



SAW Components

SAW Duplexer

LTE Band 14

Series/type:	B7929
Ordering code:	B39791B7929P810
Date:	April 03, 2013
Version:	2.2

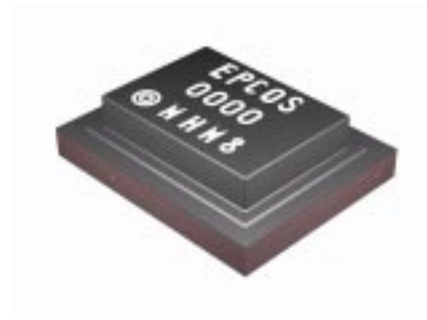
© EPCOS AG 2015. Reproduction, publication and dissemination of this publication, enclosures hereto and the information contained therein without EPCOS' prior express consent is prohibited.

EPCOS AG is a TDK Group Company.

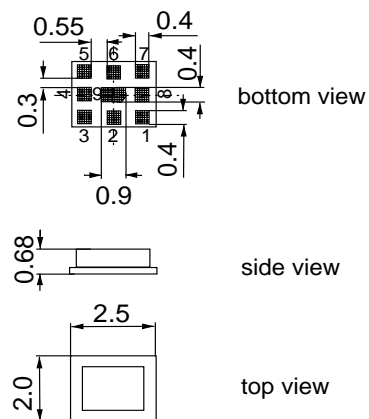
Data sheet


Application

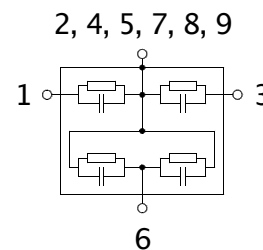
- Low-loss SAW duplexer for mobile telephone LTE Band 14 systems
- Low insertion attenuation
- Low amplitude ripple
- Usable passband 10 MHz
- 50 Ω single-ended in both Antenna-Rx and Antenna-Tx paths
- Very small size and low height


Features

- Package size 2.5 x 2.0 mm²
- Max package height 0.68 mm
- RoHS compatible
- Package for **Surface Mount Technology (SMT)**
- Ni, Au-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitive Level 3**


Pin configuration

- 1 Rx output
- 3 Tx input
- 6 Antenna
- 2, 4, 5, 7, 8, 9 To be grounded



Data sheet


Characteristics

Temperature range for specification:	T = -30 °C to +85 °C
TX terminating impedance:	Z _{Tx} = 50 Ω
ANT terminating impedance:	Z _{Ant} = 50 Ω 15nH
RX terminating impedance:	Z _{Rx} = 50 Ω

Characteristics Tx-Antenna		min.	typ. @ 25 °C	max.	
Center frequency	f _c	—	793.0	—	MHz
Maximum insertion attenuation	α	—	2.1	2.4	dB
788.0 ... 798.0 MHz					
Amplitude ripple (p-p)	Δα	—	1.1	1.5	dB
788.0 ... 798.0 MHz					
Input VSWR (Tx port)		—	1.6	2.0	
788.0 ... 798.0 MHz					
Output VSWR (Ant port)		—	1.6	2.0	
788.0 ... 798.0 MHz					
Absolute attenuation	α				
40.0 ... 698.0 MHz		38	44	—	dB
716.0 ... 728.0 MHz		39	46	—	dB
728.0 ... 746.0 MHz		41	48	—	dB
746.0 ... 768.0 MHz		45	55	—	dB
769.0 ... 775.0 MHz		43	45	—	dB
869.0 ... 894.0 MHz		42	44	—	dB
1575.0 ... 1596.0 MHz		45	48	—	dB
1930.0 ... 1990.0 MHz		42	50	—	dB
2110.0 ... 2170.0 MHz		40	48	—	dB
2364.0 ... 2394.0 MHz		35	45	—	dB
2400.0 ... 2500.0 MHz		35	45	—	dB
3152.0 ... 3192.0 MHz		28	32	—	dB

Data sheet

Characteristics

Temperature range for specification:	T = -30 °C to +85 °C
TX terminating impedance:	Z _{Tx} = 50 Ω
ANT terminating impedance:	Z _{Ant} = 50 Ω 15nH
RX terminating impedance:	Z _{Rx} = 50 Ω

