

BC807K series

45 V, 500 mA PNP general-purpose transistors

Rev. 2 — 24 April 2018 Product data sheet

1 Product profile

1.1 General description

PNP general-purpose transistors in a small SOT23 (TO-236AB) Surface-Mounted Device (SMD) plastic package.

Table 1. Product overview

Type number	Package		NPN complement
	Nexperia	JEDEC	
BC807K-16	SOT23	TO-236AB	BC817K-16
BC807K-25			BC817K-25
BC807K-40			BC817K-40

1.2 Features and benefits

- Three current gain selections
- High power dissipation capability
- AEC-Q101 qualified

1.3 Applications

- General-purpose switching and amplification

nexperia

1.4 Quick reference data

Table 2. Quick reference data

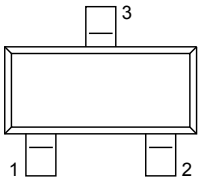
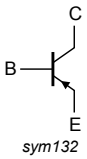
T_{amb} = 25 °C unless otherwise specified.

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
V_{CEO}	collector-emitter voltage	open base		-	-	-45	V
I_C	collector current			-	-	-500	mA
I_{CM}	peak collector current	single pulse; $t_p \leq 1$ ms		-	-	-1	A
h_{FE}	DC current gain	V_{CE} = -1 V; I_C = -100 mA					
	BC807K-16		[1]	100	-	250	-
	BC807K-25		[1]	160	-	400	-
	BC807K-40		[1]	250	-	600	-

[1] pulsed; $t_p \leq 300$ µs; $\delta \leq 0.02$

2 Pinning information

Table 3. Pinning

Pin	Symbol	Description	Simplified outline	Graphic symbol
1	B	base		
2	E	emitter		
3	C	collector		

3 Ordering information

Table 4. Ordering information

Type number	Package		
	Name	Description	Version
BC807K-16	TO-236AB	Plastic surface-mounted package; 3 leads	SOT23
BC807K-25			
BC807K-40			

All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.

4 Marking

Table 5. Marking

Type number		Marking code
BC807K-16	[1]	HA%
BC807K-25	[1]	HB%
BC807K-40	[1]	HC%

[1] % = placeholder for manufacturing site code

5 Limiting values

Table 6. Limiting values

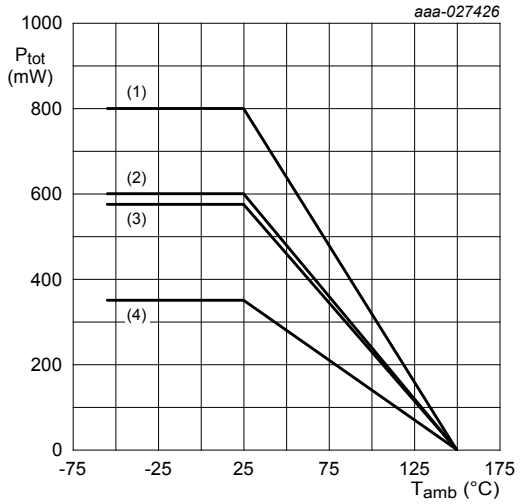
In accordance with the Absolute Maximum Rating System (IEC 60134).

Symbol	Parameter	Conditions		Min	Max	Unit
V_{CBO}	collector-base voltage	open emitter		-	-50	V
V_{CEO}	collector-emitter voltage	open base		-	-45	V
V_{EBO}	emitter-base voltage	open collector		-	-5	V
I_C	collector current			-	-500	mA
I_{CM}	peak collector current	single pulse; $t_p \leq 1$ ms		-	-1	A
I_{BM}	peak base current	single pulse; $t_p \leq 1$ ms		-	-200	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C	[1]	-	350	mW
			[2]	-	575	mW
			[3]	-	600	mW
			[4]	-	800	mW
T_j	junction temperature			-	150	°C
T_{amb}	ambient temperature			-55	150	°C
T_{stg}	storage temperature			-65	150	°C

[1] Device mounted on an FR4 Printed-Circuit-Board (PCB); single-sided copper; tin-plated and standard footprint.
[2] Device mounted on an FR4 Printed-Circuit-Board (PCB); single-sided copper; tin-plated; mounting pad for collector 1 cm^2.
[3] Device mounted on an FR4 Printed-Circuit-Board (PCB); 4-layer copper; tin-plated and standard footprint.
[4] Device mounted on an FR4 Printed-Circuit-Board (PCB); 4-layer copper; tin-plated; mounting pad for collector 1 cm^2.

All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.



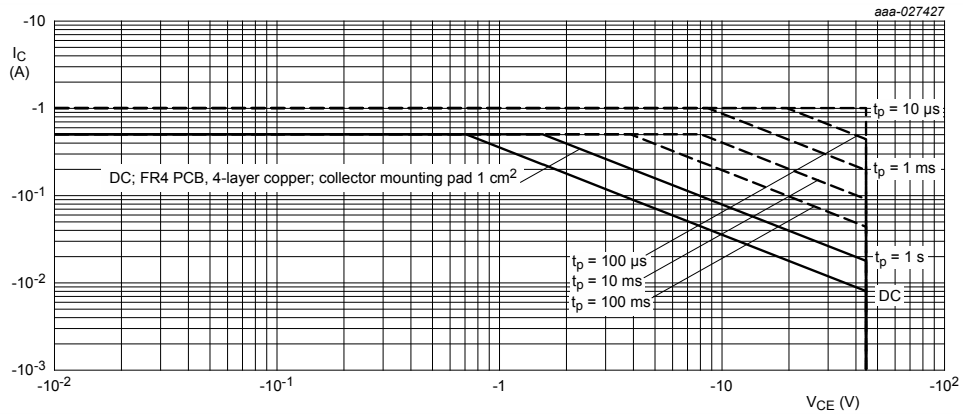
(1) FR4 PCB, 4-layer copper; 1 cm^2

(2) FR4 PCB, 4-layer copper; standard footprint

(3) FR4 PCB, single-sided copper; 1 cm^2

(4) FR4 PCB, single-sided copper; standard footprint

Figure 1. Power derating curves



FR4 PCB, single-sided copper; standard footprint; single pulse;

T_{amb} = 25 °C

Figure 2. Safe operating area; junction to ambient; continous and peak collector currents as a function of collector-emitter voltage

All information provided in this document is subject to legal disclaimers.

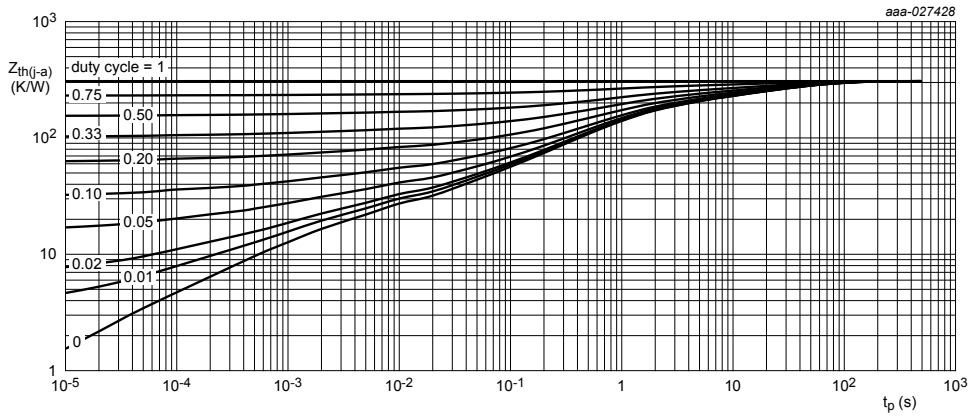
© Nexperia B.V. 2018. All rights reserved.

