



SAW Components

SAW duplexer

LTE band XXVIII Block B

Series/type:	B8530
Ordering code:	B39791B8530P810
Date:	February 07, 2014
Version:	2.0

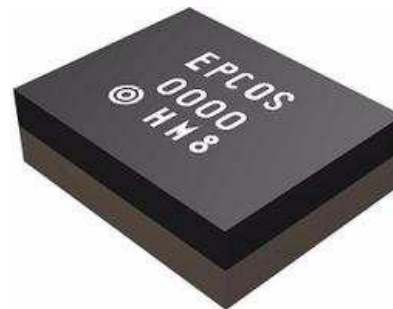
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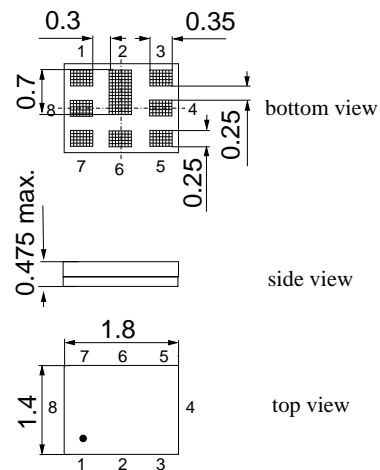
Preliminary Data

Application

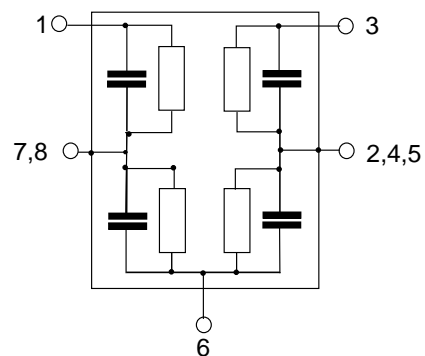
- Low-loss SAW duplexer for mobile telephone LTE Band XXVIII systems
- Low insertion attenuation
- Usable passband 30 MHz
- Duplexer for higher part of Band XXVIII (Block B)
- Companion type is B8528 for lower Band XXVIII (Block A)


Features

- Package size 1.8 x 1.4mm², package height 0.475mm max.
- RoHS compatible
- Approximate weight 0.0042 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-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 Ground



Please read *cautions and warnings and important notes* at the end of this document.

SAW Components
B8530
SAW duplexer
733.0 / 788.0 MHz
Preliminary Data

Characteristics

Temperature range for specification:	T = -30 °C to +85 °C
ANT terminating impedance:	Z _{ANT} = 50 Ω 7.5 nH
TX terminating impedance:	Z _{TX} = 50 Ω + 4.0 nH (series)
RX terminating impedance:	Z _{RX} = 50 Ω

Characteristics Tx - Ant					min.	typ. @ 25 °C	max.	
Center frequency	f _C				—	733.0	—	MHz
Maximum insertion attenuation	α	718.240... 747.760MHz				1.9	2.9	dB
Amplitude ripple	α	718.240... 747.760MHz				1.3	2.3	dB
VSWR								
TX port		718.0 ... 748.0 MHz				1.7	2.1	
ANT port		718.0 ... 748.0 MHz				1.7	2.0	
Attenuation	α							
		10.0 ... 698.0 MHz			30	36		dB
		698.0 ... 710.0 MHz			15	36		dB
		758.0 ... 773.0 MHz			20	30		dB
		773.240... 802.760MHz			41	44		dB
		859.0 ... 894.0 MHz			30	38		dB
		1225.0 ... 1250.0 MHz			35	41		dB
		1436.0 ... 1510.0 MHz			33	36		dB
		1559.0 ... 1563.0 MHz			30	36		dB
		1565.42 ... 1573.374MHz			31	36		dB
		1573.374... 1577.466MHz			30	35		dB
		1577.466... 1585.42 MHz			30	35		dB
		1597.55 ... 1605.89 MHz			30	35		dB
		1805.0 ... 1880.0 MHz			30	34		dB
		1930.0 ... 1995.0 MHz			30	33		dB
		2010.0 ... 2025.0 MHz			30	33		dB
		2154.0 ... 2244.0 MHz			25	31		dB
		2400.0 ... 2484.0 MHz			25	32		dB
		2570.0 ... 2620.0 MHz			25	32		dB
		2872.0 ... 2992.0 MHz			15	31		dB
		4900.0 ... 5950.0 MHz			15	20		dB

