Frequently Asked Questions

Customer Inquiries

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Document Information

Information	Content
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30 August 2022	Initial version
28 September 2022	Editorial changes, add additional questions under chapter 9

nexperia

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1. Automotive qualification

1.1 Are our products automotive qualified?

We have automotive qualified products available on our website. Automotive qualification can be checked per product:

Example:

Part number	Description	Status	Quick links	Shop link
☆ BAV99-Q AUTOMOTIVE QUALIFIED	High-speed switching diode	Production	Datasheet Documentation	Order

High-speed switching diode, encapsulated in a small SOT23 (TO-236AB) Surface-Mounted Device (SMD) plastic package.

Package version	SOT23	I_{FRM} (mA)	450
Package name	SOT23	Configuration	dual series
Size (mm)	2.9 x 1.3 x 1	t_{rr} [max] (ns)	4
V_R [max] (V)	100	I_F [max] (mA)	215
I_{FSM} [max] (A)	4	C_d [max] (pF)	1.5
V_F [max] (mV)	1000@IF=50mA	Automotive qualified	Y
I_R [max] (nA)	1000@VR=75V		

1.2 Is AEC-Q101 the same as AEC-Q100?

No, AEC-Q101 applies to discrete semiconductors "FAILURE MECHANISM BASED STRESS TEST QUALIFICATION FOR **DISCRETE SEMICONDUCTORS** IN AUTOMOTIVE APPLICATIONS" whereas AEC-Q100 applies to Integrated Circuits "FAILURE MECHANISM BASED STRESS TEST QUALIFICATION FOR **INTEGRATED CIRCUITS**".

1.3 What's the Automotive grade of Nexperia product?

Automotive grade is link to the part operating temperature, pls check the datasheet and find the grade information. Or please check the Tamb parameter data and algin to the Grade level in below table.

The part operating temperature grades are defined below:

Grade 0:	-40°C to +150°C ambient operating temperature range
Grade 1:	-40°C to +125°C ambient operating temperature range
Grade 2:	-40°C to +105°C ambient operating temperature range
Grade 3:	-40°C to +85°C ambient operating temperature range
Grade 4:	0°C to +70°C ambient operating temperature range

1.2. Features and benefits

- Programmable output voltage up to 36 V
- Three different reference voltage tolerances:
  - Standard grade: 2 %
  - A-Grade: 1 %
  - B-Grade: 0.5 %
- Typical temperature drift: 9 mV (in a range of 0 °C up to 70 °C)
- Low output noise
- Typical output impedance: 0.2 Ω
- Sink current capability: 1 mA to 100 mA
- AEC-Q100 qualified (grade 1)

T_{amb}	ambient temperature					
	TL431XCDBZR			0	+70	°C
	TL431XIDBZR			-40	+85	°C
	TL431XQDBZR TL431XFDT			-40	+125	°C

2. Certifications: ISO, IEC, other

2.1 Which ISO certificates are available?

Nexperia has corporate certifications for ISO 9001 quality standard and IATF 16949 automotive standard.

The manufacturing sites have a certified environmental and occupational health and safety (EHS) management system (in accordance with the standards ISO 14001 and ISO 45001).