6 Thermal characteristics

Table 7. Thermal characteristics

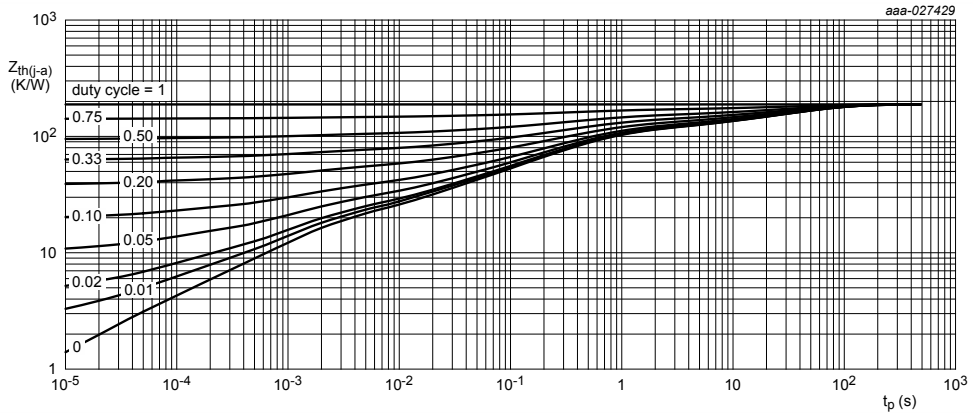
Symbol	Parameter	Conditions		Min	Typ	Max	Unit
$R_{th(j-a)}$	thermal resistance from junction to ambient	in free air	[1]	-	-	358	K/W
			[2]	-	-	218	K/W
			[3]	-	-	209	K/W
			[4]	-	-	157	K/W
$R_{th(j-sp)}$	thermal resistance from junction to solder point			-	-	60	K/W

[1] Device mounted on an FR4 PCB; single-sided copper; tin-plated and standard footprint.
[2] Device mounted on an FR4 PCB; single-sided copper; tin-plated; mounting pad for collector 1 cm^2.
[3] Device mounted on an FR4 PCB; 4-layer copper; tin-plated and standard footprint.
[4] Device mounted on an FR4 PCB; 4-layer copper; tin-plated; mounting pad for collector 1 cm^2.



FR4 PCB; single-sided copper; tin-plated and standard footprint

Figure 3. Transient thermal impedance from junction to ambient as a function of pulse duration; typical values

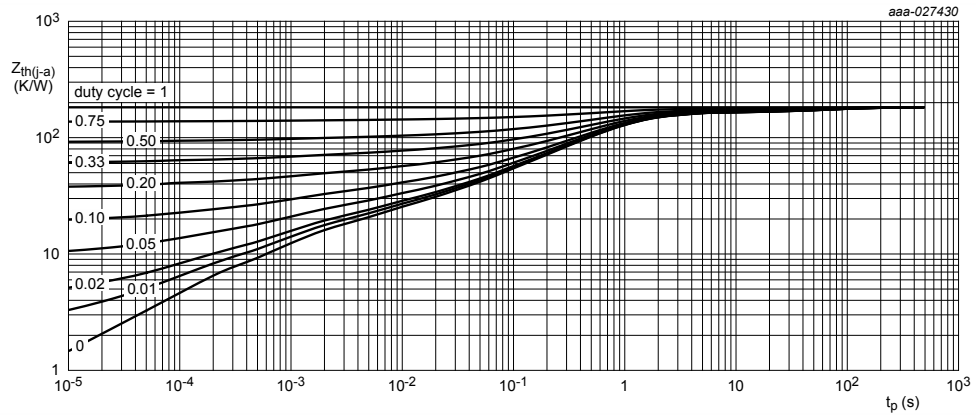


FR4 PCB; single-sided copper; tin-plated; mounting pad for collector 1 cm^2

Figure 4. Transient thermal impedance from junction to ambient as a function of pulse duration; typical values

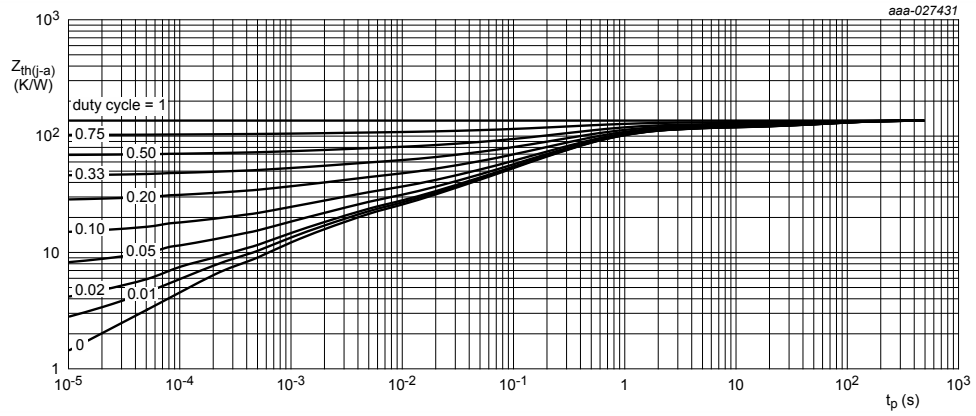
All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.



FR4 PCB; 4-layer copper; tin plated and standard footprint

Figure 5. Transient thermal impedance from junction to ambient as a function of pulse duration; typical values



FR4 PCB; 4-layer copper; tin plated; mounting pad for collector 1 cm^2

Figure 6. Transient thermal impedance from junction to ambient as a function of pulse duration; typical values

All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.

7 Characteristics

Table 8. Characteristics

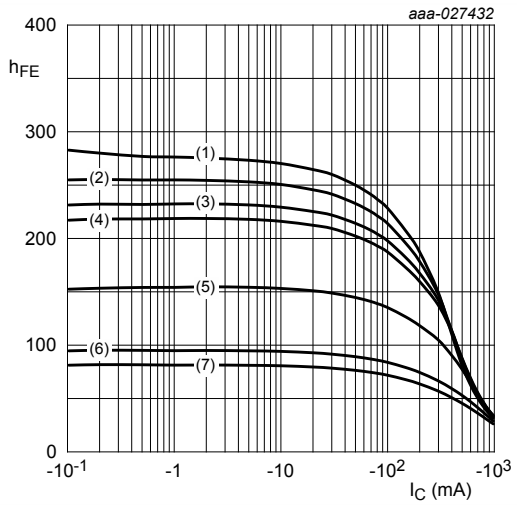
T_{amb} = 25 °C unless otherwise specified.

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
$V_{(BR)CBO}$	collector-base breakdown voltage	I_C = -100 µA; I_E = 0 A		-50	-	-	V
$V_{(BR)CEO}$	collector-emitter breakdown voltage	I_C = -10 mA; I_B = 0 A		-45	-	-	V
$V_{(BR)EBO}$	emitter-base breakdown voltage	I_E = -100 µA; I_C = 0 A		-5	-	-	V
I_{CBO}	collector-base cut-off current	V_{CB} = -25 V; I_E = 0 A		-	-	-100	nA
		V_{CB} = -25 V; I_E = 0 A; T_j = 150 °C		-	-	-5	µA
I_{EBO}	emitter-base cut-off current	V_{EB} = -5 V; I_C = 0 A		-	-	-100	nA
h_{FE}	DC current gain						
	BC807K-16	V_{CE} = -1 V; I_C = -100 mA	[1]	100	-	250	
	BC807K-25	V_{CE} = -1 V; I_C = -100 mA	[1]	160	-	400	
	BC807K-40	V_{CE} = -1 V; I_C = -100 mA	[1]	250	-	600	
	BC807K-16, -25, -40	V_{CE} = -1 V; I_C = -500 mA	[1]	40	-	-	
V_{CEsat}	collector-emitter saturation voltage	I_C = -500 mA; I_B = -50 mA	[1]	-	-	-700	mV
V_{BEsat}	base-emitter saturation voltage	I_C = -500 mA; I_B = -50 mA	[1]	-	-	-1.2	V
V_{BE}	base-emitter voltage	V_{CE} = -1 V; I_C = -500 mA	[1]	-	-	-1.2	V
f_T	transition frequency	V_{CE} = -5 V; I_C = -10 mA; f = 100 MHz		80	-	-	MHz
C_c	collector capacitance	V_{CB} = -10 V; I_E = i_e = 0 A; f = 1 MHz		-	7	-	pF
C_e	emitter capacitance	V_{EB} = -0.5 V; I_C = i_c = 0 A; f = 1 MHz					
	BC807K-16			-	50	-	pF
	BC807K-25			-	45	-	pF
	BC807K-40			-	37	-	pF

[1] pulsed; $t_p \leq 300$ µs; $\delta \leq 0.02$

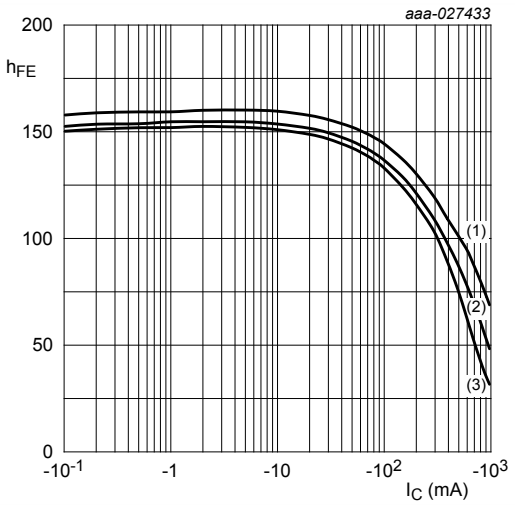
All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.



