



SAW Components

SAW Duplexer

LTE Band 26

Series/type:	B8546
Ordering code:	B39871B8546P810
Date:	July 24, 2014
Version:	2.2

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Data sheet



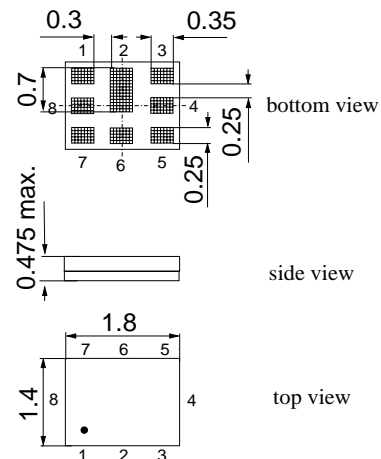
Application

- Low-loss SAW duplexer for mobile telephone
LTE Band 26 systems
- Low insertion attenuation
- Usable passband 35MHz
- High Tx - Rx isolation
- Very small size and low height



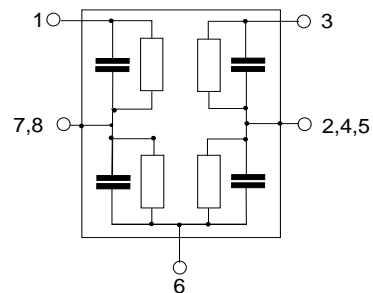
Features

- Package size 1.8 * 1.4 mm²
- Package height: maximum 0.475 mm
- RoHS compatible
- Approx. weight 0.0042g.
- Package for Surface Mount Technology (SMT)
- Ni terminals, Au-plated
- Electrostatic Sensitive Device (ESD)
- Moisture Sensitive Level (MSL) 3



Pin configuration

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



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Characteristics

Temperature range for specification:	T = -30 °C to +90 °C
Antenna terminating impedance:	Z _{ANT} = 50 Ω 10.0 nH
RX terminating impedance:	Z _{RX} = 50 Ω + 5.4 nH
TX terminating impedance:	Z _{TX} = 50 Ω + 9.4 nH

Characteristics TX - ANT		min.	typ. @ 25 °C	max.	
Center frequency	f _C	—	832.0	—	MHz
Maximum insertion attenuation					
	814.24 ... 815.0 MHz		1.8	2.5	dB
	815.0 ... 845.0 MHz		1.5	2.0	dB
	845.0 ... 848.76 MHz		1.6	2.5	dB
Amplitude ripple (p-p)					
	814.24 ... 848.76 MHz		1.1	1.8	dB
Amplitude ripple (Over any 5MHz in-band)					
	814.24 ... 848.76 MHz		0.4	1.6	dB
Input VSWR (TX port)					
	814.24 ... 848.76 MHz		1.4	2.0	
Output VSWR (ANT port)					
	814.24 ... 848.76 MHz		1.4	2.0	

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Characteristics

Temperature range for specification:	T = -30 °C to +90 °C
Antenna terminating impedance:	Z _{ANT} = 50 Ω 10.0 nH
RX terminating impedance:	Z _{RX} = 50 Ω + 5.4 nH
TX terminating impedance:	Z _{TX} = 50 Ω + 9.4 nH

Characteristics TX - ANT				min.	typ. @ 25 °C	max.	
Attenuation							
			α				
10	...	420	MHz	30	45		dB
420	...	494	MHz	38	42		dB
494	...	701	MHz	30	36		dB
701	...	728	MHz	33	36		dB
728	...	764	MHz	34	37		dB
764	...	804	MHz	30	40		dB
859.24	...	893.76	MHz	44	55		dB
1475.9	...	1510.9	MHz	38	46		dB
1559	...	1563	MHz	42	51		dB
1565.42	...	1573.374	MHz	42	52		dB
1573.374	...	1577.466	MHz	42	52		dB
1577.466	...	1585.42	MHz	42	52		dB
1597.552	...	1605.886	MHz	42	52		dB
1628	...	1698	MHz	40	53		dB
1844.9	...	1879.9	MHz	30	57		dB
1884.5	...	1919.6	MHz	30	56		dB
1930	...	1995	MHz	44	55		dB
2110	...	2170	MHz	44	53		dB
2400	...	2690	MHz	45	54		dB
2402	...	2494	MHz	48	58		dB
3256	...	3396	MHz	20	51		dB
3396	...	3800	MHz	20	48		dB
4070	...	4245	MHz	20	35		dB
4884	...	5950	MHz	32	41		dB