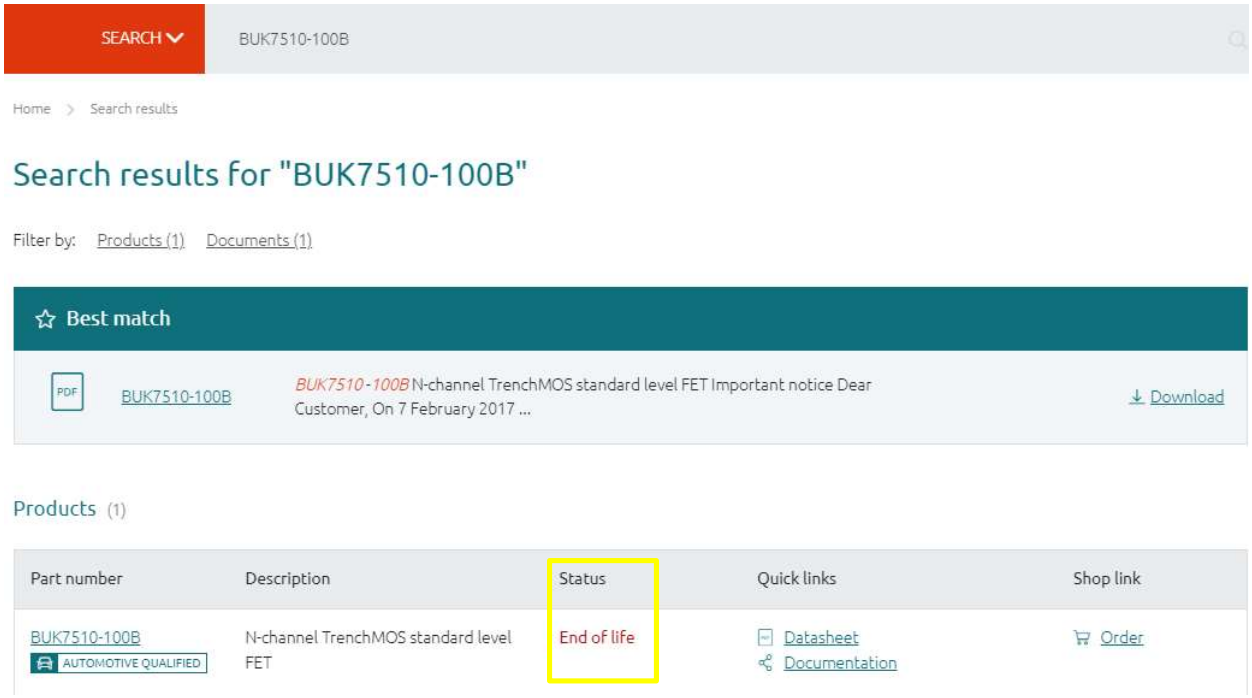
Certificates from our internal sites can be found at Certifications | Nexperia

3. Certificates from our subcontractors are available on their own homepage. Discontinued products and replacement parts

3.1 Is my product discontinued?

By searching for the product in Nexperia website, the product status" End of life" indicates it's discontinued.

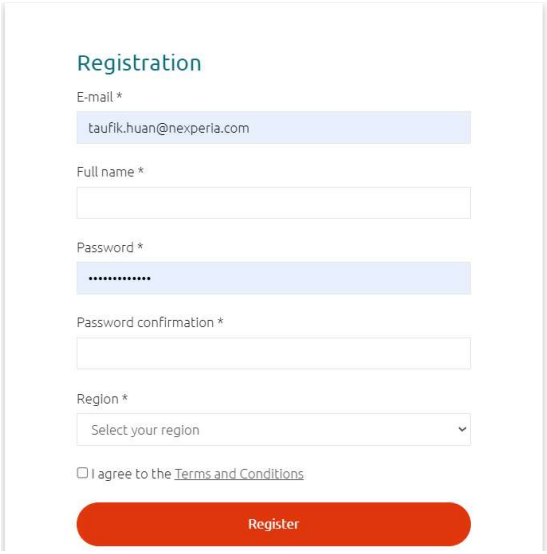
If want to know more details about the discontinuation & replacement parts, please check the Discontinuation Notification on MyLogin: Login | Nexperia under "My Change Notification".

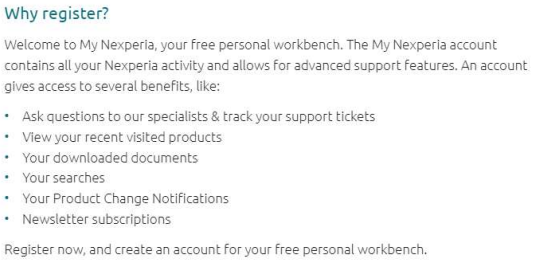


4. Documentation

4.1 Where can I register Mylogin?

Please click Register | Nexperia to start the Nexperia account registration process.





4.2 Where can I request a PPAP?

Please contact your Nexperia account manager and regional SQE.

In case you don't have an account manager, please raise a request through our Technical Support form which is available here.

Do note that you are required to log in to your My Nexperia account to file a request. If you don't have an account yet, you can register for one through the same link.

5. ESD

5.1 What ESD HBM (Human Body Model) level does a product have?

Data for our products can be found in our data sheets or quality information page.

Note: ESD MM (Machine Model) is an obsolete standard.

5.2 Can ESD CDM (Charged Device Model) information be given?

ESD testing according to CMD model is not applicable for BG Bipolar Discretes products due to their small size. Please refer to our AEC Q101 ESD statement CDM in attachment for more details.
For other products, please check with SQE or raise a ticket in HD+ for support.

