



SAW Components

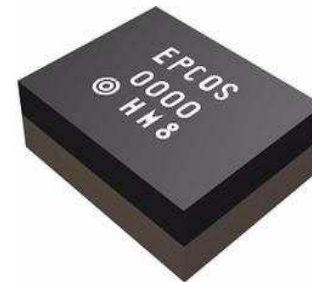
SAW Duplexer

LTE Band 17 (lower 700MHz band, blocks B and C)

Series/type:	B8566
Ordering code:	B39741B8566P810
Date:	February 06, 2013
Version:	2.0

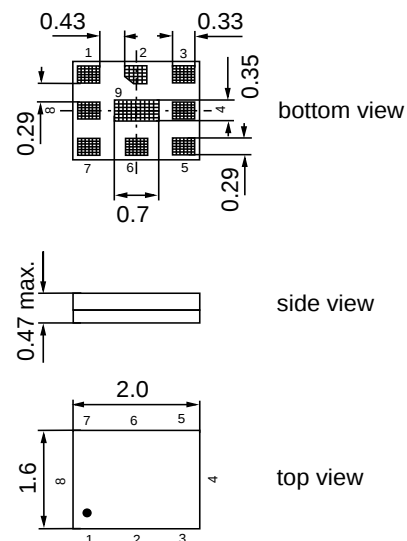
Application

- SAW duplexer for mobile telephone LTE band 17 (lower 700 MHz band, blocks B and C) systems
- Low insertion attenuation
- Low amplitude ripple
- Single ended to balanced transformation in Antenna - Rx path
- Impedance transformation 50 Ω to 100 Ω in Antenna - Rx path



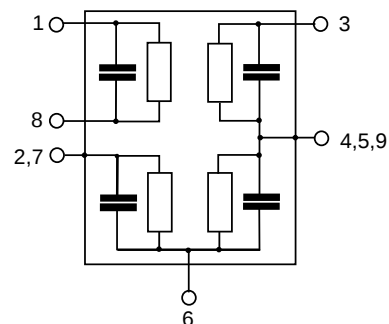
Features

- Package size 2.0 x 1.6 mm²
- Package height 0.47 mm max.
- RoHS compatible
- Approx. weight: 0.006g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitive Level 3**



Pin configuration

- 3 TX Input
- 1, 8 RX Output
- 6 Antenna
- 2, 4, 5, 7, 9 To be grounded



Data sheet

Characteristics

Temperature range for specification: $T = -30\text{ °C to }+85\text{ °C}$
 Antenna terminating impedance: $Z_{ANT} = 50\ \Omega \parallel 12.0\text{ nH}$
 RX terminating impedance: $Z_{RX} = 100\ \Omega \parallel 82.0\text{ nH}$
 TX terminating impedance: $Z_{TX} = 50\ \Omega$

Characterisitcs TX - ANT				min.	typ. @ 25 °C	max.	
Center frequency	f_C			—	710.0	—	MHz
Maximum insertion attenuation	α_{max}						
704.0 ... 716.0 MHz				—	1.7	2.6	dB
Amplitude ripple (p-p)	$\Delta\alpha$						
704.0 ... 716.0 MHz				—	0.6	1.5	dB
Input VSWR (TX port)							
704.0 ... 716.0 MHz				—	1.4	2.0	
Output VSWR (ANT port)							
704.0 ... 716.0 MHz				—	1.5	2.0	

Data sheet

Characteristics

Temperature range for specification: $T = -30\text{ }^{\circ}\text{C to }+85\text{ }^{\circ}\text{C}$
 Antenna terminating impedance: $Z_{\text{ANT}} = 50\text{ }\Omega \parallel 12.0\text{ nH}$
 RX terminating impedance: $Z_{\text{RX}} = 100\text{ }\Omega \parallel 82.0\text{ nH}$
 TX terminating impedance: $Z_{\text{TX}} = 50\text{ }\Omega$