Characteristics Antenna-Rx		min.	typ. @ 25 °C	max.	
Center frequency	f _c	—	763.0	—	MHz
Maximum insertion attenuation	α	—	2.1	2.5	dB
758.0 ... 768.0 MHz					
Amplitude ripple (p-p)	Δα	—	0.6	1.5	dB
758.0 ... 768.0 MHz					
Input VSWR (Ant port)		—	1.6	2.0	
758.0 ... 768.0 MHz					
Output VSWR (Rx port)		—	1.7	2.0	
758.0 ... 768.0 MHz					
Absolute attenuation	α				
40.0 ... 698.0 MHz		37	39	—	dB
698.0 ... 716.0 MHz		37	40	—	dB
716.0 ... 728.0 MHz		37	41	—	dB
746.0 ... 756.0 MHz		1	2	—	dB
773.0 ... 777.0 MHz		1	3	—	dB
777.0 ... 787.0 MHz		3	11	—	dB
788.0 ... 798.0 MHz		50	55	—	dB
798.0 ... 805.0 MHz		45	53	—	dB
818.0 ... 824.0 MHz		38	44	—	dB
824.0 ... 849.0 MHz		38	42	—	dB
1516.0 ... 1566.0 MHz		35	39	—	dB
1710.0 ... 1755.0 MHz		35	39	—	dB
1850.0 ... 1920.0 MHz		35	39	—	dB
2274.0 ... 2304.0 MHz		35	38	—	dB
2334.0 ... 2364.0 MHz		35	38	—	dB
3032.0 ... 3072.0 MHz		32	37	—	dB

Data sheet

Characteristics

Temperature range for specification:	T = -30 °C to +85 °C
TX terminating impedance:	Z _{Tx} = 50 Ω
ANT terminating impedance:	Z _{Ant} = 50 Ω 15nH
RX terminating impedance:	Z _{Rx} = 50 Ω

Characteristics Tx-Rx		min.	typ. @ 25 °C	max.	
Isolation	758.0 ... 768.0 MHz	55	60	—	dB
	788.0 ... 798.0 MHz	50	57	—	

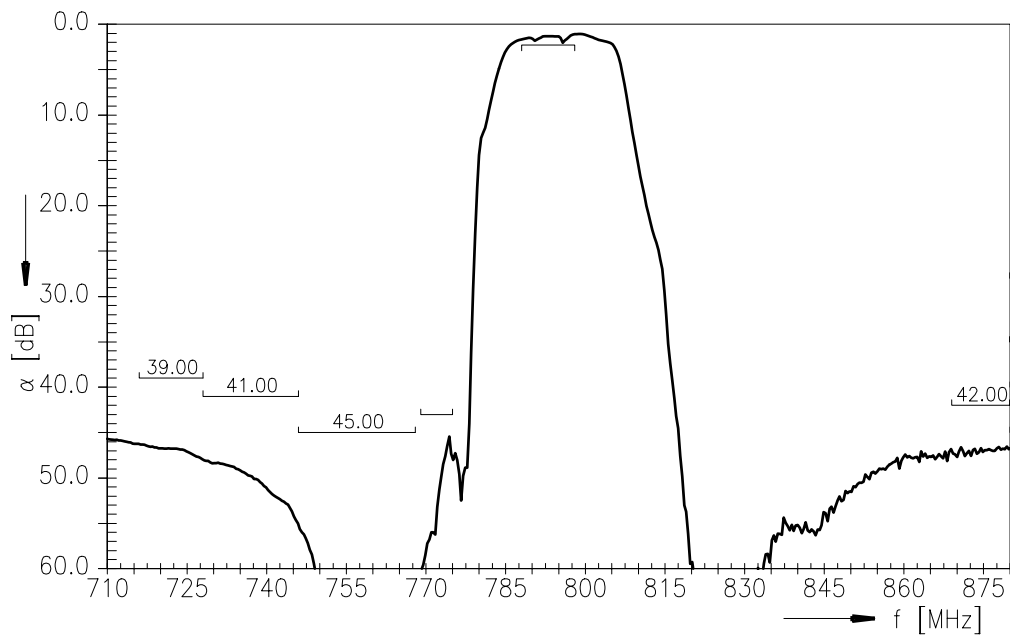
Maximum Ratings

Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	est. 100 ¹⁾	V	machine model, 1 pulse
Input power at Tx Port				} continuous wave 55 °C, 50000hrs
788.0 ...798.0 MHz	P _{in}	29	dBm	
799.0 ...805.0 MHz elsewhere	P _{in} P _{in}	25 10	dBm dBm	
758.0 ...768.0 MHz	P _{in}	25	dBm	LTE DOWN 5 MHz, 55 °C, 50000hrs
Input power at ANT Port				
769.0 ...775.0 MHz	P _{in}	25	dBm	continuous wave, 55 °C, 2500hrs