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ANT terminating impedance:	Z _{ANT} = 50 Ω 7.5 nH
TX terminating impedance:	Z _{TX} = 50 Ω + 4.0 nH (series)
RX terminating impedance:	Z _{RX} = 50 Ω

Characteristics Rx - Ant				min.	typ. @ 25 °C	max.	
Center frequency	f _C			—	788.0	—	MHz
Maximum insertion attenuation	α	773.240... 802.760MHz			2.3	3.0	dB
Amplitude ripple	α	773.240... 802.760MHz			0.9	1.8	dB
VSWR							
RX port		773.0 ... 803.0 MHz			1.7	2.1	
ANT port		773.0 ... 803.0 MHz			1.6	2.0	
Attenuation	α						
		1.0 ... 699.0 MHz		40	62		dB
		45.0 ... 65.0 MHz		50	70		dB
		703.0 ... 718.0 MHz		30	42		dB
		718.240... 747.760MHz		50	55		dB
		820.0 ... 6000.0 MHz		26	30		dB
Characteristics TX - RX				min.	typ. @ 25 °C	max.	
Isolation	α						
		718.240... 747.760MHz		55	59		dB
		773.240... 802.760MHz		50	55		dB

Maximum ratings

Storage temperature range	T _{stg}	-40/+85 ¹⁾	°C	
DC voltage	V _{DC}	5	V	
ESD voltage	V _{ESD}	100 ²⁾	V	machine model, 10 pulses
ESD voltage	V _{ESD}	300 ³⁾	V	HBM,+/- 1 pulses
ESD voltage	V _{ESD}	600 ⁴⁾	V	CDM,+/- 3 pulses
Input power at	P _{IN}			
718.240 ... 747.760 MHz		27.0	dBm	} continuous wave 50 °C, 5000 h
elsewhere		10	dBm	

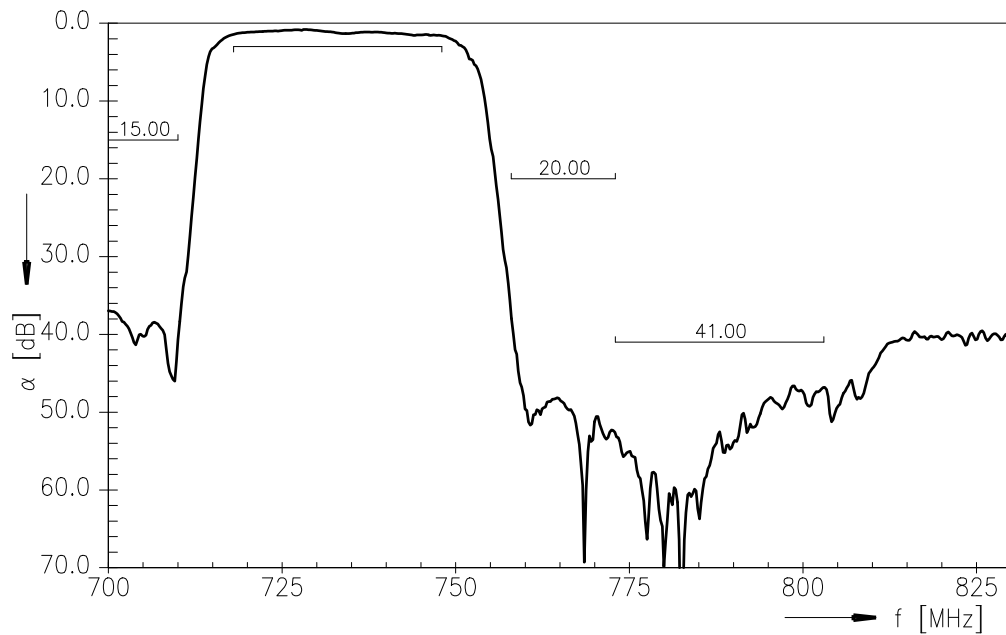
1) Extended upperlimit: 168 @ 125 °C acc. to IEC 60068-2-2 Bb.