V_{CE} = -1 V
(1) T_{amb} = 150 °C
(2) T_{amb} = 125 °C
(3) T_{amb} = 100 °C
(4) T_{amb} = 85 °C
(5) T_{amb} = 25 °C
(6) T_{amb} = -40 °C
(7) T_{amb} = -55 °C

Figure 7. BC807K-16: DC current gain as a function of collector current; typical values

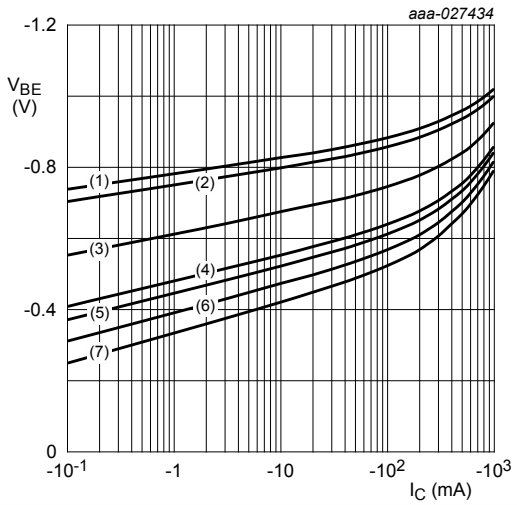


T_{amb} = 25 °C
(1) V_{CE} = -5 V
(2) V_{CE} = -2 V
(3) V_{CE} = -1 V

Figure 8. BC807K-16: DC current gain as a function of collector current; typical values

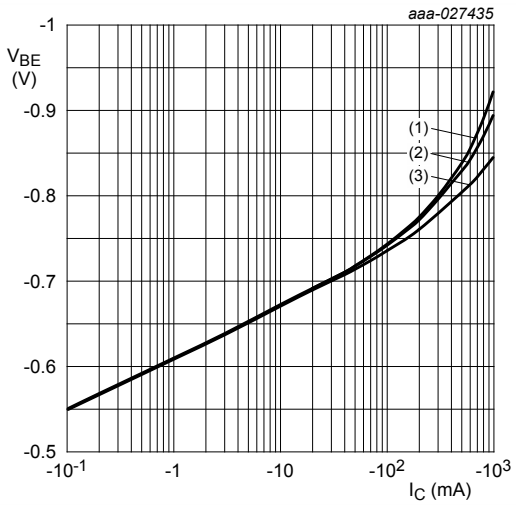
All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.



V_{CE} = -1 V
(1) T_{amb} = -55 °C
(2) T_{amb} = -40°C
(3) T_{amb} = 25 °C
(4) T_{amb} = 85 °C
(5) T_{amb} = 100 °C
(6) T_{amb} = 125 °C
(7) T_{amb} = 150 °C

Figure 9. BC807K-16: Base-emitter voltage as a function of collector current; typical values

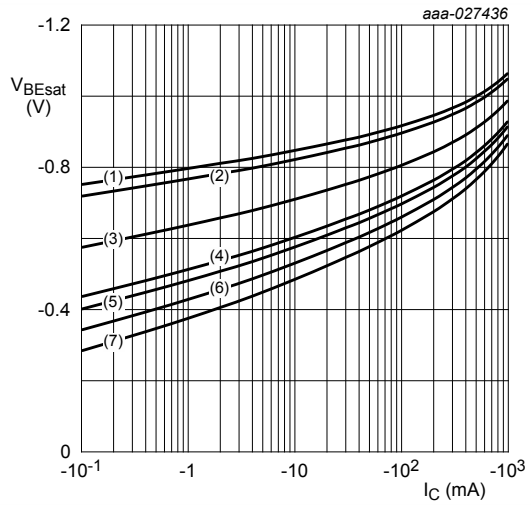


T_{amb} = 25 °C
(1) V_{CE} = -1 V
(2) V_{CE} = -2 V
(3) V_{CE} = -5 V

Figure 10. BC807K-16: Base-emitter voltage as a function of collector current; typical values

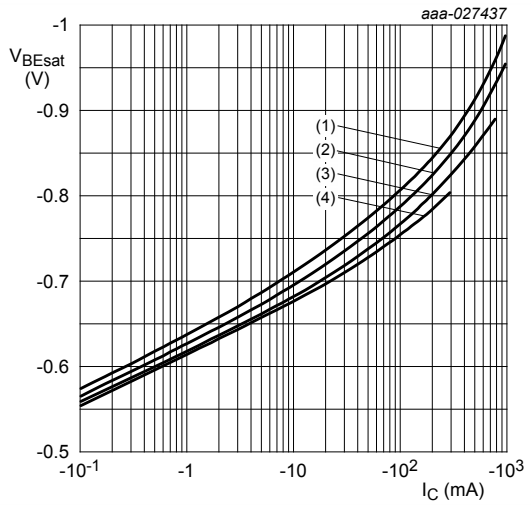
All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.



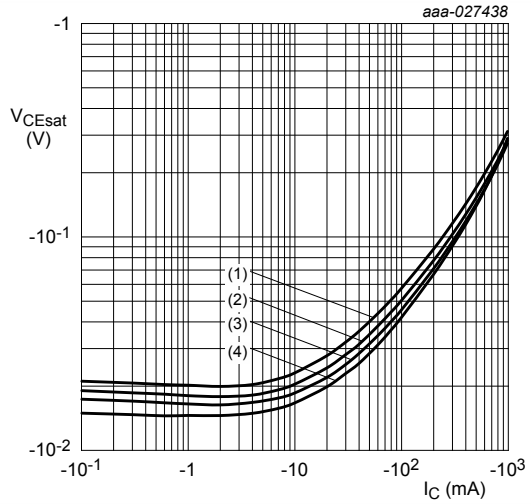
I_C/I_B = 10
(1) T_{amb} = -55 °C
(2) T_{amb} = -40°C
(3) T_{amb} = 25 °C
(4) T_{amb} = 85 °C
(5) T_{amb} = 100 °C
(6) T_{amb} = 125 °C
(7) T_{amb} = 150 °C

Figure 11. BC807K-16: Base-emitter saturation voltage as a function of collector current; typical values



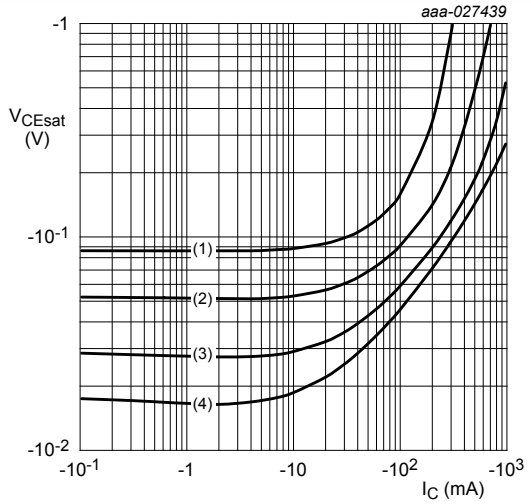
T_{amb} = 25 °C
(1) I_C/I_B = 10
(2) I_C/I_B = 20
(3) I_C/I_B = 50
(4) I_C/I_B = 100

Figure 12. BC807K-16: Base-emitter saturation voltage as a function of collector current; typical values



I_C/I_B = 10
(1) T_{amb} = 150 °C
(2) T_{amb} = 85 °C
(3) T_{amb} = 25 °C
(4) T_{amb} = -40 °C

Figure 13. BC807K-16: Collector-emitter saturation voltage as a function of collector current; typical values

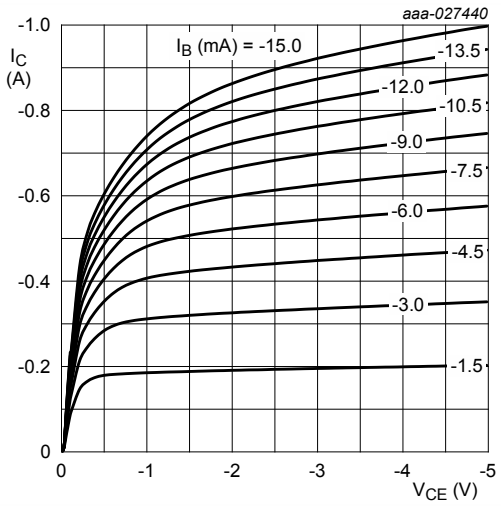


T_{amb} = 25 °C
(1) I_C/I_B = 100
(2) I_C/I_B = 50
(3) I_C/I_B = 20
(4) I_C/I_B = 10

Figure 14. BC807K-16: Collector-emitter saturation voltage as a function of collector current; typical values

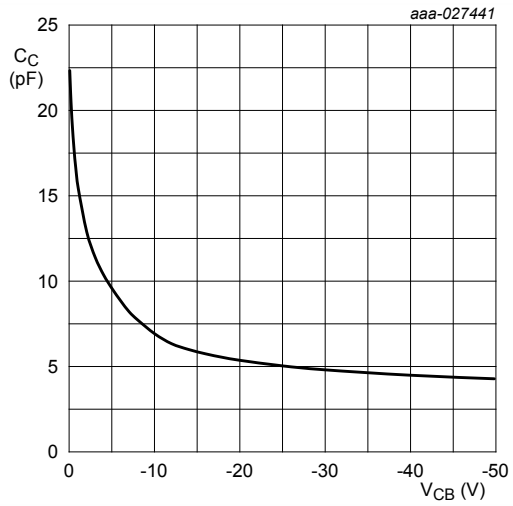
All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.