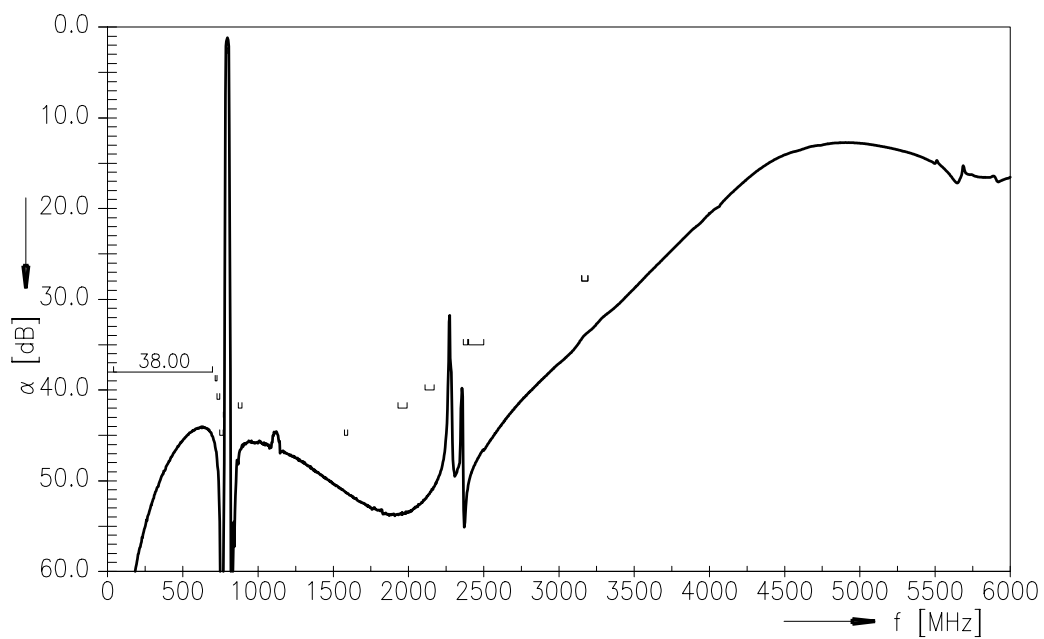
¹⁾ According to JESD22-A115A (machine model), 1 negative and 1 positive pulse. Value to be ascertained via test when samples are fabricated.