2) acc. to JESD22-A115B (machine model), 10 negative & 10 positive pulses.

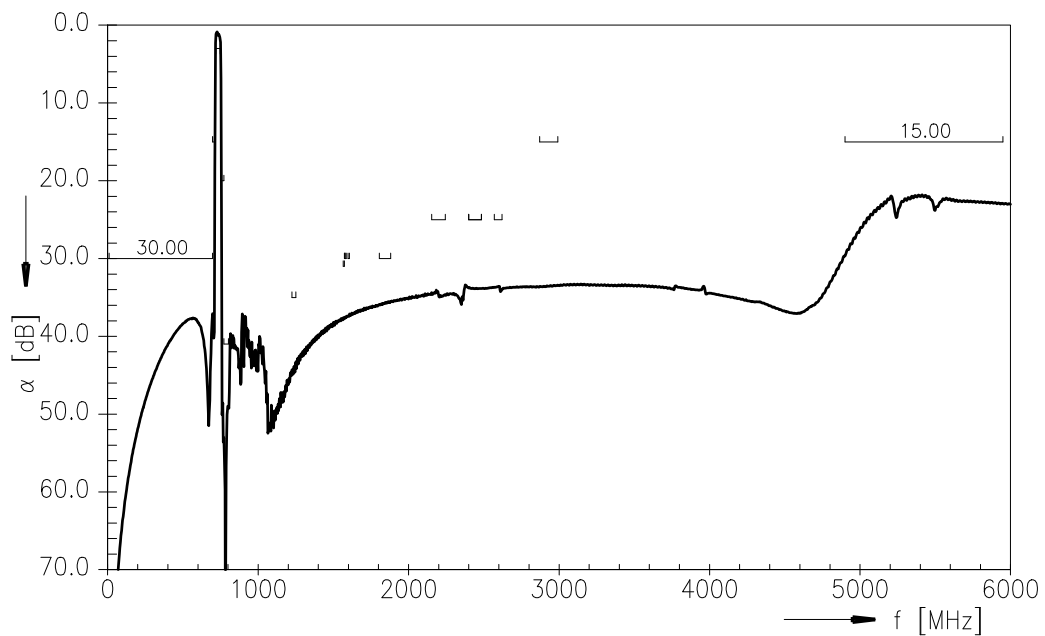
3) acc. to JESD22-A114F (human body model), 1 negative & 1 positive pulses.

4) acc. to JESD22-A101C (charge device model), 3 negative & 3 positive pulse

Frequency response Tx-Antenna

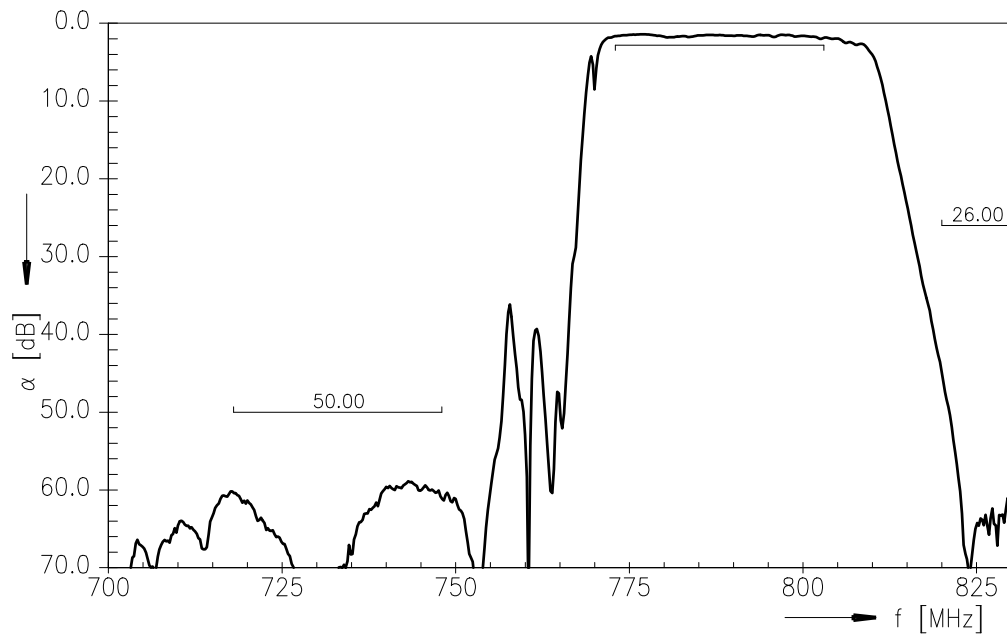


Frequency response Tx-Antenna (wideband)