6. MSL and shelf life and longevity

6.1 What MSL (Moisture Sensitivity Level) applies to my Nexperia product?

MSL data is available on the product page.

Example:

Quality, reliability & chemical content

Type number	Orderable part number	Chemical content	RoHS / RHF	MSL	MSL leadfree
BAV99-Q	BAV99-QVL	BAV99-Q	EU/CN RoHs COMPLIANT Pb D	1	1
BAV99-Q	BAV99-QR	BAV99-Q	EU/CN RoHs COMPLIANT Pb D	1	1

6.2 What shelf life is guaranteed by Nexperia products?

Nexperia states that our products have up to four years or 48 months shelf life, if the standard storage conditions are met, and a defined solder profile is used (according to JEDEC JSTD 020-E).

6.3 What longevity is guaranteed by Nexperia products?

Please refer to Longevity statement https://www.nexperia.com/support/longevity.html

6.4 What is the start of production date of Nexperia products?

Please refer to the 1st Revision date of Datasheet. For BG Bipolar Discretes -Q portfilio, please refer to related non Q version datasheet.

7. Product Change Notification (PCN)

7.1 Where can I find the qualification report?

A Self Qualification Report (SQR) can be downloaded from MyLogin: Login | Nexperia

After login, you need to search for the PCN based on the PCN-Number and download the SQR file.

7.2 Where can I find a list of PCN affected products?

The affected product types can be found under MyLogin: Login | Nexperia

7.3 How do I request PCN samples for qualification purpose?

Please contact your local Nexperia account manager.

7.4 Are the PCN samples available at the Sample Store?

PCN samples can only be ordered via your local Nexperia account manager.

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7.5 Where can I find information on the first date code after product change implementation?

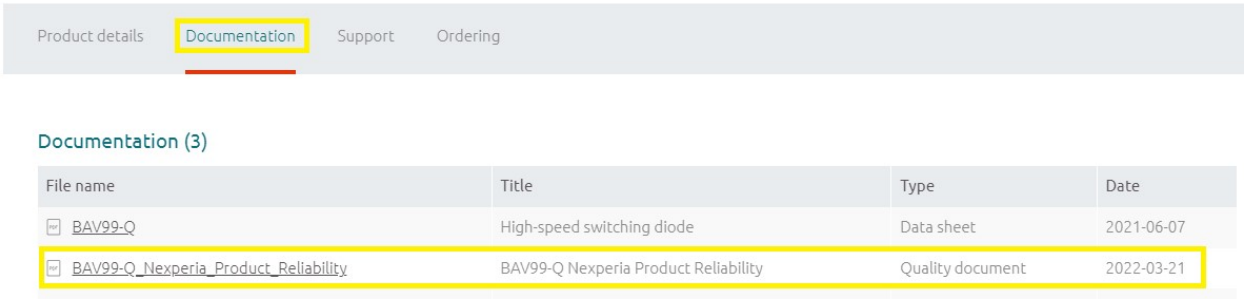
Please contact your local Nexperia account manager.

8. Reliability

8.1 How can I find reliability reports for a product?

The reliability reports are available on our homepage, under product information and "Documentation".

Example:



8.2 What are the conditions of the Failure In Time (FIT) calculation?

Please check the reliability report (see chapter 8.1).

9. RoHS / Chemical / Analysis reports

9.1 Are our products compliant to RoHS (EU-RoHS) and/or China RoHS?

Please check the product page on www.nexperia.com under "Quality, reliability & chemical content" tab:

Example:

The symbols are explained in more detail under Environmental Product Labelling.

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9.2 How can I check if a product is Halogen-Free or Lead-Free?

Please check the product page on www.nexperia.com under "Quality, reliability & chemical content" tab:

Quality, reliability & chemical content

Type number	Orderable part number	Chemical content	RoHS / RHF	MSL	MSL leadfree
BAV99-Q	BAV99-QVL	BAV99-Q	EU/CN RoHs COMPLIANT Pb D	1	1
BAV99-Q	BAV99-QR	BAV99-Q	EU/CN RoHs COMPLIANT Pb D	1	1

The symbols are explained in more detail under Environmental Product Labelling.

9.3 How can I check what kind of RHF (RoHS Halogen Free) - indicator does my product have?

Please check the product page on www.nexperia.com under "Quality, reliability & chemical content" tab:

Quality, reliability & chemical content

Type number	Orderable part number	Chemical content	RoHS / RHF	MSL	MSL leadfree
BAV99-Q	BAV99-QVL	BAV99-Q	EU/CN RoHs COMPLIANT Pb D	1	1
BAV99-Q	BAV99-QR	BAV99-Q	EU/CN RoHs COMPLIANT Pb D	1	1

The symbols are explained in more detail under Environmental Product Labelling.