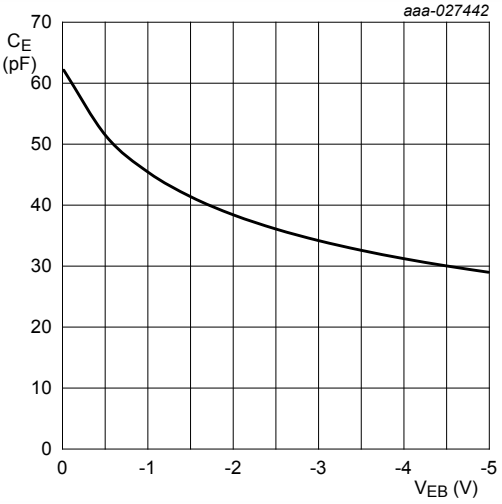
T_{amb} = 25 °C

Figure 15. BC807K-16: Collector current as a function of collector-emitter voltage; typical values



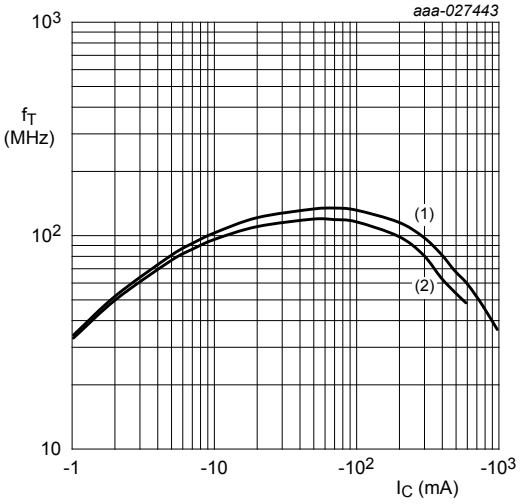
f = 1 MHz; T_{amb} = 25 °C

Figure 16. BC807K-16: Collector capacitance as a function of collector-base voltage; typical values



f = 1 MHz; T_{amb} = 25 °C

Figure 17. BC807K-16: Emitter capacitance as a function of emitter-base voltage; typical values



f = 100 MHz; T_{amb} = 25 °C

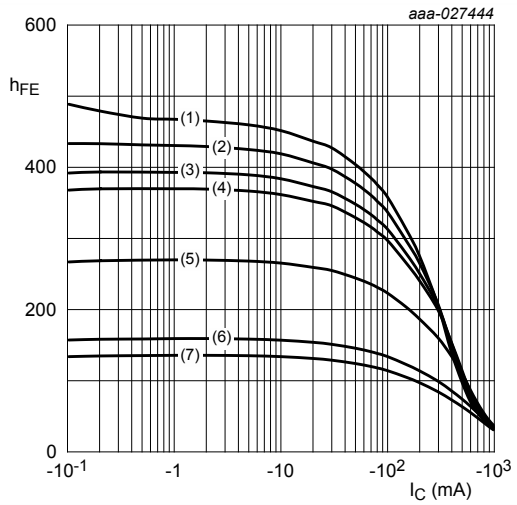
(1) V_{CE} = -5 V

(2) V_{CE} = -1 V

Figure 18. BC807K-16: Transition frequency as a function of collector current voltage; typical values

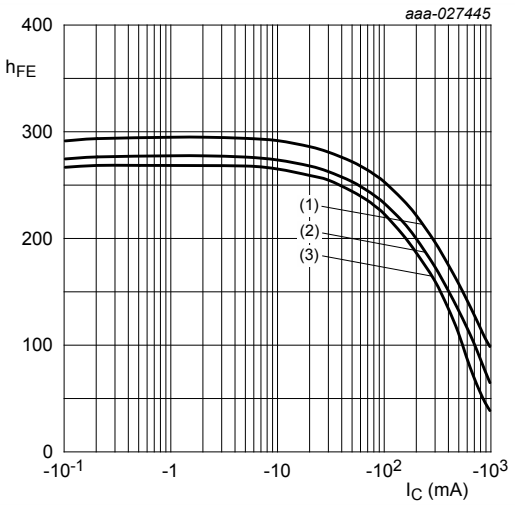
All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.



V_{CE} = -1 V
(1) T_{amb} = 150 °C
(2) T_{amb} = 125 °C
(3) T_{amb} = 100 °C
(4) T_{amb} = 85 °C
(5) T_{amb} = 25 °C
(6) T_{amb} = -40 °C
(7) T_{amb} = -55 °C

Figure 19. BC807K-25: DC current gain as a function of collector current; typical values

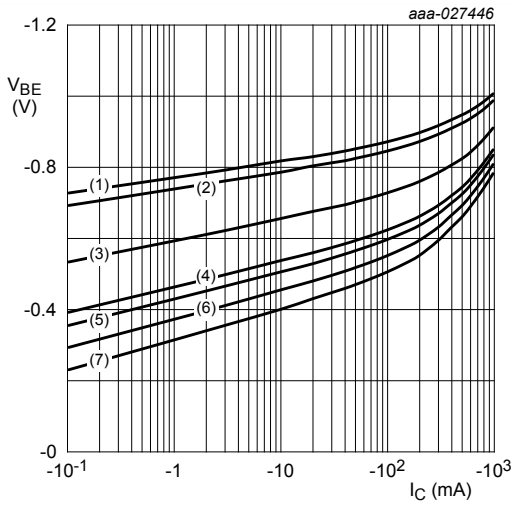


T_{amb} = 25 °C
(1) V_{CE} = -5 V
(2) V_{CE} = -2 V
(3) V_{CE} = -1 V

Figure 20. BC807K-25: DC current gain as a function of collector current; typical values

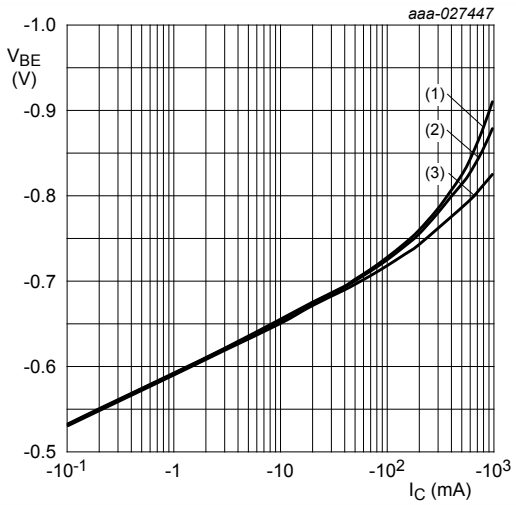
All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.