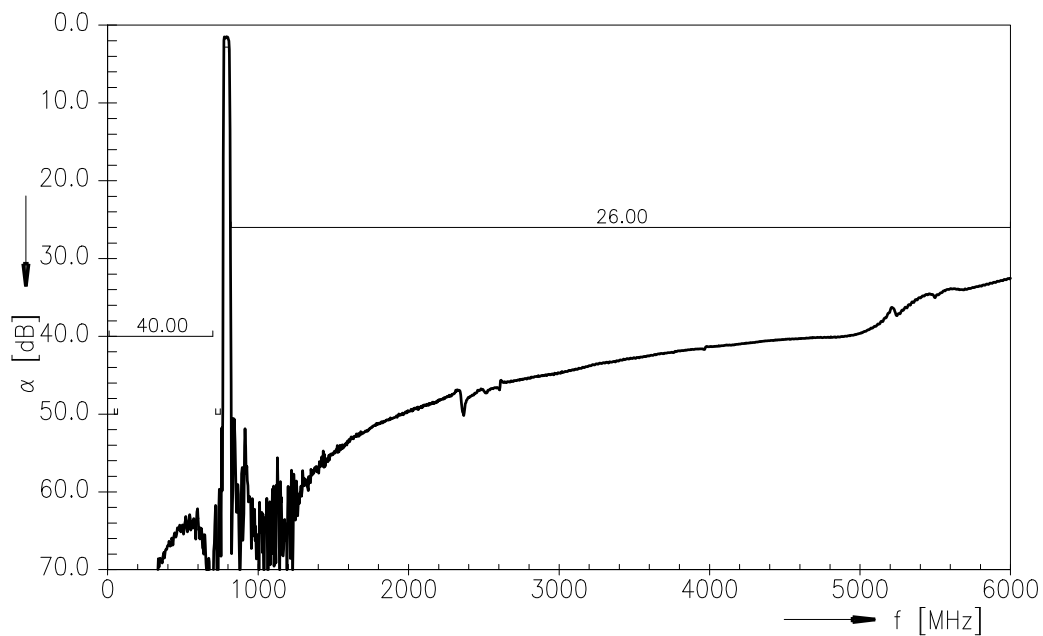


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Frequency response Antenna-Rx