9.4 Where can I get the chemical content?

Please check the product page on www.nexperia.com under "Quality, reliability & chemical content" tab:

Quality, reliability & chemical content

Type number	Orderable part number	Chemical content	RoHS / RHF	MSL	MSL leadfree
BAV99-Q	BAV99-QVL	BAV99-Q	EU/CN RoHs COMPLIANT Pb D	1	1
BAV99-Q	BAV99-QR	BAV99-Q	EU/CN RoHs COMPLIANT Pb D	1	1

If you need the chemical content for multiple products , please click here.

9.5 Where do I find information related to REACH conformity?

There is a REACH conformity standard letter available at Environmental certifications | Nexperia. The content of this page reflects a large part of our standard processing, however there may be exceptions.

10. Site Locations

10.1 Where is the wafer fabrication (diffusion site), the assembly / final test sites located?

All Nexperia manufacturing sites addresses are available on Nexperia website: Manufacturing | Nexperia

11. Others questions (Product related)

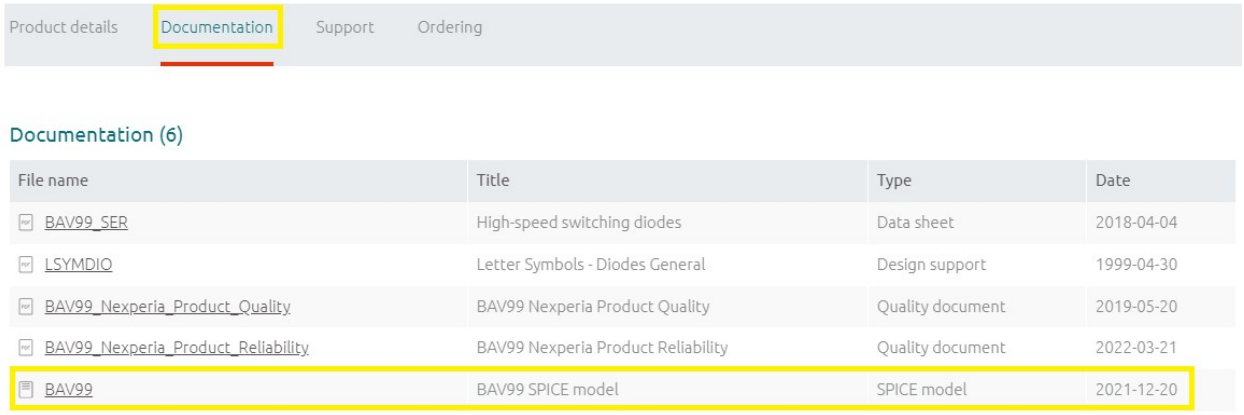
11.1 What can I do if the data sheet is not available?

If the data sheet is not available at www.nexperia.com, please contact your local Nexperia account manager.

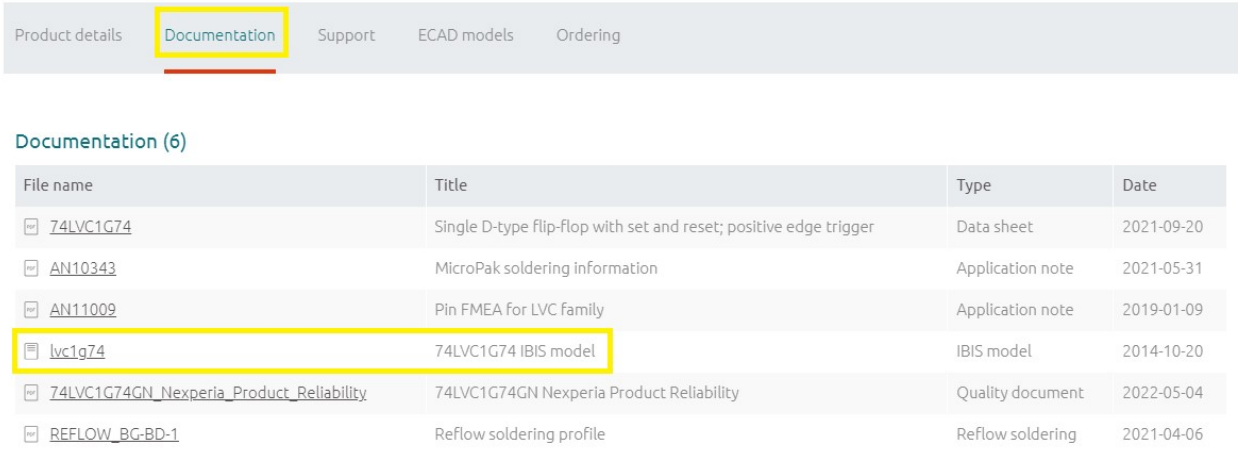
11.2 Where do I find models (e.g. SPICE, IBIS or thermal) for my products?