Frequency response TX-ANT

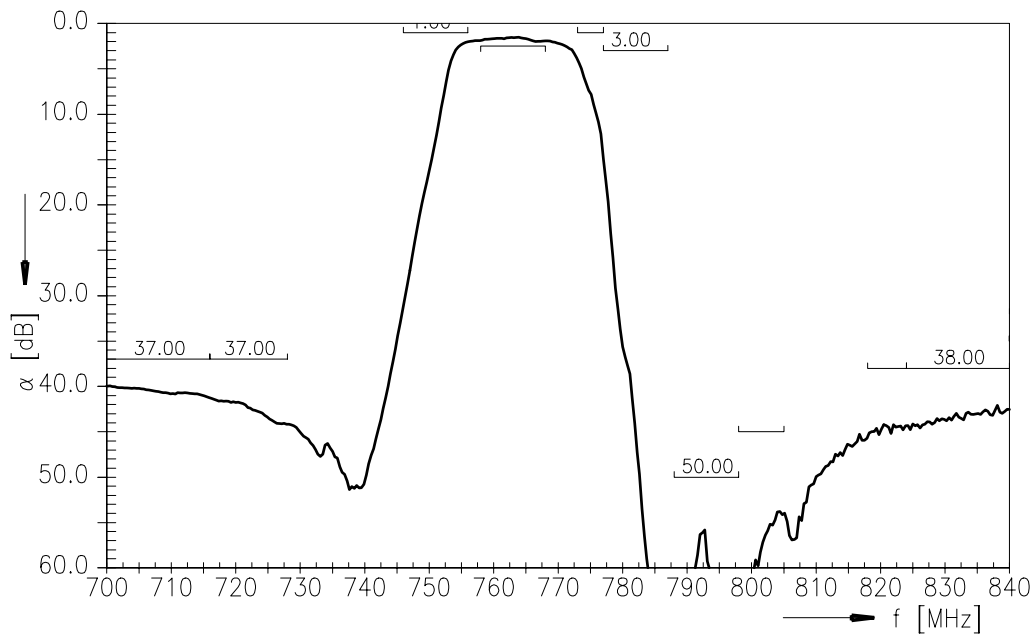


Frequency response TX-ANT (wideband)

