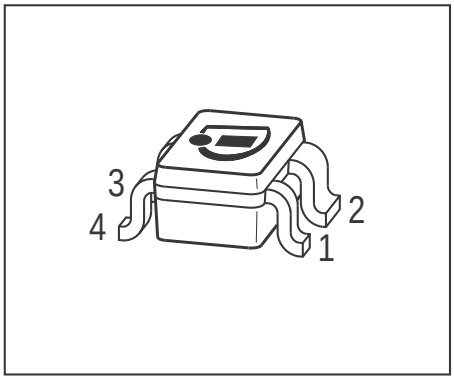
NPN Bipolar RF Transistor



- High transducer gain of typ. 24 dB @ 13 mA, 1.9 GHz
- Low minimum noise figure of typ. 0.5 dB @ 1.9 GHz
- Pb-free (RoHS compliant) package
- For a wide range of non-automotive applications
  - 2nd and 3rd LNA stage and mixer stage in LNB
  - 5.8 GHz analog/digital cordless phone

RoHS

ESD (**E**lectro**s**tatic **d**ischarge) sensitive device, observe handling precaution!

Type	Marking	Pin Configuration						Package
BF886	RZs	1=B	2=E	3=C	4=E	-	-	SOT343

Maximum Ratings at T_A = 25 °C, unless otherwise specified

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V_{CEO}		V
T_A = 25 °C		4.0	
T_A = – 55 °C		3.5	
Collector-emitter voltage	V_{CES}	13	
Collector-base voltage	V_{CBO}	13	
Emitter-base voltage	V_{EBO}	1.2	
Collector current	I_C	25	mA
Base current	I_B	2	
Total power dissipation[1)] $T_S \leq 108$ °C	P_{tot}	100	mW
Junction temperature	T_J	150	°C
Storage temperature	T_{Stg}	-55 ... 150	

[1] T_S is measured on the emitter lead at the soldering point to the pcb

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point[1)]	R_{thJS}	≤ 420	K/W

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Collector-emitter breakdown voltage I_C = 1 mA, I_B = 0	$V_{(BR)CEO}$	4	4.7	-	V
Collector-emitter cutoff current V_{CE} = 2 V, V_{BE} = 0	I_{CES}	-	1	-	nA
Collector-base cutoff current V_{CB} = 2 V, I_E = 0	I_{CBO}	-	1	-	
Emitter-base cutoff current V_{EB} = 0.5 V, I_C = 0	I_{EBO}	-	10	-	
DC current gain I_C = 13 V, V_{CE} = 3 V, pulse measured	h_{FE}	-	250	-	-

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

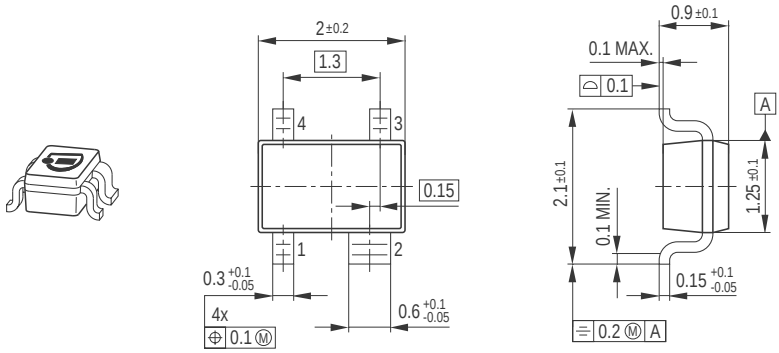
Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics (verified by random sampling)					
Transition frequency I_C = 13 mA, V_{CE} = 3 V, f = 1 GHz	f_T	-	45	-	GHz
Collector-base capacitance V_{CB} = 3 V, f=1 MHz, V_{BE} = 0, emitter grounded	C_{cb}	-	0.06	-	pF
Collector emitter capacitance V_{CE} = 3 V, f = 1 MHz, V_{BE} = 0, base grounded	C_{ce}	-	0.35	-	
Emitter-base capacitance V_{EB} = 0.5 V, f=1 MHz, V_{CB}=0, collector grounded	C_{eb}	-	0.35	-	
Noise figure I_C = 5 mA, V_{CE} = 3 V, f = 1.9 GHz, $Z_S = Z_{Sopt}$ I_C = 5 mA, V_{CE} = 3 V, f = 5.5 GHz, $Z_S = Z_{Sopt}$	F	 - -	 0.5 0.7	 - -	dB
Power gain I_C = 13 mA, V_{CE} = 3 V, $Z_S = Z_{Sopt}$, $Z_L = Z_{Lopt}$, f = 1.9 GHz	G_{ms}	-	26	-	dB
Power gain, maximum available[1)] I_C = 13 mA, V_{CE} = 3 V, $Z_S = Z_{Sopt}$, $Z_L = Z_{Lopt}$, f = 5.5 GHz	G_{ma}	-	19	-	dB
Transducer gain I_C = 13 mA, V_{CE} = 3 V, $Z_S = Z_L$ = 50 Ω, f = 1.9 GHz f = 5.5 GHz	$\lvert S_{21e}\rvert^2$	 - -	 24 16	 - -	dB
Third order intercept point at output[2)] V_{CE} = 3 V, I_C = 13 mA, f = 5.5 GHz, $Z_S = Z_L$ = 50 Ω	IP_3	-	23	-	dBm
1dB Compression point I_C = 13 mA, V_{CE} = 3 V, $Z_S = Z_L$ = 50 Ω, f = 5.5 GHz	P_{-1dB}	-	8	-	