Data are available on the product information page under "Documentation". Otherwise raise a ticket in HD+.

SPICE Example:

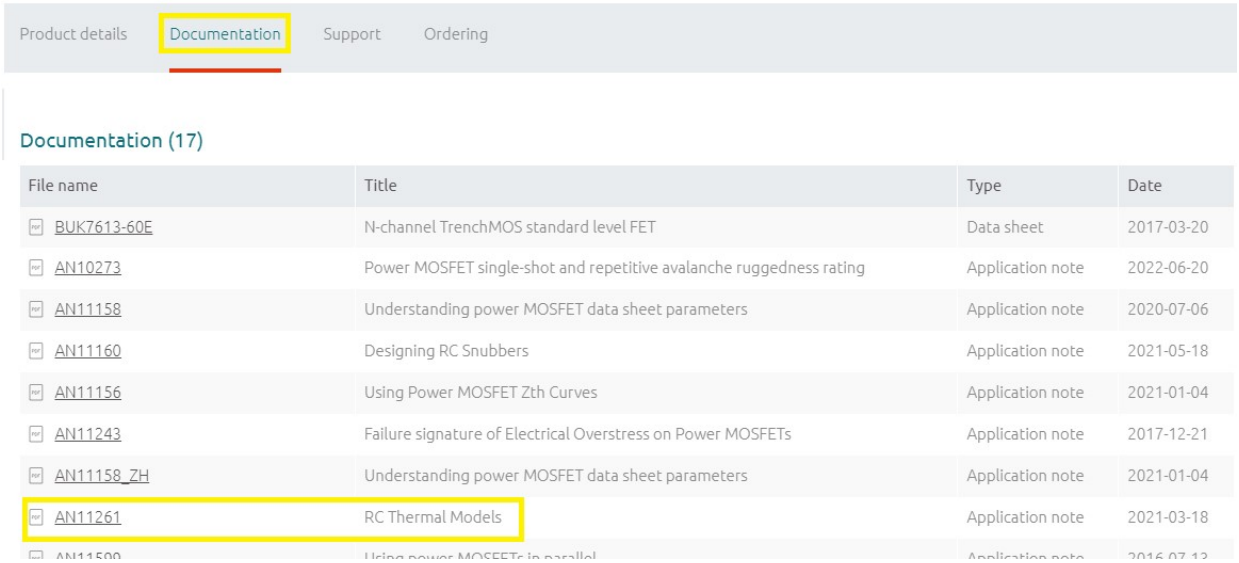


IBIS Example:



Thermal Example:

Website



File name	Title	Type	Date
BUK7613-60E	N-channel TrenchMOS standard level FET	Data sheet	2017-03-20
AN10273	Power MOSFET single-shot and repetitive avalanche ruggedness rating	Application note	2022-06-20
AN11158	Understanding power MOSFET data sheet parameters	Application note	2020-07-06
AN11160	Designing RC Snubbers	Application note	2021-05-18
AN11156	Using Power MOSFET Zth Curves	Application note	2021-01-04
AN11243	Failure signature of Electrical Overstress on Power MOSFETs	Application note	2017-12-21
AN11158_ZH	Understanding power MOSFET data sheet parameters	Application note	2021-01-04
AN11261	RC Thermal Models	Application note	2021-03-18

Datasheet:

9. Thermal characteristics

Table 6. Thermal characteristics

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
$R_{th(j-mb)}$	thermal resistance from junction to mounting base	Fig. 5		-	-	1.56	K/W
$R_{th(j-a)}$	thermal resistance from junction to ambient	minimum footprint ; mounted on a printed-circuit board		-	50	-	K/W