V_{CE} = -1 V
(1) T_{amb} = -55 °C
(2) T_{amb} = -40°C
(3) T_{amb} = 25 °C
(4) T_{amb} = 85 °C
(5) T_{amb} = 100 °C
(6) T_{amb} = 125 °C
(7) T_{amb} = 150 °C

Figure 21. BC807K-25: Base-emitter voltage as a function of collector current; typical values

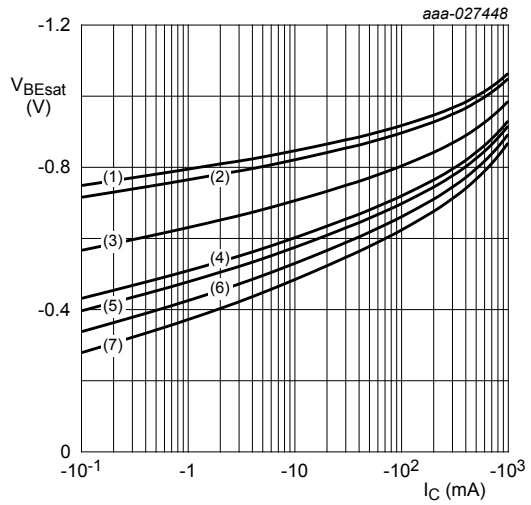


T_{amb} = 25 °C
(1) V_{CE} = -1 V
(2) V_{CE} = -2 V
(3) V_{CE} = -5 V

Figure 22. BC807K-25: Base-emitter voltage as a function of collector current; typical values

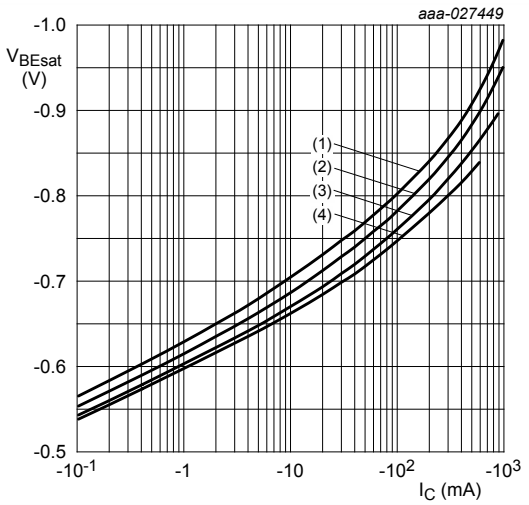
All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.



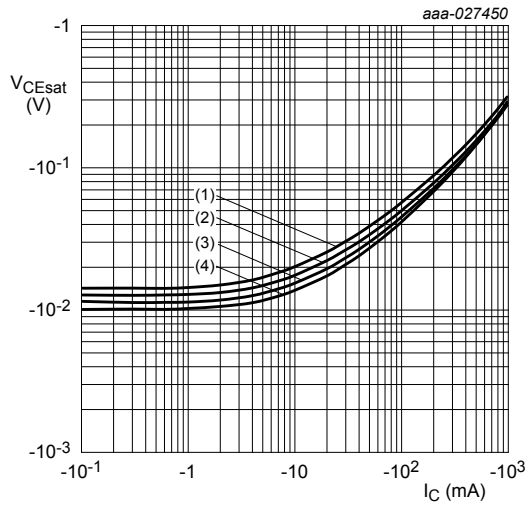
I_C/I_B = 10
(1) T_{amb} = -55 °C
(2) T_{amb} = -40°C
(3) T_{amb} = 25 °C
(4) T_{amb} = 85 °C
(5) T_{amb} = 100 °C
(6) T_{amb} = 125 °C
(7) T_{amb} = 150 °C

Figure 23. BC807K-25: Base-emitter saturation voltage as a function of collector current; typical values



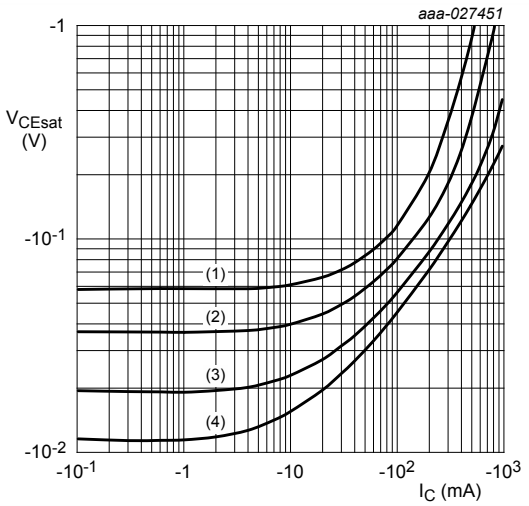
T_{amb} = 25 °C
(1) I_C/I_B = 10
(2) I_C/I_B = 20
(3) I_C/I_B = 50
(4) I_C/I_B = 100

Figure 24. BC807K-25: Base-emitter saturation voltage as a function of collector current; typical values



I_C/I_B = 10
(1) T_{amb} = 150 °C
(2) T_{amb} = 85 °C
(3) T_{amb} = 25 °C
(4) T_{amb} = -40 °C

Figure 25. BC807K-25: Collector-emitter saturation voltage as a function of collector current; typical values

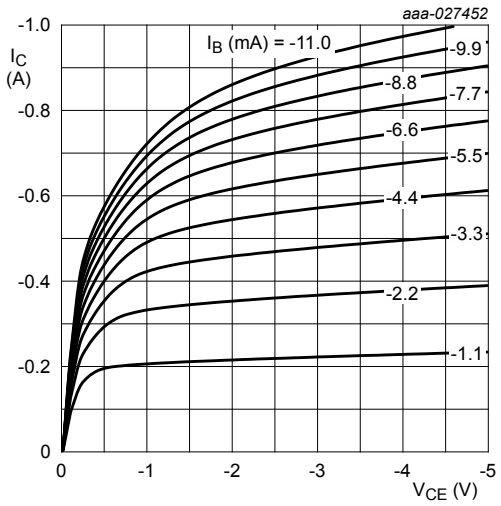


T_{amb} = 25 °C
(1) I_C/I_B = 100
(2) I_C/I_B = 50
(3) I_C/I_B = 20
(4) I_C/I_B = 10

Figure 26. BC807K-25: Collector-emitter saturation voltage as a function of collector current; typical values

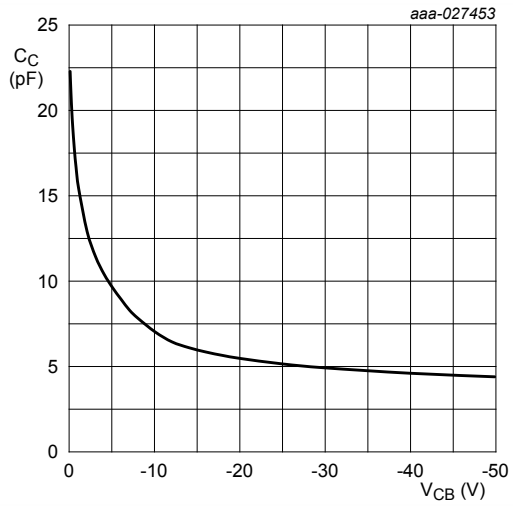
All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.



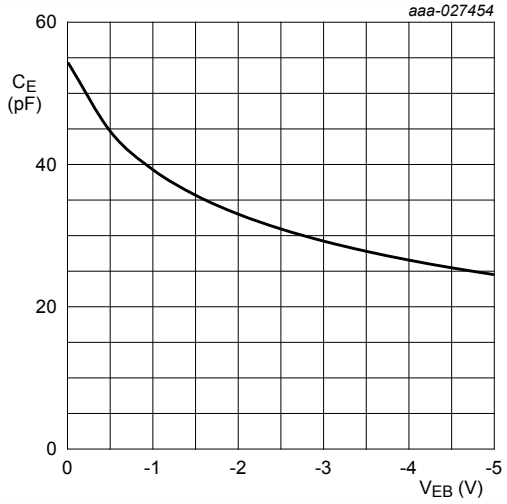
T_{amb} = 25 °C

Figure 27. BC807K-25: Collector current as a function of collector-emitter voltage; typical values



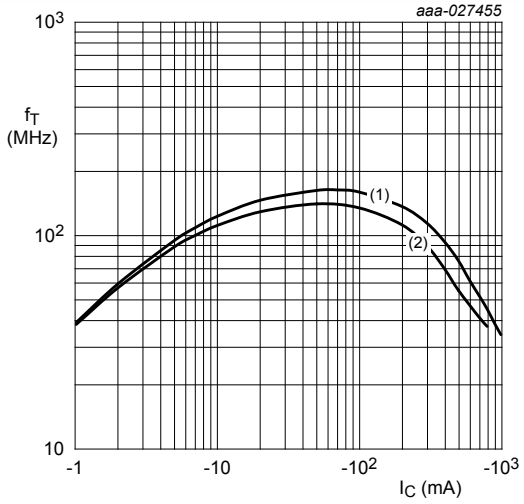
f = 1 MHz; T_{amb} = 25 °C

Figure 28. BC807K-25: Collector capacitance as a function of collector-base voltage; typical values



f = 1 MHz; T_{amb} = 25 °C

Figure 29. BC807K-25: Emitter capacitance as a function of emitter-base voltage; typical values



f = 100 MHz; T_{amb} = 25 °C

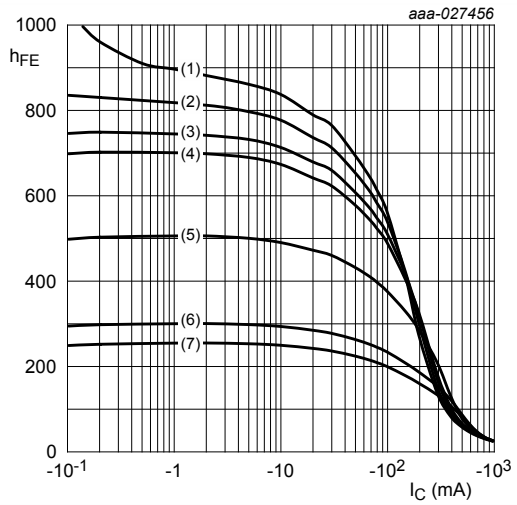
(1) V_{CE} = -5 V

(2) V_{CE} = -1 V

Figure 30. BC807K-25: Transition frequency as a function of collector current voltage; typical values