Characterisitcs TX - ANT				min.	typ. @ 25 °C	max.	
Attenuation							
			α				
10.0	...	692.0	MHz	30	41	—	dB
692.0	...	698.0	MHz	3	10	—	dB
722.0	...	728.0	MHz	3	10	—	dB
728.0	...	734.0	MHz	21	35	—	dB
734.0	...	746.0	MHz	50	55	—	dB
746.0	...	768.0	MHz	30	43	—	dB
768.0	...	805.0	MHz	35	40	—	dB
869.0	...	894.0	MHz	34	40	—	dB
1408.0	...	1432.0	MHz	34	44	—	dB
1565.0	...	1607.0	MHz	40	46	—	dB
1930.0	...	1990.0	MHz	43	51	—	dB
2110.0	...	2130.0	MHz	27	42	—	dB
2130.0	...	2170.0	MHz	35	43	—	dB
2300.0	...	2400.0	MHz	30	54	—	dB
2400.0	...	2497.0	MHz	32	54	—	dB
2497.0	...	2690.0	MHz	20	52	—	dB
2816.0	...	2864.0	MHz	20	49	—	dB
3300.0	...	3800.0	MHz	20	34	—	dB
4224.0	...	4296.0	MHz	10	26	—	dB
4928.0	...	5012.0	MHz	10	18	—	dB
5150.0	...	5632.0	MHz	10	17	—	dB
5632.0	...	5728.0	MHz	10	17	—	dB
5728.0	...	5850.0	MHz	10	17	—	dB
5850.0	...	6000.0	MHz	10	17	—	dB

Data sheet

Characteristics

Temperature range for specification: $T = -30\text{ °C to }+85\text{ °C}$
 Antenna terminating impedance: $Z_{ANT} = 50\ \Omega \parallel 12.0\text{ nH}$
 RX terminating impedance: $Z_{RX} = 100\ \Omega \parallel 82.0\text{ nH}$
 TX terminating impedance: $Z_{TX} = 50\ \Omega$

Characteristics ANT - RX		min.	typ. @ 25 °C	max.	
Center frequency	f_C	—	740.0	—	MHz
Maximum insertion attenuation	α_{max}				
734.0 ... 746.0MHz		—	2.7	3.4	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
734.0 ... 746.0MHz		—	0.8	1.3	dB
Input VSWR (ANT port)					
734.0 ... 746.0MHz		—	1.4	2.0	
Output VSWR (RX port)					
734.0 ... 746.0MHz		—	1.4	2.0	
Common mode rejection ratio					
734.0... 746.0MHz		23	28	—	dB

SAW Components	B8566
SAW Duplexer	710.00 / 740.00 MHz

Data sheet



Characteristics

Temperature range for specification:	T = -30 °C to +85 °C
Antenna terminating impedance:	Z _{ANT} = 50 Ω 12.0 nH
RX terminating impedance:	Z _{RX} = 100 Ω 82.0 nH
TX terminating impedance:	Z _{TX} = 50 Ω

Characterisitcs ANT - RX				min.	typ. @ 25 °C	max.	
Attenuation α							
10.0	...	674.0	MHz	35	69	—	dB
674.0	...	686.0	MHz	53	69	—	dB
686.0	...	704.0	MHz	50	66	—	dB
704.0	...	716.0	MHz	50	58	—	dB
716.0	...	722.0	MHz	40	64	—	dB
722.0	...	724.0	MHz	30	48	—	dB
724.0	...	727.0	MHz	13	30	—	dB
727.0	...	728.0	MHz	10	24	—	dB
776.0	...	805.0	MHz	35	40	—	dB
1000.0	...	2300.0	MHz	40	55	—	dB
2300.0	...	2690.0	MHz	50	56	—	dB
2690.0	...	3300.0	MHz	40	56	—	dB
3300.0	...	3800.0	MHz	45	54	—	dB
3800.0	...	5150.0	MHz	40	50	—	dB
5150.0	...	5850.0	MHz	41	46	—	dB
5850.0	...	6000.0	MHz	40	43	—	dB

SAW Components	B8566
SAW Duplexer	710.00 / 740.00 MHz

Data sheet

Characteristics

Temperature range for specification:	T	=	−30 °C to +85 °C
Antenna terminating impedance:	Z _{ANT}	=	50 Ω 12.0 nH
RX terminating impedance:	Z _{RX}	=	100 Ω 82.0 nH
TX terminating impedance:	Z _{TX}	=	50 Ω

Characterisitcs TX - RX				min.	typ. @ 25 °C	max.	
Differential mode isolation							
			α				
704.0	...	716.0	MHz	55	61	—	dB
734.0	...	738.0	MHz	50	60	—	dB
738.0	...	742.0	MHz	50	65	—	dB
742.0	...	748.0	MHz	50	56	—	dB
1408.0	...	1432.0	MHz	50	71	—	dB
2112.0	...	2148.0	MHz	50	66	—	dB
2816.0	...	2864.0	MHz	50	63	—	dB
Common mode isolation							
			α				
704.0	...	716.0	MHz	46	52	—	dB