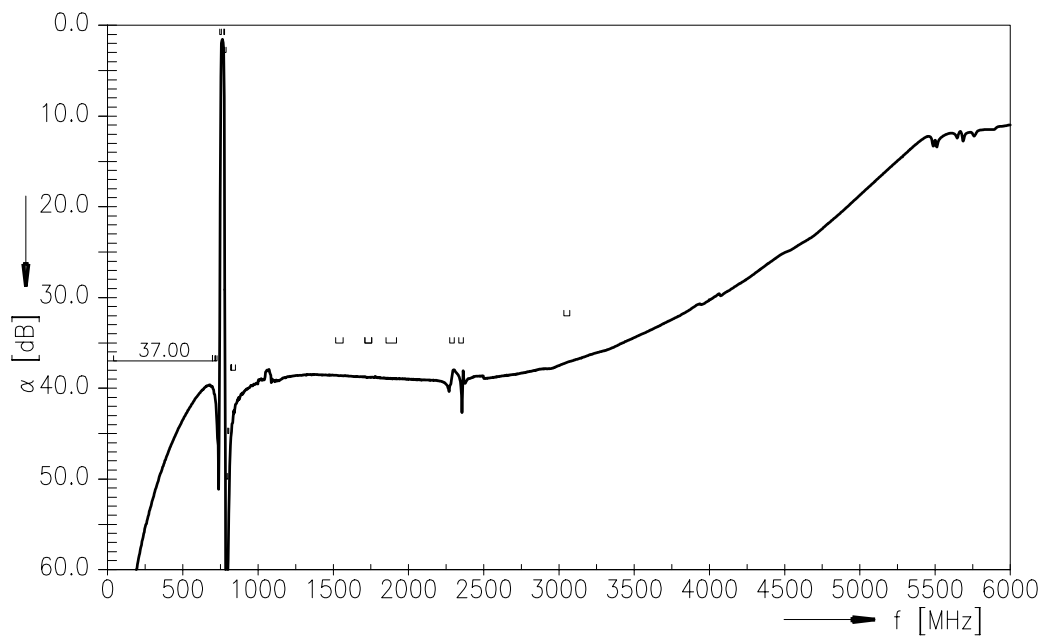




Frequency Response RX-ANT

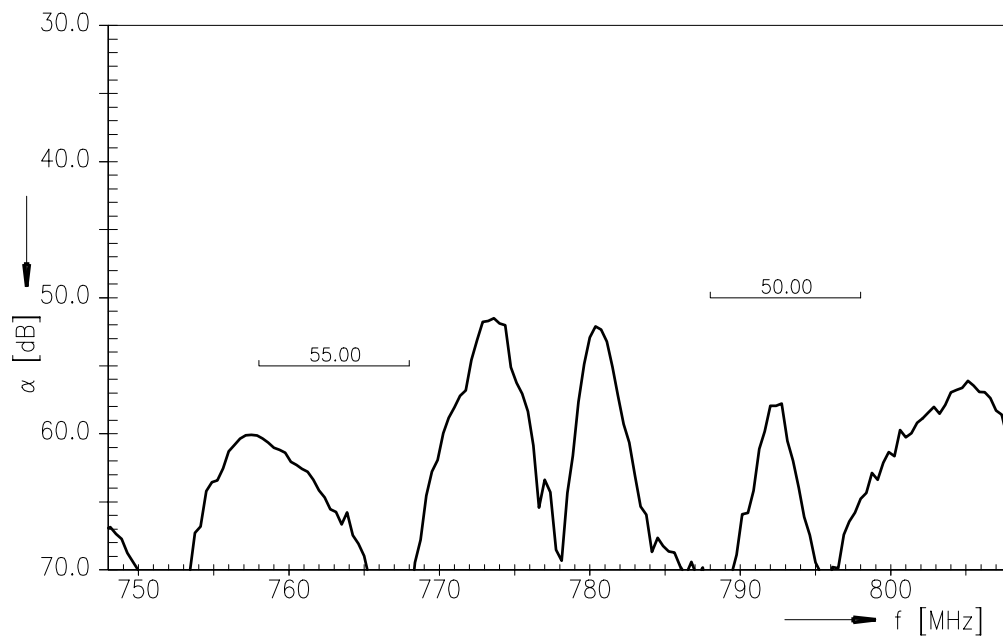


Frequency Response RX-ANT (wideband)