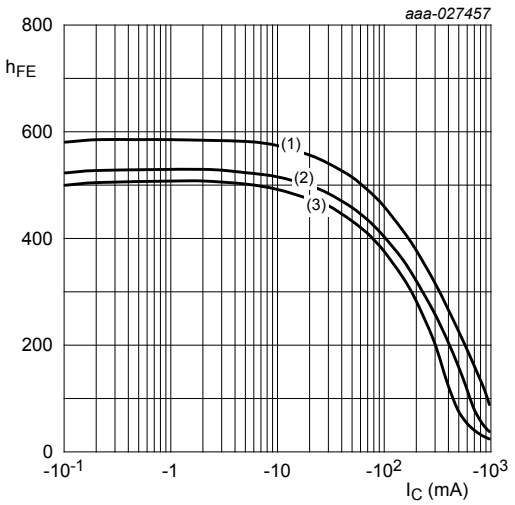
All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.



V_{CE} = -1 V
(1) T_{amb} = 150 °C
(2) T_{amb} = 125 °C
(3) T_{amb} = 100 °C
(4) T_{amb} = 85 °C
(5) T_{amb} = 25 °C
(6) T_{amb} = -40 °C
(7) T_{amb} = -55 °C

Figure 31. BC807K-40: DC current gain as a function of collector current; typical values

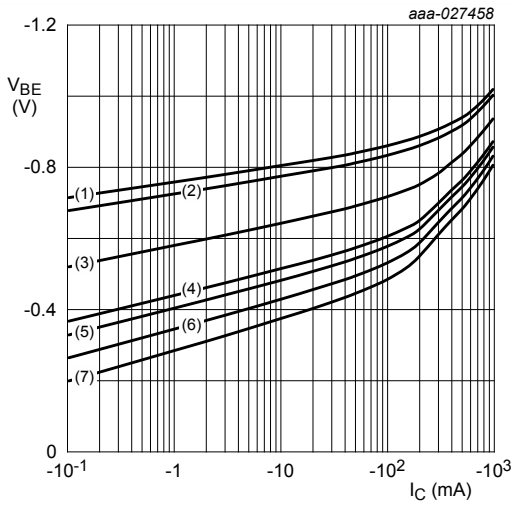


T_{amb} = 25 °C
(1) V_{CE} = -5 V
(2) V_{CE} = -2 V
(3) V_{CE} = -1 V

Figure 32. BC807K-40: DC current gain as a function of collector current; typical values

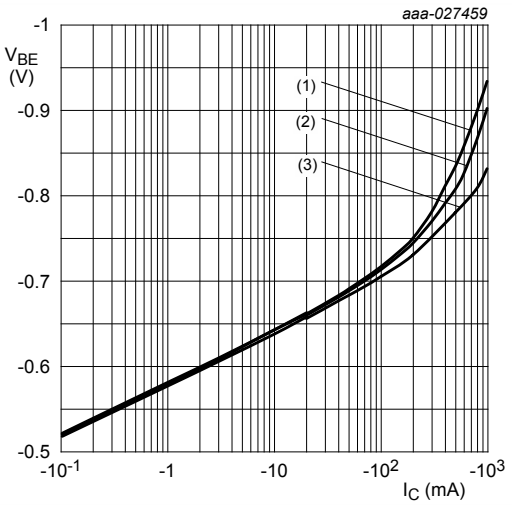
All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.



V_{CE} = -1 V
(1) T_{amb} = -55 °C
(2) T_{amb} = -40°C
(3) T_{amb} = 25 °C
(4) T_{amb} = 85 °C
(5) T_{amb} = 100 °C
(6) T_{amb} = 125 °C
(7) T_{amb} = 150 °C

Figure 33. BC807K-40: Base-emitter voltage as a function of collector current; typical values

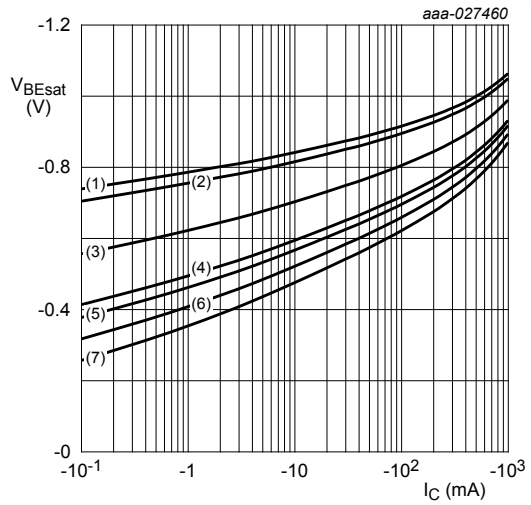


T_{amb} = 25 °C
(1) V_{CE} = -1 V
(2) V_{CE} = -2 V
(3) V_{CE} = -5 V

Figure 34. BC807K-40: Base-emitter voltage as a function of collector current; typical values

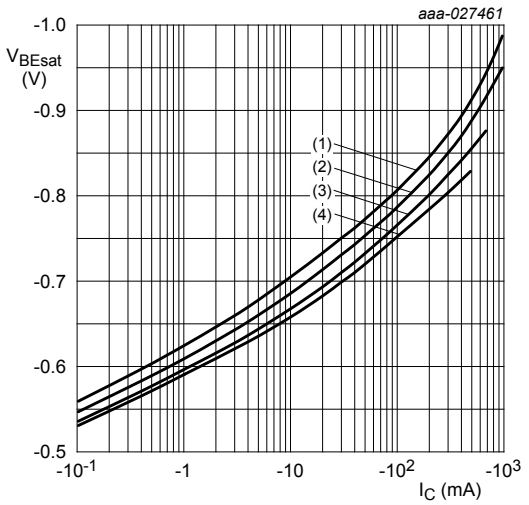
All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.



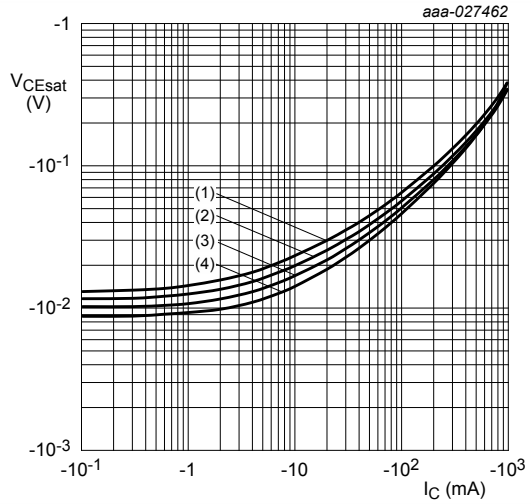
I_C/I_B = 10
(1) T_{amb} = -55 °C
(2) T_{amb} = -40°C
(3) T_{amb} = 25 °C
(4) T_{amb} = 85 °C
(5) T_{amb} = 100 °C
(6) T_{amb} = 125 °C
(7) T_{amb} = 150 °C

Figure 35. BC807K-40: Base-emitter saturation voltage as a function of collector current; typical values