SAW Components	B8566
SAW Duplexer	710.00 / 740.00 MHz

Data sheet



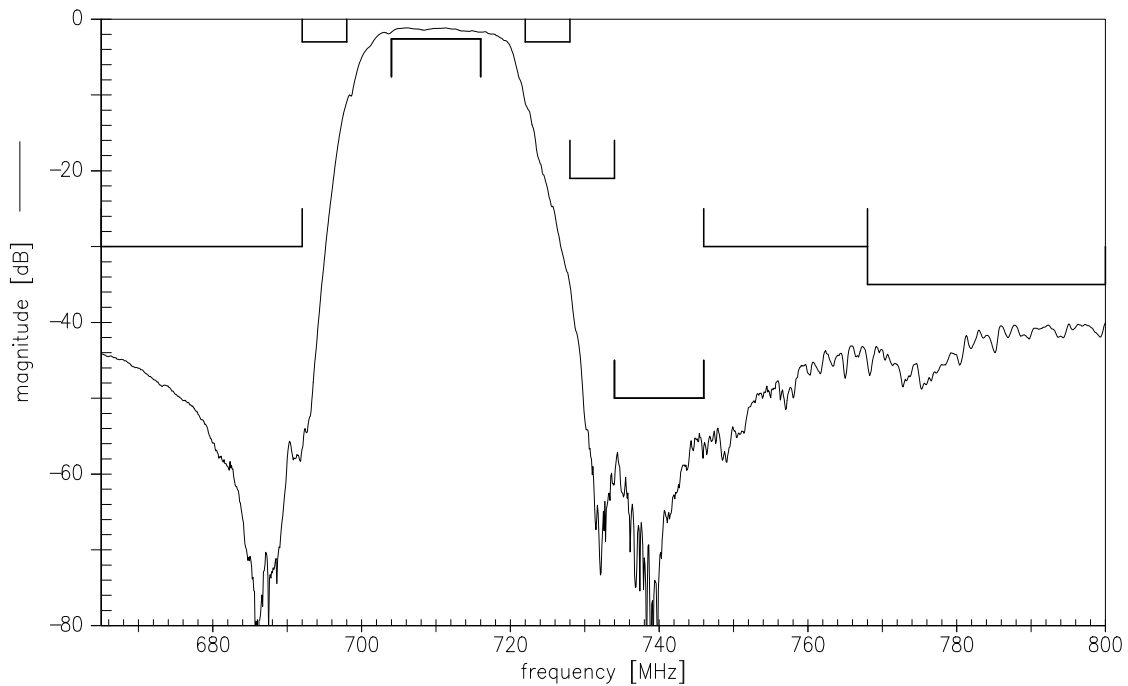
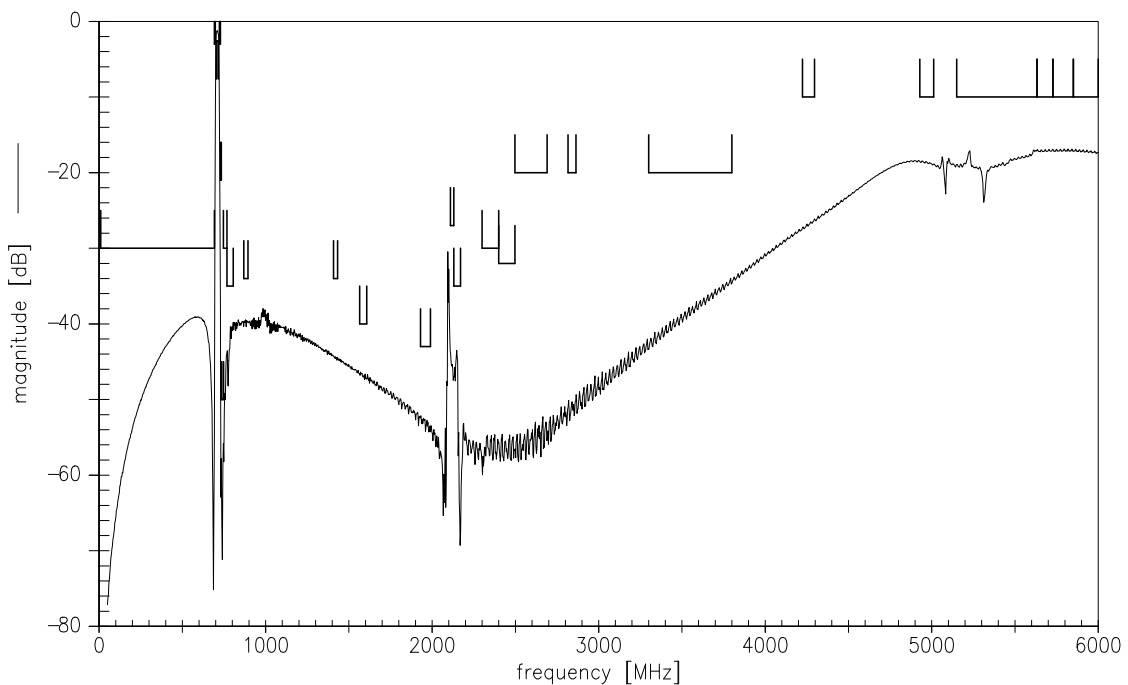
Maximum ratings