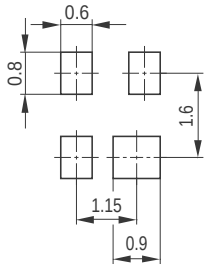
[1] $G_{ma} = |S_{21e} / S_{12e}| (k-(k^2-1)^{1/2})$

[2] IP3 value depends on termination of all intermodulation frequency components.
Termination used for this measurement is 50 Ω from 0.1 MHz to 6 GHz

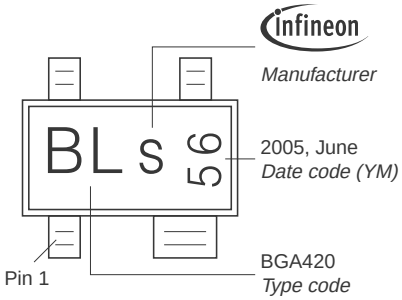
Package Outline



Foot Print

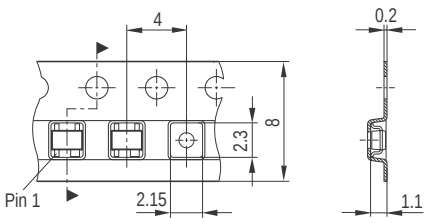


Marking Layout (Example)



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 RF Bipolar Transistors ***category:***

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

Other Similar products are found below :

MAPRST0912-50 MCH4016-TL-H MMBT5551-G MRF10120 15GN01CA-TB-E PH1214-25M MAPRST0912-350 MMBTH10-TP BFP 640F H6327 BFR 360F H6765 MRF10031 NSVF4009SG4T1G BFP 182R E7764 BFP405H6740XTSA1 MRF10350 ASMA201 BFR360FH6765XTSA1 BFP410H6327XTSA1 BFP620FH7764XTSA1 BFP720ESDH6327XTSA1 BFP720FH6327XTSA1 BFR360L3E6765XTMA1 BFP420H6433XTMA1 BFP420H6740XTSA1 BFP420H6801XTSA1 MCH4015-TL-H BF888H6327XTSA1 MMBT2222A-G BFP196WH6327XTSA1 BFP405FH6327XTSA1 BFP640ESDH6327XTSA1 BFR193L3E6327XTMA1 BFS483H6327XTSA1 NSVF4020SG4T1G NSVF6003SB6T1G MRF10005 BFP420FH6327XTSA1 BFP740FESDH6327XTSA1 BFR181E6327HTSA1 BFR181WH6327XTSA1 BFR182E6327HTSA1 BFR193E6327HTSA1 BFP181E7764HTSA1 BFP183WH6327XTSA1 BFP720H6327XTSA1 BFR182WH6327XTSA1 BFU590GX MAPR-000912-500S00 BFR340FH6327XTSA1 STGWT30HP65FB