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Characteristics

Temperature range for specification:	$T = -30\text{ °C to }+90\text{ °C}$
Antenna terminating impedance:	$Z_{ANT} = 50\ \Omega \parallel 10.0\text{ nH}$
RX terminating impedance:	$Z_{RX} = 50\ \Omega + 5.4\text{ nH}$
TX terminating impedance:	$Z_{TX} = 50\ \Omega + 9.4\text{ nH}$

Characteristics ANT - RX	min.	typ. @ 25 °C	max.	
Center frequency f_c	—	876.5	—	MHz
Maximum insertion attenuation 859.24 ... 893.76 MHz		2.4	3.7	dB
Amplitude ripple (p-p) 859.24 ... 893.76 MHz		1.2	2.5	dB
Amplitude ripple (Over any 5MHz in-band) 859.24 ... 893.76 MHz		1.2	2.1	dB
Input VSWR (ANT port) 859.24 ... 893.76 MHz		1.8	2.4	
Output VSWR (RX port) 859.24 ... 893.76 MHz		1.8	2.4	

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Characteristics

Temperature range for specification:	$T = -30\text{ °C to }+90\text{ °C}$
Antenna terminating impedance:	$Z_{ANT} = 50\ \Omega \parallel 10.0\text{ nH}$
RX terminating impedance:	$Z_{RX} = 50\ \Omega + 5.4\text{ nH}$
TX terminating impedance:	$Z_{TX} = 50\ \Omega + 9.4\text{ nH}$

Characteristics ANT - RX				min.	typ. @ 25 °C	max.	
Attenuation							
			α				
10	...	447	MHz	40	62		dB
		45	MHz	50	96		dB
814.24	...	848.76	MHz	45	57		dB
848.76	...	854	MHz	7	26		dB
909	...	979	MHz	15	23		dB
979	...	6000	MHz	40	46		dB
1427	...	1447	MHz	40	64		dB
1710	...	1785	MHz	50	56		dB
1850	...	1915	MHz	40	53		dB
1920	...	1980	MHz	40	52		dB
2400	...	2500	MHz	40	54		dB
2467	...	2494	MHz	47	54		dB
2577	...	2682	MHz	40	54		dB
4900	...	5950	MHz	40	51		dB

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Characteristics

Temperature range for specification: $T = -30\text{ }^{\circ}\text{C to }+90\text{ }^{\circ}\text{C}$
 Antenna terminating impedance: $Z_{\text{ANT}} = 50\ \Omega \parallel 10.0\ \text{nH}$
 RX terminating impedance: $Z_{\text{RX}} = 50\ \Omega + 5.4\ \text{nH}$
 TX terminating impedance: $Z_{\text{TX}} = 50\ \Omega + 9.4\ \text{nH}$

Characteristics TX - RX				min.	typ. @ 25 °C	max.	
Isolation			α				
	814.24 ...	848.76	MHz	55	60		dB
	859.24 ...	893.76	MHz	55	58		dB
	1574 ...	1577	MHz	40	62		dB
	1628 ...	1698	MHz	20	62		dB
	2442 ...	2547	MHz	20	65		dB

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Maximum ratings

Storage temperature range	T_{stg}	-40/+85	°C	
ESD voltage	V_{ESD}	100 ¹⁾	V	Machine Model
ESD voltage	V_{ESD}	300 ²⁾	V	Human Body Model
ESD voltage	V_{ESD}	600 ³⁾	V	Charged Device Model
Input power at	P_{IN}			
815- 830 MHz (B18)		29	dBm	} continuous wave T = 50°C, 5000h
830- 845 MHz (B19)		29	dBm	
814.24- 845 MHz (B26-a)		29	dBm	
845- 848.76 MHz (B26-b)		27	dBm	
elsewhere		10	dBm	

