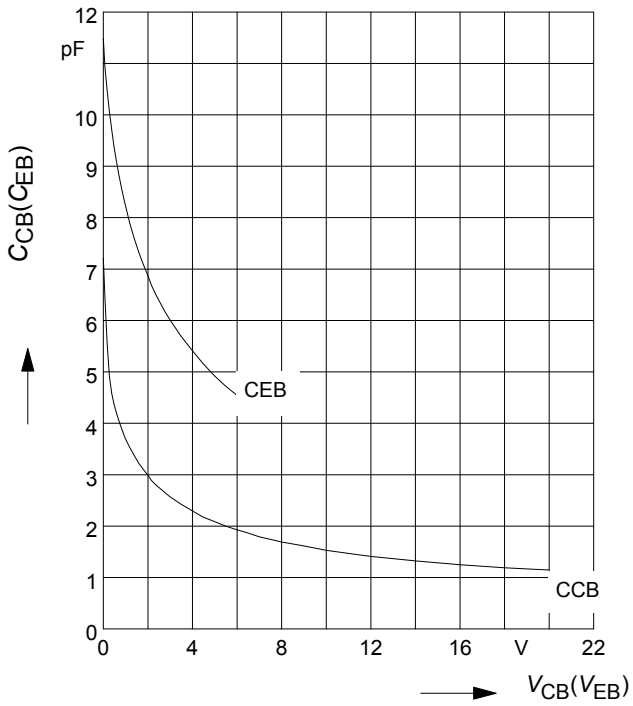
Note: Voltage drop at contacts: V_{CO} < 2/3 V_T = 16mV

Characteristic for determination of V_{CE1} at specified R_E range with I_{E2} as parameter under condition of I_{C1}/I_{E2} = 1.3

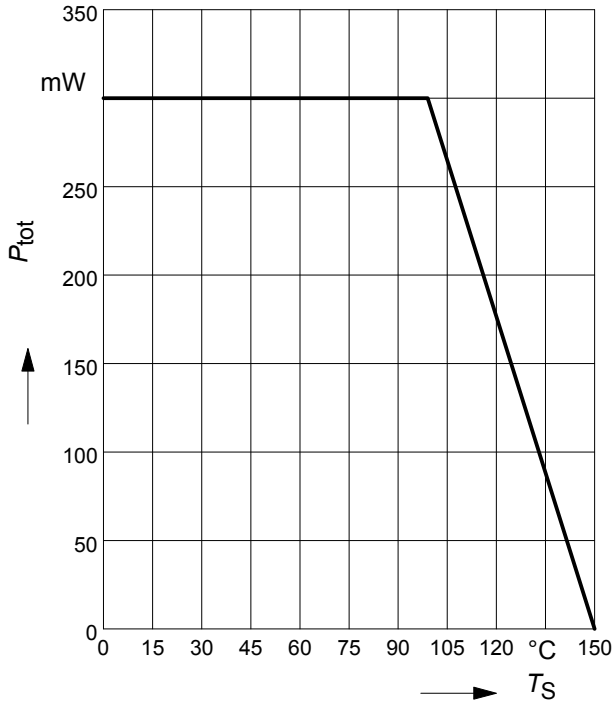


Note: BCV62 with emitter resistors

Collector-base capacitance $C_{cb} = f(V_{CB})$
Emitter-base capacitance $C_{eb} = f(V_{EB})$