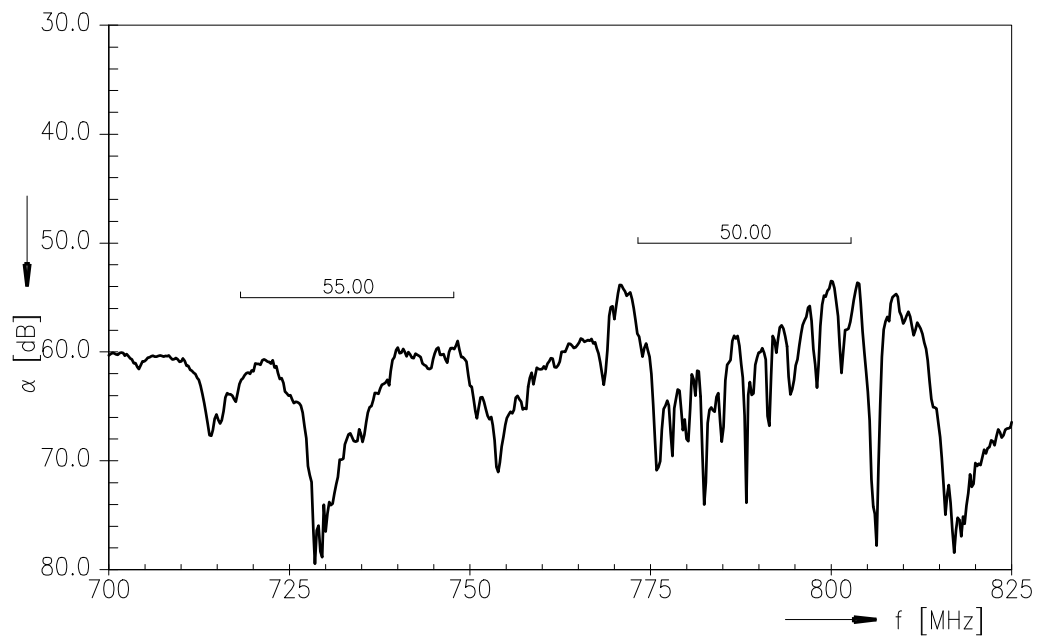


Frequency response Antenna-Rx (wideband)

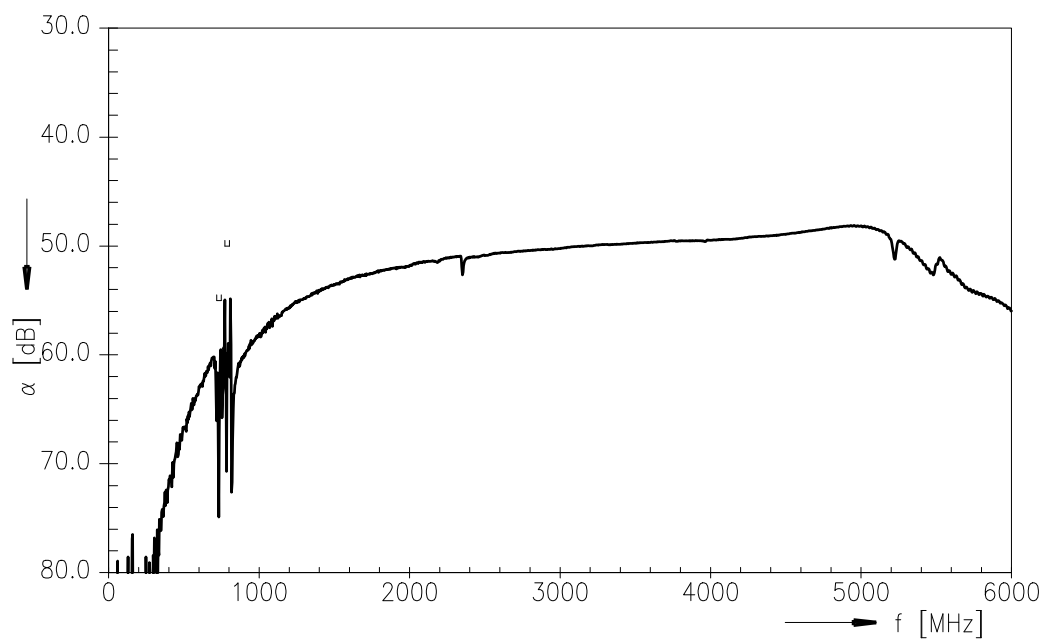


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Frequency response Tx-Rx



Frequency response Tx-Rx (wideband)