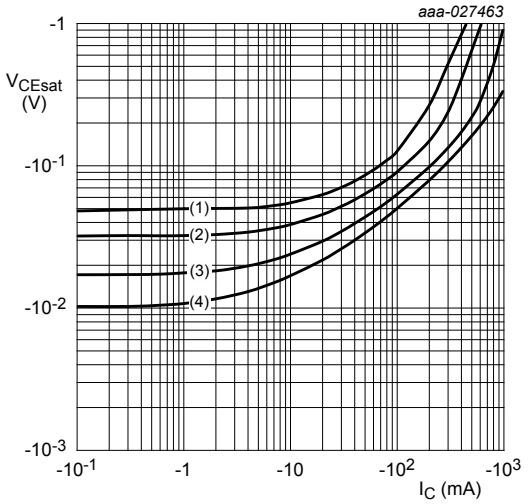
T_{amb} = 25 °C
(1) I_C/I_B = 10
(2) I_C/I_B = 20
(3) I_C/I_B = 50
(4) I_C/I_B = 100

Figure 36. BC807K-40: Base-emitter saturation voltage as a function of collector current; typical values



I_C/I_B = 10
(1) T_{amb} = 150 °C
(2) T_{amb} = 85 °C
(3) T_{amb} = 25 °C
(4) T_{amb} = -40 °C

Figure 37. BC807K-40: Collector-emitter saturation voltage as a function of collector current; typical values

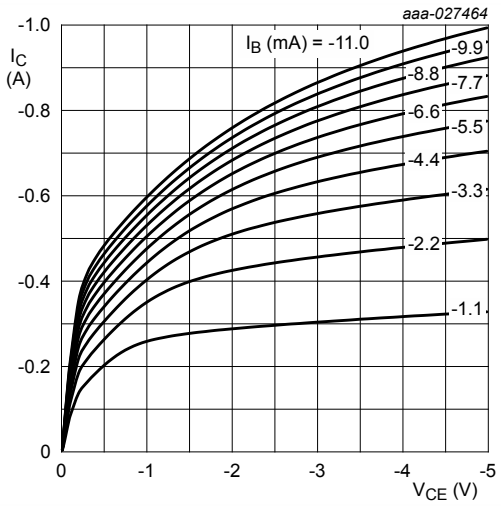


T_{amb} = 25 °C
(1) I_C/I_B = 100
(2) I_C/I_B = 50
(3) I_C/I_B = 20
(4) I_C/I_B = 10

Figure 38. BC807K-40: Collector-emitter saturation voltage as a function of collector current; typical values

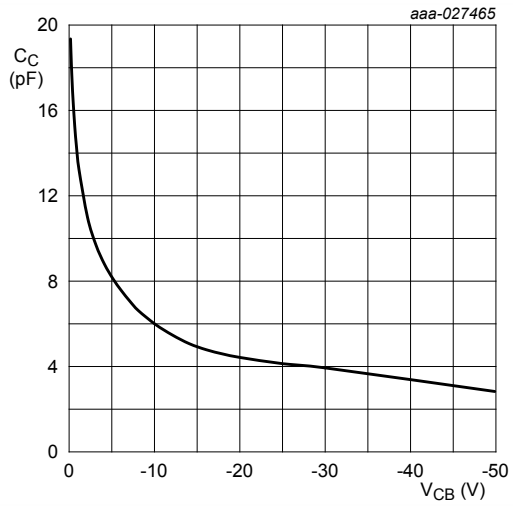
All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.



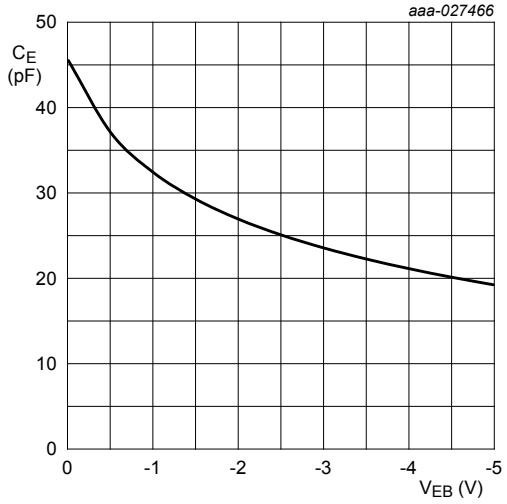
T_{amb} = 25 °C

Figure 39. BC807K-40: Collector current as a function of collector-emitter voltage; typical values



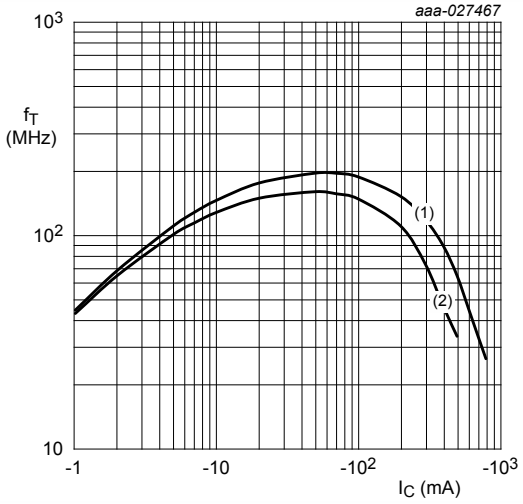
f = 1 MHz; T_{amb} = 25 °C

Figure 40. BC807K-40: Collector capacitance as a function of collector-base voltage; typical values



f = 1 MHz; T_{amb} = 25 °C

Figure 41. BC807K-40: Emitter capacitance as a function of emitter-base voltage; typical values



f = 100 MHz; T_{amb} = 25 °C

(1) V_{CE} = -5 V

(2) V_{CE} = -1 V

Figure 42. BC807K-40: Transition frequency as a function of collector current voltage; typical values

8 Test information

8.1 Quality information

This product has been qualified in accordance with the Automotive Electronics Council (AEC) standard Q101 - Stress test qualification for discrete semiconductors, and is suitable for use in automotive applications.

All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.

9 Package outline

Table 9. Package outline

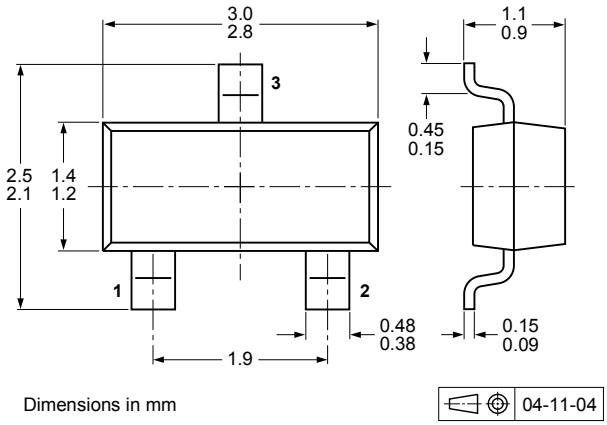


Figure 43. Package outline SOT23 (TO-236)

10 Soldering

Table 10. Soldering

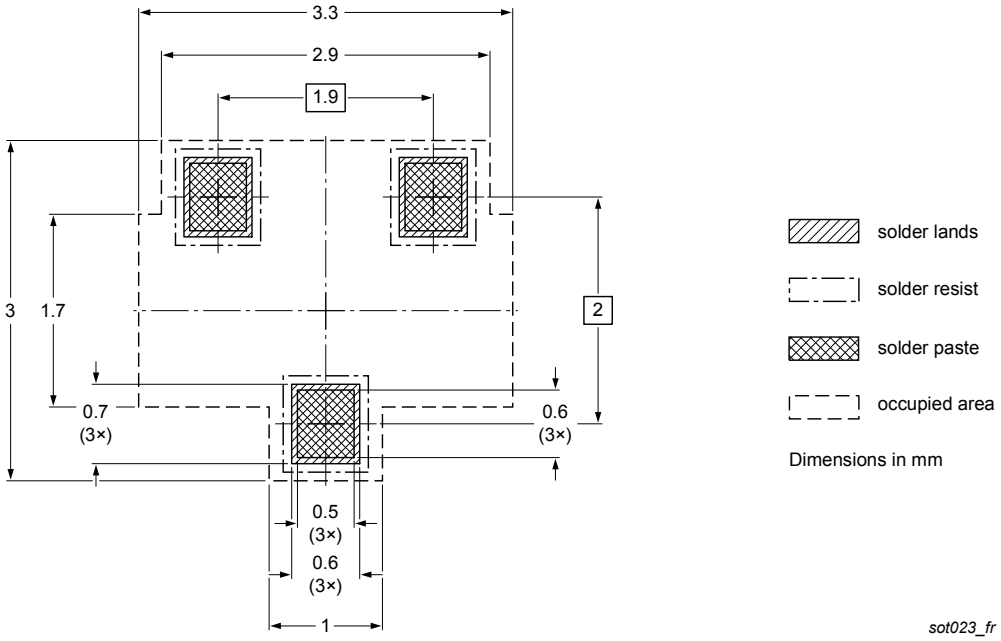


Figure 44. Reflow soldering footprint for SOT23 (TO-236AB)

All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.