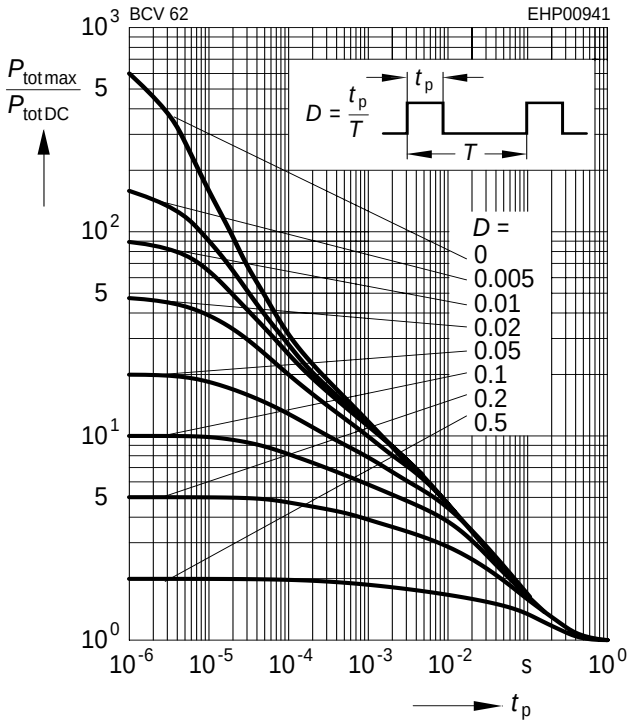


Total power dissipation $P_{tot} = f(T_S)$

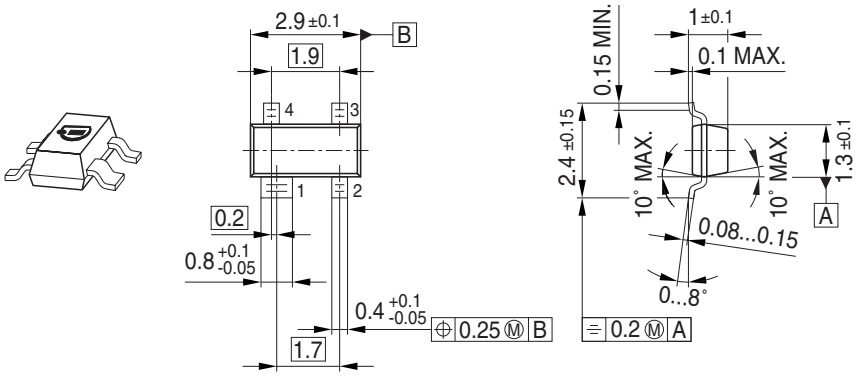


Permissible pulse load

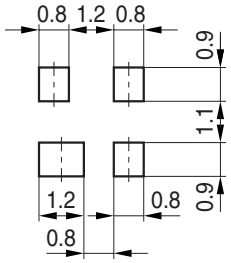
$P_{totmax} / P_{totDC} = f(t_p)$



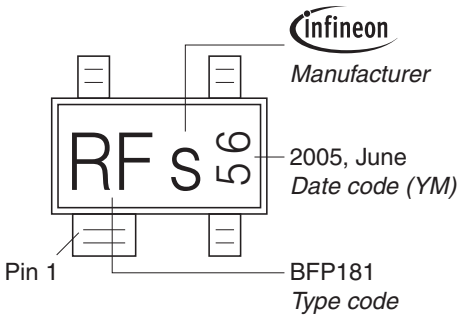
Package Outline



Foot Print

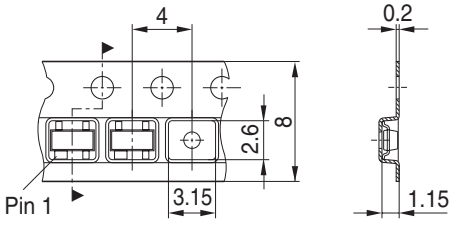


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel



Edition 2009-11-16

Published by
Infineon Technologies AG
81726 Munich, Germany

Legal Disclaimer

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of intellectual property rights of any third party.

Information

For further information on technology, delivery terms and conditions and prices, please contact the nearest Infineon Technologies Office (<www.infineon.com>).

Warnings

Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Infineon Technologies Office.
Infineon Technologies components may be used in life-support devices or systems only with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Bipolar Transistors - BJT ***category:***

Click to view products by Infineon ***manufacturer:***

Other Similar products are found below :

619691C MCH4017-TL-H BC546/116 BC557/116 BSW67A NTE158 NTE187A NTE195A NTE2302 NTE2330 NTE63 C4460 2SA1419T-TD-H 2SA1721-O(TE85L,F) 2SA2126-E 2SB1204S-TL-E 2SC5488A-TL-H 2SD2150T100R SP000011176 FMMTA92QTA 2N2369ADCSM 2SC2412KT146S 2SC5490A-TL-H 2SD1816S-TL-E 2SD1816T-TL-E CMXT2207 TR CPH6501-TL-E MCH4021-TL-E US6T6TR 732314D CMXT3906 TR CPH3121-TL-E CPH6021-TL-H 873787E UMX21NTR EMT2T2R MCH6102-TL-E FP204-TL-E NJL0302DG 2N3583 2SA1434-TB-E 2SC3143-4-TB-E 2SD1621S-TD-E NTE103 30A02MH-TL-E NSV40301MZ4T1G NTE101 NTE13 NTE15 NTE16001