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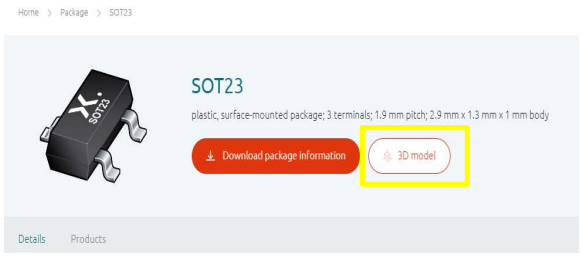
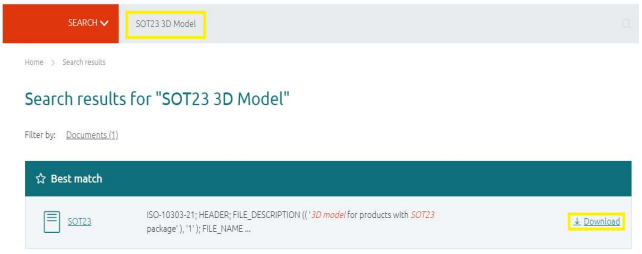
11.3 Where can I find the 3D model of a package?

The STEP 3D model is available on the package page. Or,by using the Search function (e.g. SOT23 3D Model) you can also find the marcom graphics & 3D model file. Please note that you may need additional software to open the file.

Example:





11.4 What is the correct standard product marking code?

The standard product marking code is usually found in the latest datasheet or on the product information pages under "Package" tab:

Example:

Package

Type number	Orderable part number, (Ordering code (12NC))	Status	Marking	Package	Package information	Reflow-/Wave soldering	Packing
BAV99-Q	BAV99-QVL (9346 636 24235)	Active	A7%	(SOT23)	SOT23	WAVE_BG-BD-1	Reel 11" Q3/T4, LargePack
	BAV99-QR (9346 636 24215)	Active	A7%				Reel 7" Q3/T4

11.5 What does % or * in the product marking code stands for?

The **%** or ***** is symbol is a wildcard. This is replaced with a letter representing the assembly site.

Package

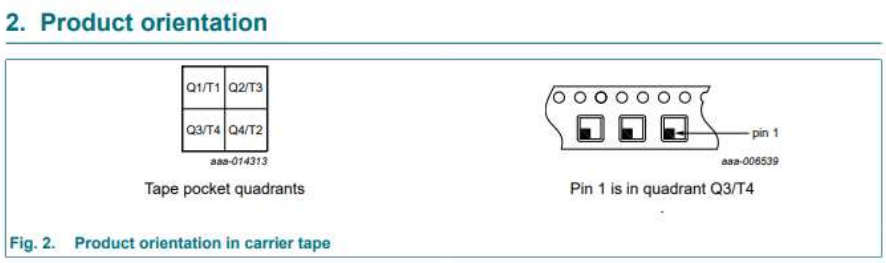
Type number	Orderable part number, (Ordering code (12NC))	Status	Marking	Package	Package information	Reflow-/Wave soldering	Packing
BAV99-Q	BAV99-QVL (9346 636 24235)	Active	A%	(SOT23)	SOT23	WAVE_BG-BD-1	Reel 11" Q3/T4, LargePack
	BAV99-QR (9346 636 24215)	Active	A7%				Reel 7" Q3/T4

11.6 Where can I get information on product orientation in the tape?

The packing orientation only can be found in the packing document where there is also an explanation of what the quadrants mean. E.g.:

Package

Type number	Orderable part number, (Ordering code (12NC))	Status	Marking	Package	Package information	Reflow-/Wave soldering	Packing
BAV99-Q	BAV99-QR (934663624215)	Active	A7%	(SOT23)	SOT23	REFLOW_BG-BD-1 WAVE_BG-BD-1	SOT23_215
	BAV99-QVL (934663624235)	Active	A7%				SOT23_235



Please note that some products are available in different orientations; they will differ in the "Orderable part number" or differ in the last 3 digits(235/215…) of the "Ordering code (12NC)".

11.7 Where do I find a detailed construction drawing of the tape and reel?

The drawing of the tape and reel is available on the product information page under "Package" tab:

Package

Type number	Orderable part number, (Ordering code (12NC))	Status	Marking	Package	Package information	Reflow-/Wave soldering	Packing
BAV99-Q	BAV99-QR (934663624215)	Active	A7%	(SOT23)	SOT23	REFLOW_BG-BD-1 WAVE_BG-BD-1	SOT23_215
	BAV99-QVL (934663624235)	Active	A7%				SOT23_235