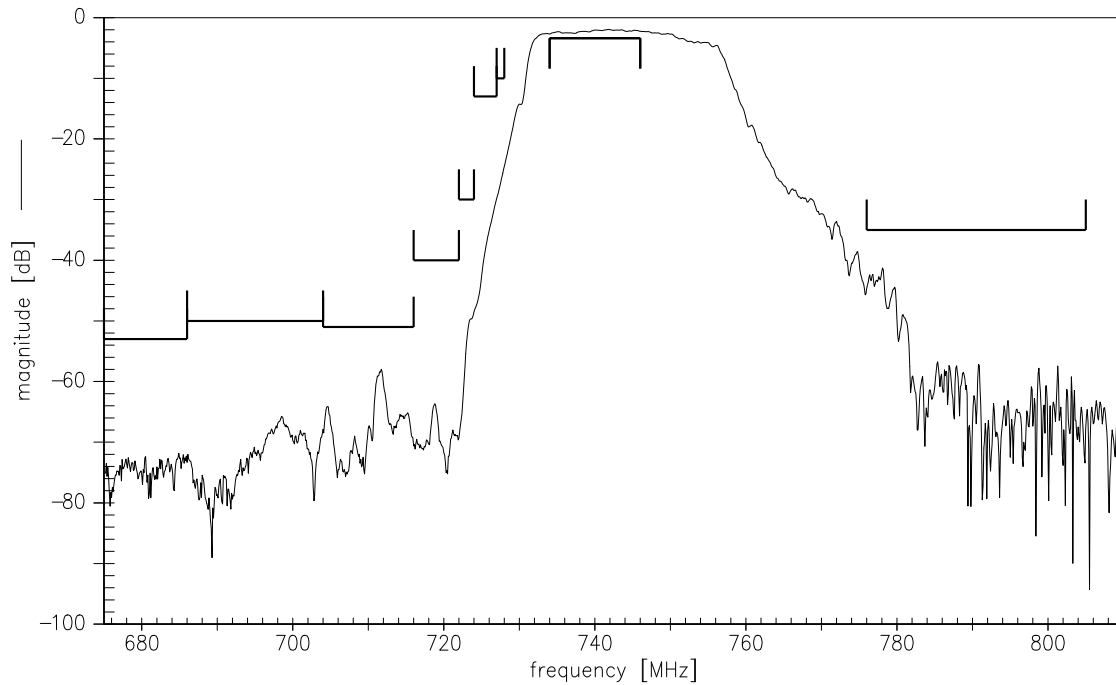
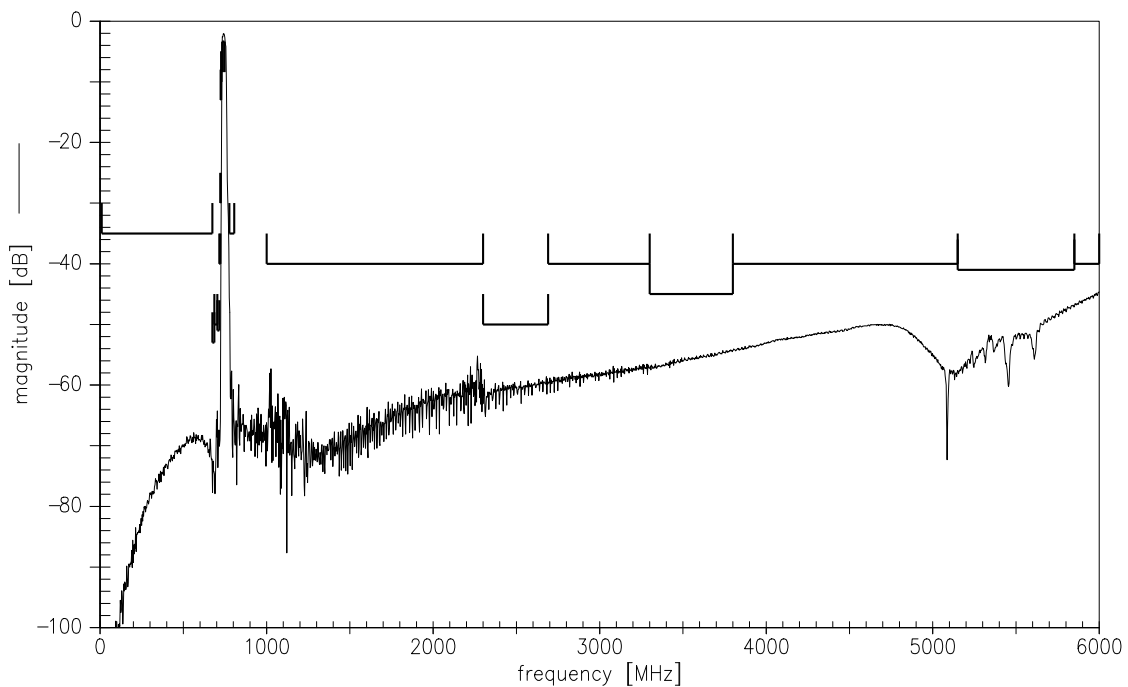
Storage temperature range	T _{stg}	−40/+85 ¹⁾	°C	Machine Model } LTE uplink 5MHz T = 55°C, 5000 h
DC voltage	V _{DC}	5 ²⁾	V	
ESD voltage	V _{ESD}	100 ³⁾	V	
Input power at 706.5 ... 713.5 MHz elsewhere	P _{IN}	29 10	dBm dBm	