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

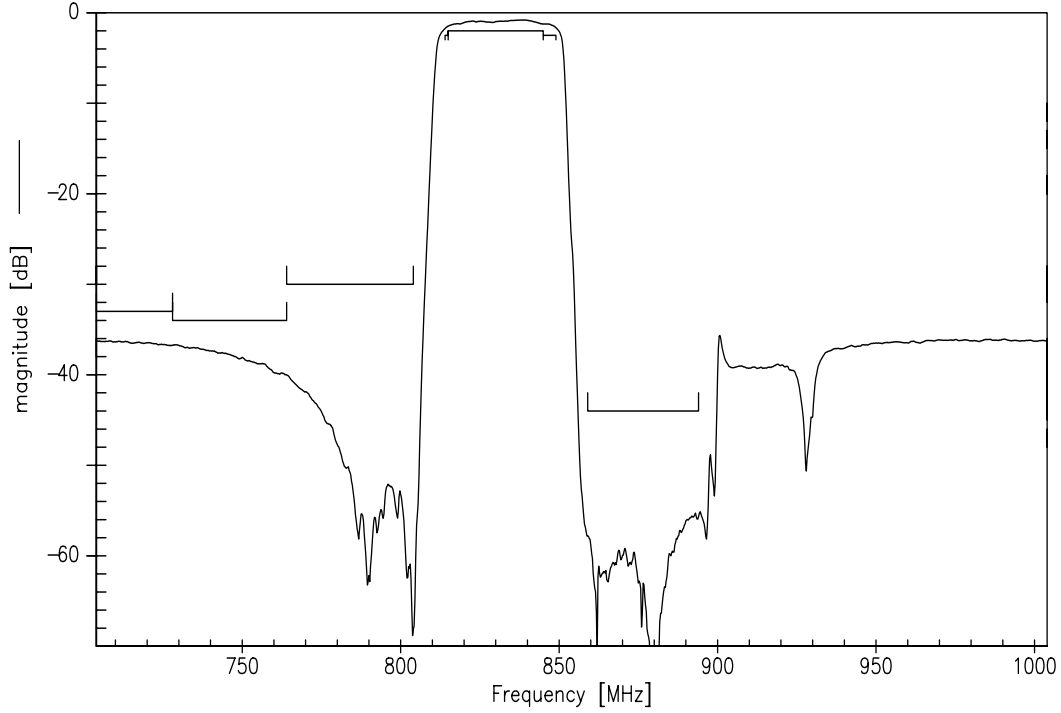
2) acc. to JESD22-A114F (HBM - Human Body Model), 1 negative and 1 positive pulses.

3) acc. to JESD22-C101C (CDM - Field-Induced Charged Device Model), 3 negative and 3 positive pulses.

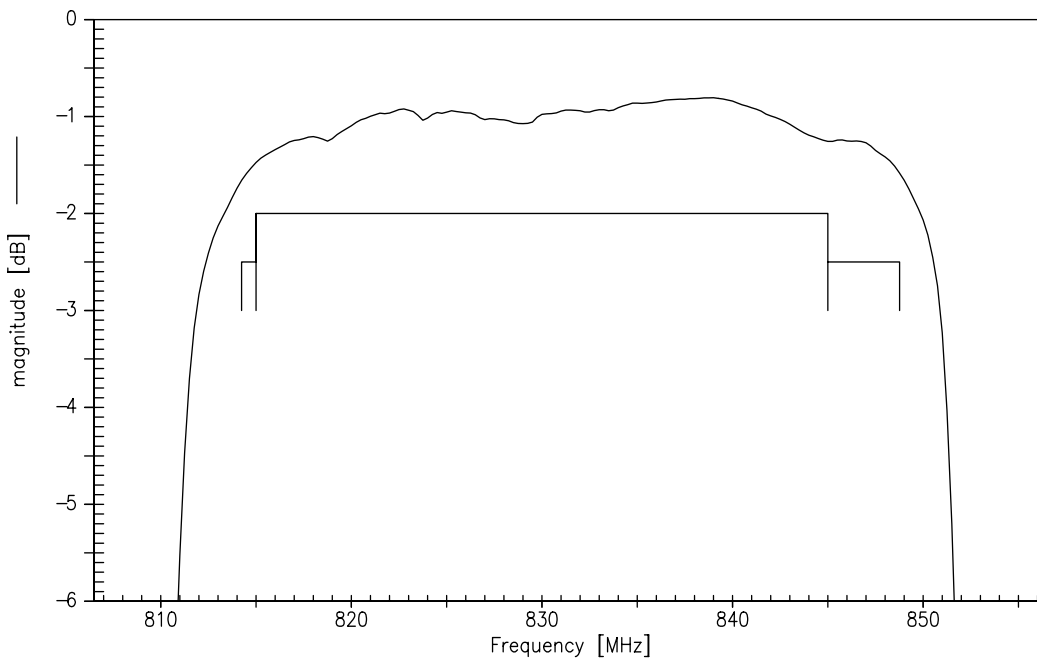
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Frequency Response TX-ANT