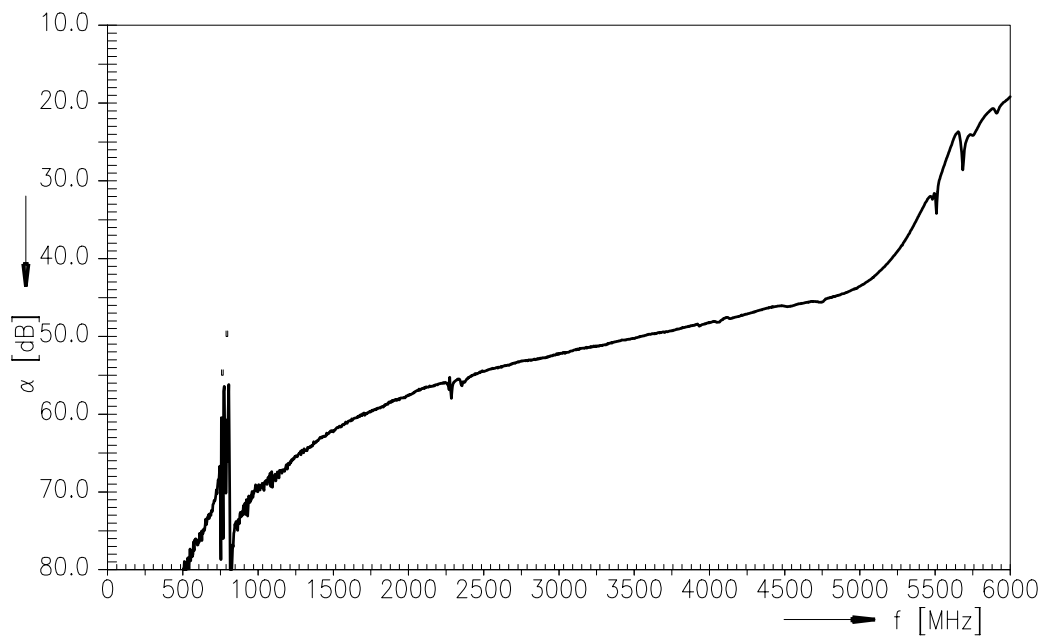




Frequency Response TX-RX



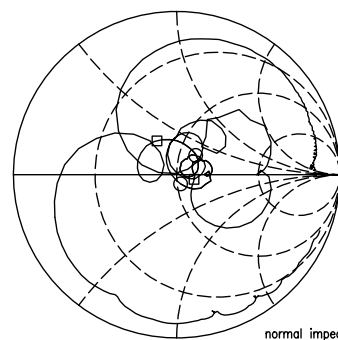
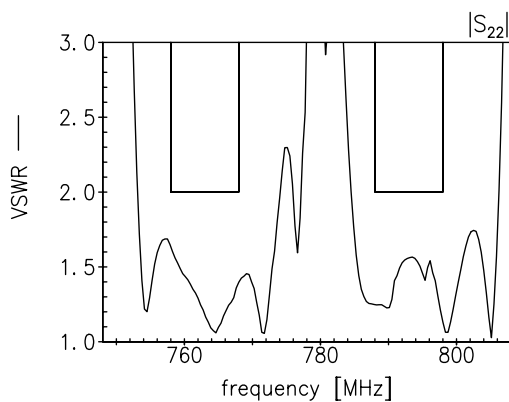
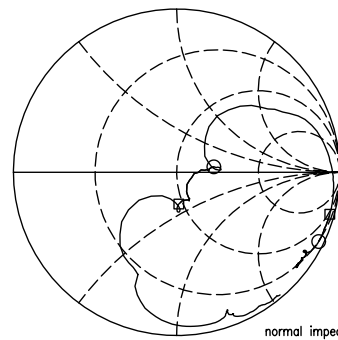
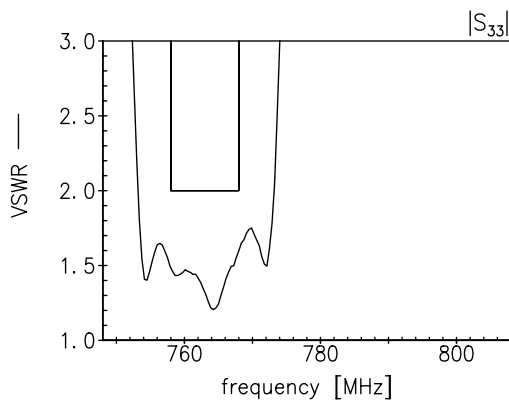
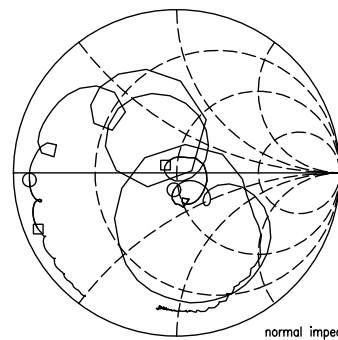
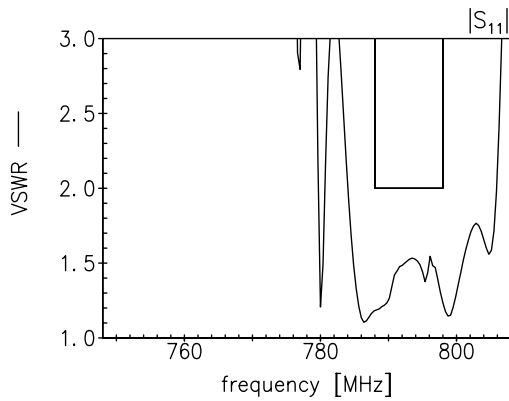
Frequency Response TX-RX (wideband)



Data sheet



Return Loss S_{11} TX- port S_{22} ANT-port S_{33} RX-port




References

Type	B7929
Ordering code	B39791B7929P810
Marking and package	C61157-A3-A61
Packaging	F611074-V8153-Z000
Date codes	L_1126
S-parameters	B7929_NB.s3p, B7929_WB.s3p See file header for port/pin assignment table.
Soldering profile	S_6001
RoHS compatible	RoHS-compatible means that products are compatible with the requirements according to Art. 4 (substance restrictions) of Directive 2011/65/EU of the European Parliament and of the Council of June 8th, 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("Directive") with due regard to the application of exemptions as per Annex III of the Directive in certain cases.
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.
Matching coils	See Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm for a large variety of matching coils.

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

Published by EPCOS AG
Systems, Acoustics, Waves Business Group
P.O. Box 80 17 09, 81617 Munich, GERMANY

© EPCOS AG 2013. This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.



The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.
2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
3. **The warnings, cautions and product-specific notes must be observed.**
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous)**. Useful information on this will be found in our Material Data Sheets on the Internet (www.epcos.com/material). Should you have any more detailed questions, please contact our sales offices.
5. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order. We also **reserve the right to discontinue production and delivery of products**. Consequently, we cannot guarantee that all products named in this publication will always be available. The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.
6. Unless otherwise agreed in individual contracts, **all orders are subject to the current version of the "General Terms of Delivery for Products and Services in the Electrical Industry" published by the German Electrical and Electronics Industry Association (ZVEI)**.
7. The trade names EPCOS, BAOKE, Alu-X, CeraDiode, CeraLink, CSMP, CSSP, CTVS, DeltaCap, DigiSiMic, DSSP, FilterCap, FormFit, MiniBlue, MiniCell, MKD, MKK, MLSC, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, SIP5D, SIP5K, ThermoFuse, WindCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at www.epcos.com/trademarks.