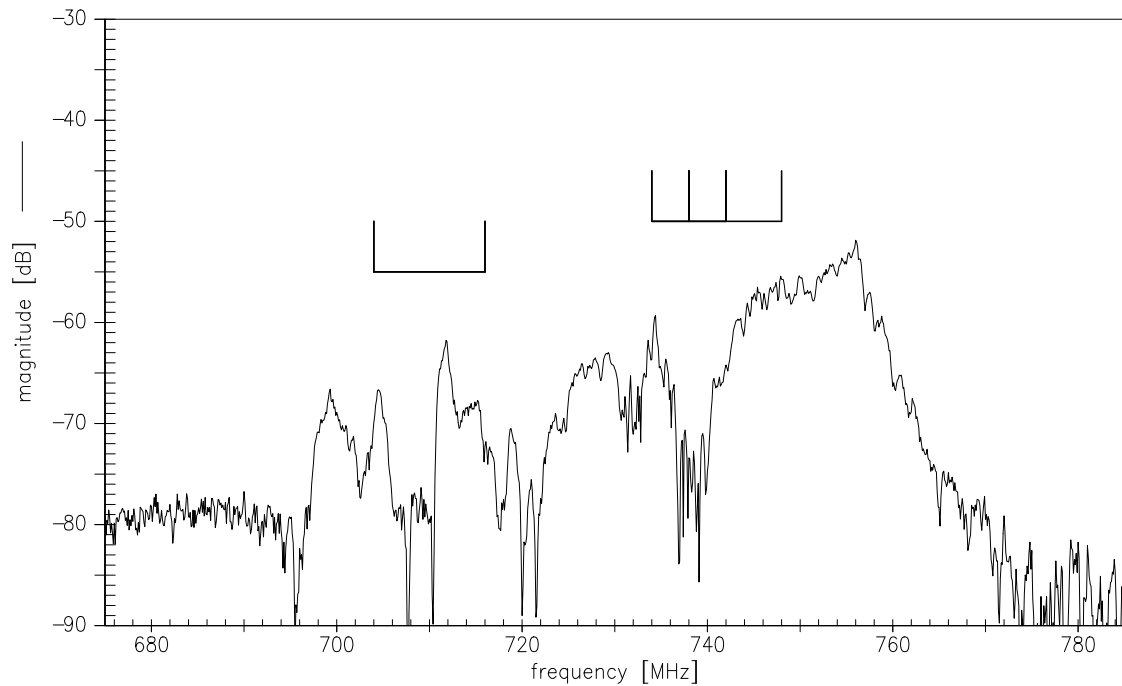
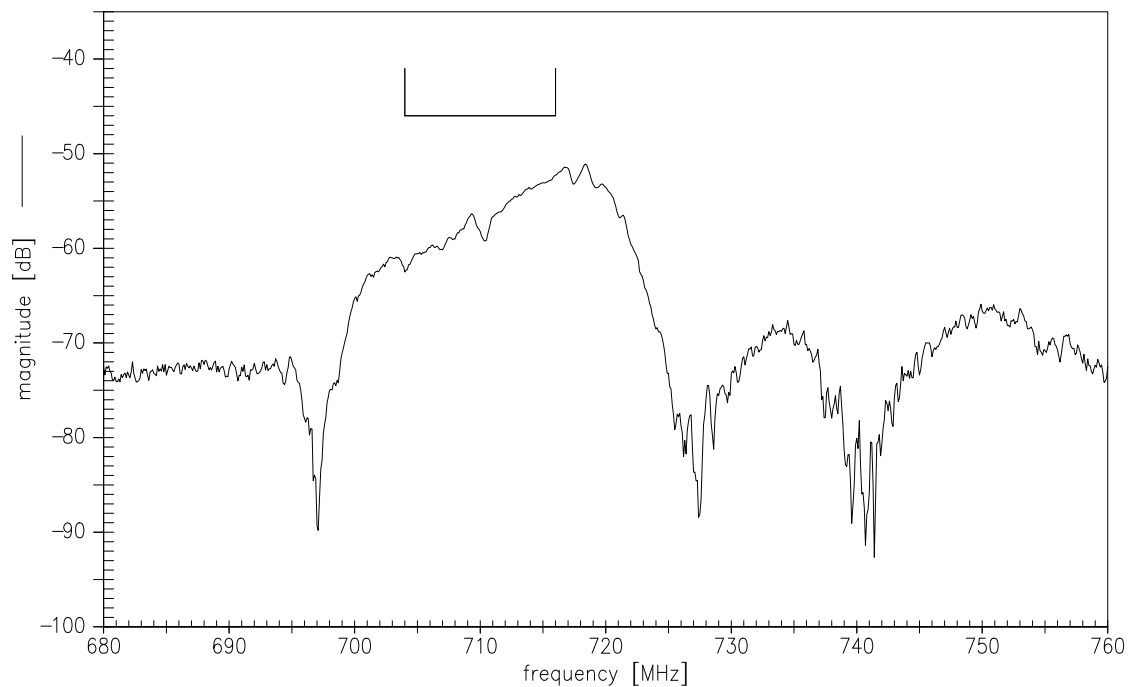
1) extended upperlimit: 168h@125°C acc. to IEC 60068-2-2 Bb