Frequency Response TX-ANT

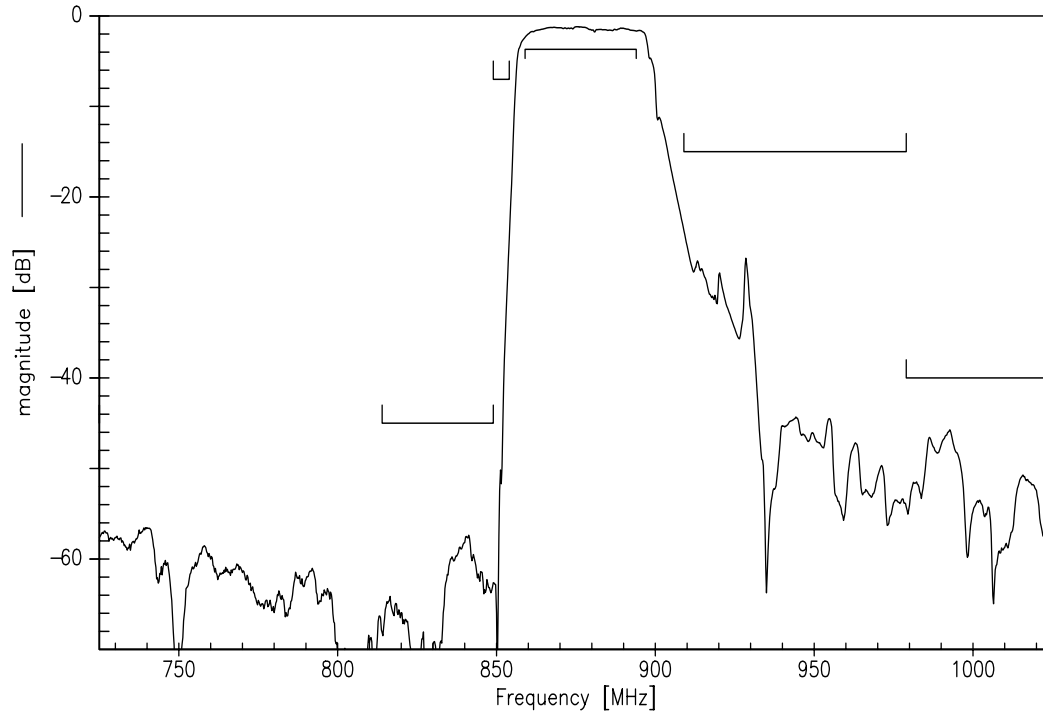


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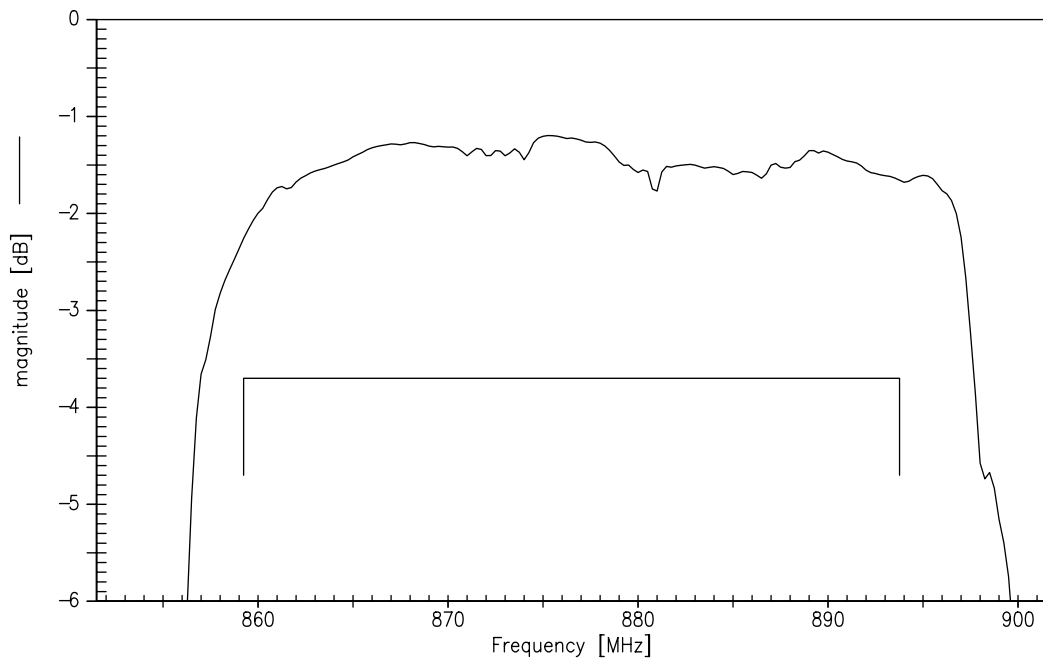