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B8530

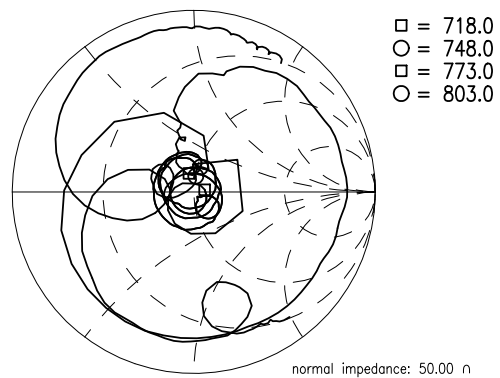
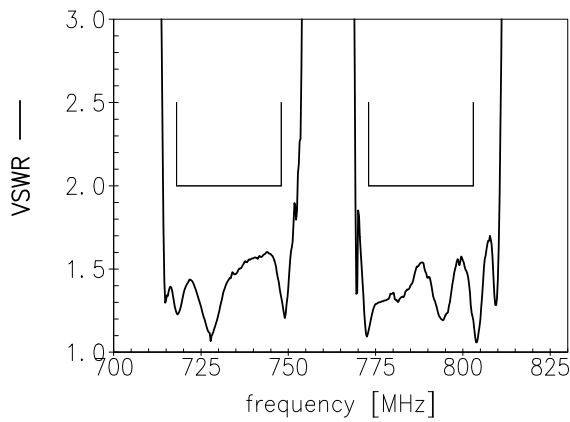
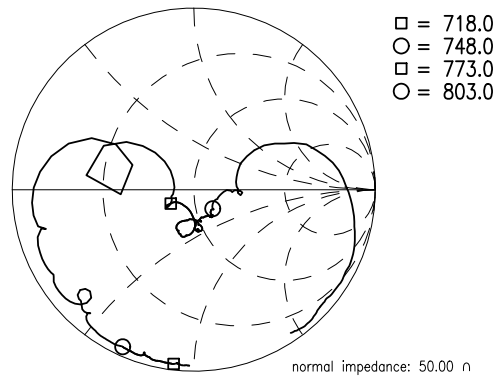
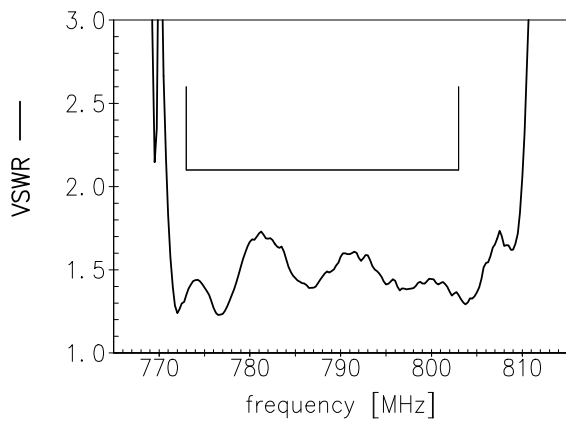
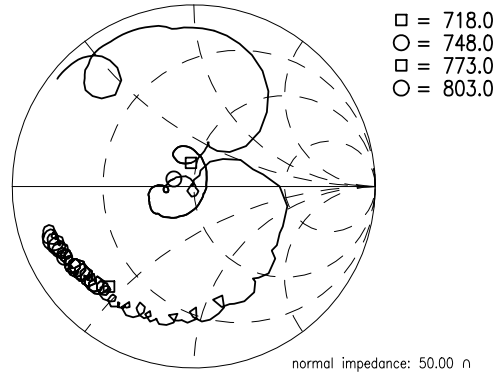
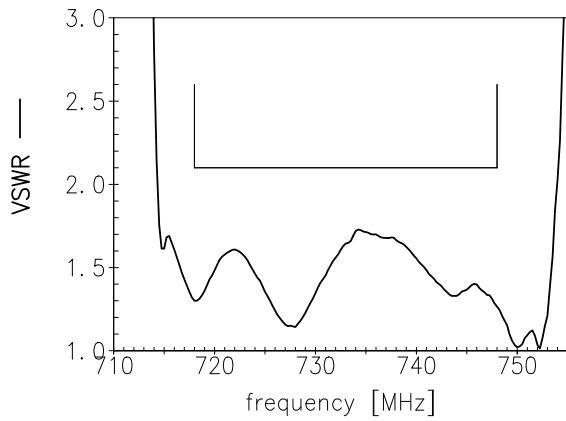
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733.0 / 788.0 MHz

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Return loss S_{11} Tx-port S_{22} Antenna-port S_{33} Rx-portReferences



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References

Type	B8530
Ordering code	B39791B8530P810
Marking and package	C61157-A8-A79
Packaging	F61074-V8259-Z000
Date codes	L_1126
S-parameters	B8530_NB_UN.s3p, B8530_WB_UN.s3p See file header for pin/port assignment.
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 8 th , 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.
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Published by EPCOS AG
Systems, Acoustics, Waves Business Group
P.O. Box 80 17 09, 81617 Munich, GERMANY

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