2) 168h Damp Heat Steady State acc. to IEC 60068-2-67 Cy

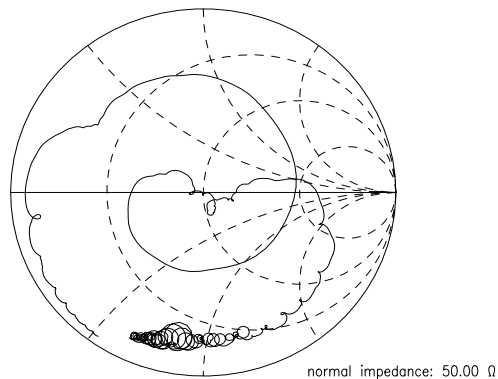
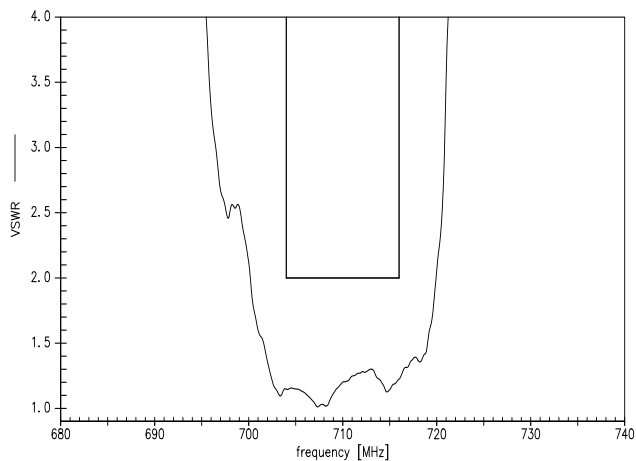
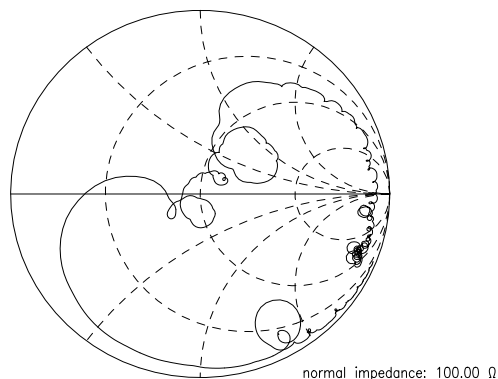
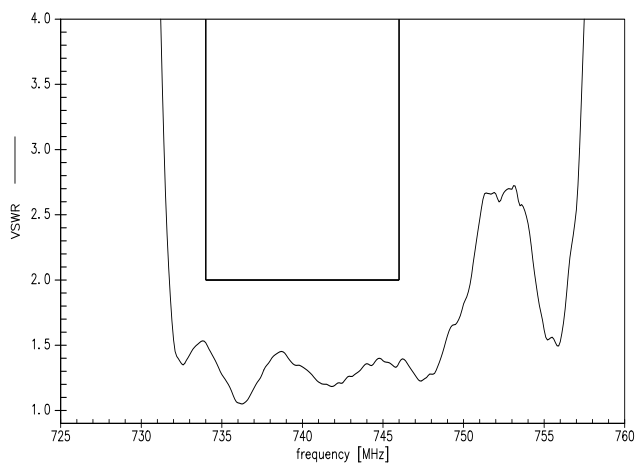
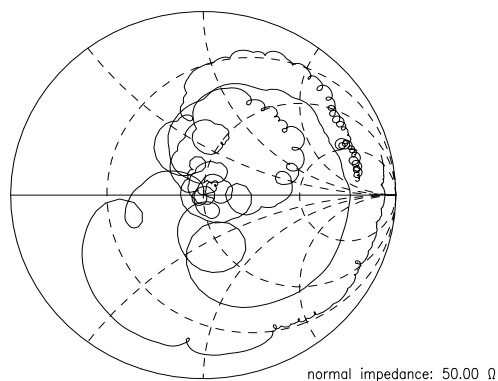
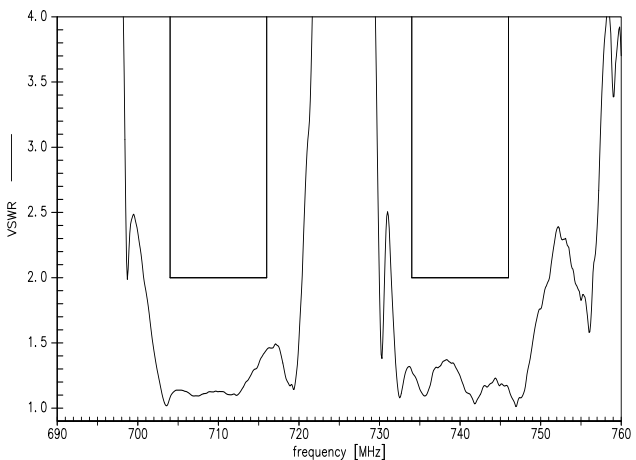
3) acc. to JESD22-A115B (MM - Machine Model), 10 negative & 10 positive pulses.

Frequency Response TX-ANT

Frequency Response TX-ANT (wideband)


Frequency Response RX-ANT

Frequency Response RX-ANT (wideband)


Frequency Response TX-RX : Differential mode isolation

Frequency Response TX-RX : Common mode isolation


Data sheet

VSWR S₁₁ TX- port
S₂₂ ANT-port
S₃₃ RX-port
S₁₁ TX

S₃₃ RX

S₂₂ ANT


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SAW Duplexer	710.00 / 740.00 MHz

Data sheet



References

Type	B8566
Ordering code	B39741B8566P810
Marking and package	C61157-A8-A38
Packaging	F61074-V8247-Z000
Date codes	L_1126
S-parameters	B8566_NB_UN.s4p, B8566_WB_UN.s4p
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.
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.
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