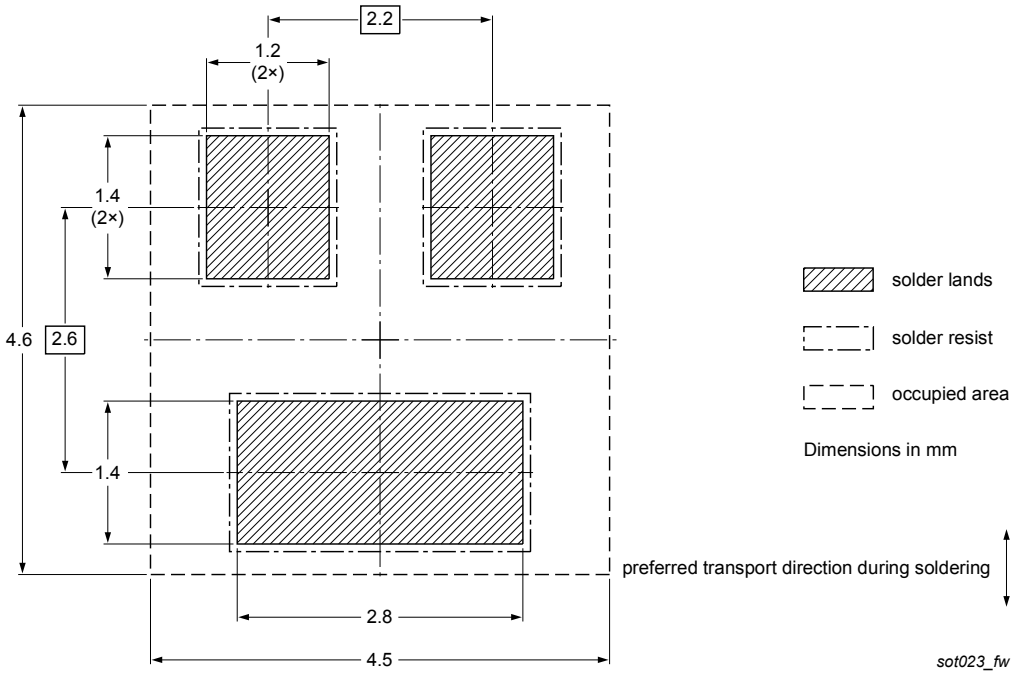


Figure 45. Wave soldering footprint for SOT23 (TO-236AB)

11 Revision history

Table 11. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
BC807K_SER v.2	20180424	Product data sheet	-	BC807_SER v.1
Modifications:	• Characteristics: Figures are updated			
BC807_SER v.1	20171108	Product data sheet	-	-

All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.

12 Legal information

12.1 Data sheet status

Document status[1][2]	Product status[3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

[1] Please consult the most recently issued document before initiating or completing a design.
[2] The term 'short data sheet' is explained in section "Definitions".
[3] The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL http://www.nexperia.com.

12.2 Definitions

Draft — The document is a draft version only. The content is still under internal review and subject to formal approval, which may result in modifications or additions. Nexperia does not give any representations or warranties as to the accuracy or completeness of information included herein and shall have no liability for the consequences of use of such information.

Short data sheet — A short data sheet is an extract from a full data sheet with the same product type number(s) and title. A short data sheet is intended for quick reference only and should not be relied upon to contain detailed and full information. For detailed and full information see the relevant full data sheet, which is available on request via the local Nexperia sales office. In case of any inconsistency or conflict with the short data sheet, the full data sheet shall prevail.

Product specification — The information and data provided in a Product data sheet shall define the specification of the product as agreed between Nexperia and its customer, unless Nexperia and customer have explicitly agreed otherwise in writing. In no event however, shall an agreement be valid in which the Nexperia product is deemed to offer functions and qualities beyond those described in the Product data sheet.

12.3 Disclaimers

Limited warranty and liability — Information in this document is believed to be accurate and reliable. However, Nexperia does not give any representations or warranties, expressed or implied, as to the accuracy or completeness of such information and shall have no liability for the consequences of use of such information. Nexperia takes no responsibility for the content in this document if provided by an information source outside of Nexperia. In no event shall Nexperia be liable for any indirect, incidental, punitive, special or consequential damages (including - without limitation - lost profits, lost savings, business interruption, costs related to the removal or replacement of any products or rework charges) whether or not such damages are based on tort (including negligence), warranty, breach of contract or any other legal theory. Notwithstanding any damages that customer might incur for any reason whatsoever, Nexperia's aggregate and cumulative liability towards customer for the products described herein shall be limited in accordance with the Terms and conditions of commercial sale of Nexperia.

Right to make changes — Nexperia reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.

Applications — Applications that are described herein for any of these products are for illustrative purposes only. Nexperia makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification. Customers are responsible for the design and operation of their applications and products using Nexperia products, and Nexperia accepts no liability for any assistance with applications or customer product design. It is customer's sole responsibility to determine whether the Nexperia product is suitable and fit for the customer's applications and products planned, as well as for the planned application and use of customer's third party customer(s). Customers should provide appropriate design and operating safeguards to minimize the risks associated with their applications and products. Nexperia does not accept any liability related to any default, damage, costs or problem which is based on any weakness or default in the customer's applications or products, or the application or use by customer's third party customer(s). Customer is responsible for doing all necessary testing for the customer's applications and products using Nexperia products in order to avoid a default of the applications and the products or of the application or use by customer's third party customer(s). Nexperia does not accept any liability in this respect.

Limiting values — Stress above one or more limiting values (as defined in the Absolute Maximum Ratings System of IEC 60134) will cause permanent damage to the device. Limiting values are stress ratings only and (proper) operation of the device at these or any other conditions above those given in the Recommended operating conditions section (if present) or the Characteristics sections of this document is not warranted. Constant or repeated exposure to limiting values will permanently and irreversibly affect the quality and reliability of the device.

Terms and conditions of commercial sale — Nexperia products are sold subject to the general terms and conditions of commercial sale, as published at http://www.nexperia.com/profile/terms, unless otherwise agreed in a valid written individual agreement. In case an individual agreement is concluded only the terms and conditions of the respective agreement shall apply. Nexperia hereby expressly objects to applying the customer's general terms and conditions with regard to the purchase of Nexperia products by customer.

No offer to sell or license — Nothing in this document may be interpreted or construed as an offer to sell products that is open for acceptance or the grant, conveyance or implication of any license under any copyrights, patents or other industrial or intellectual property rights.

Suitability for use in automotive applications — This Nexperia product has been qualified for use in automotive applications. Unless otherwise agreed in writing, the product is not designed, authorized or warranted to be suitable for use in life support, life-critical or safety-critical systems or equipment, nor in applications where failure or malfunction of an Nexperia product can reasonably be expected to result in personal injury, death or severe property or environmental damage. Nexperia and its suppliers accept no liability for inclusion and/or use of Nexperia products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.

All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.

Quick reference data — The Quick reference data is an extract of the product data given in the Limiting values and Characteristics sections of this document, and as such is not complete, exhaustive or legally binding.

Export control — This document as well as the item(s) described herein may be subject to export control regulations. Export might require a prior authorization from competent authorities.

Translations — A non-English (translated) version of a document is for reference only. The English version shall prevail in case of any discrepancy between the translated and English versions.

12.4 Trademarks

Notice: All referenced brands, product names, service names and trademarks are the property of their respective owners.

All information provided in this document is subject to legal disclaimers.

© Nexperia B.V. 2018. All rights reserved.

Contents

1 Product profile 1
1.1 General description 1
1.2 Features and benefits 1
1.3 Applications 1
1.4 Quick reference data 2
2 Pinning information 2
3 Ordering information 2
4 Marking 3
5 Limiting values 3
6 Thermal characteristics 5
7 Characteristics 7
8 Test information 19
8.1 Quality information 19
9 Package outline 20
10 Soldering 20
11 Revision history 21
12 Legal information 22

Please be aware that important notices concerning this document and the product(s) described herein, have been included in section 'Legal information'.

© Nexperia B.V. 2018. **All rights reserved.**

For more information, please visit: http://www.nexperia.com
For sales office addresses, please send an email to: salesaddresses@nexperia.com

Date of release: 24 April 2018
Document identifier: BC807K_SER

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Nexperia:

BC807K-25R BC807K-25VL BC807K-40R BC807K-40VL BC807K-16VL BC807K-16R