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Frequency Response RX-ANT



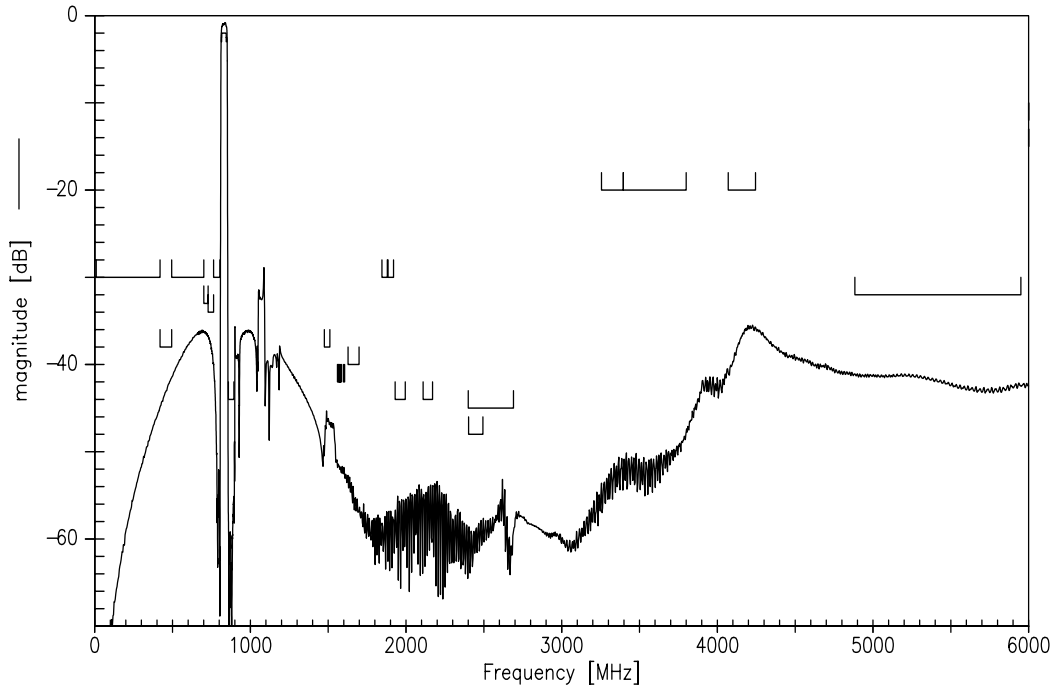
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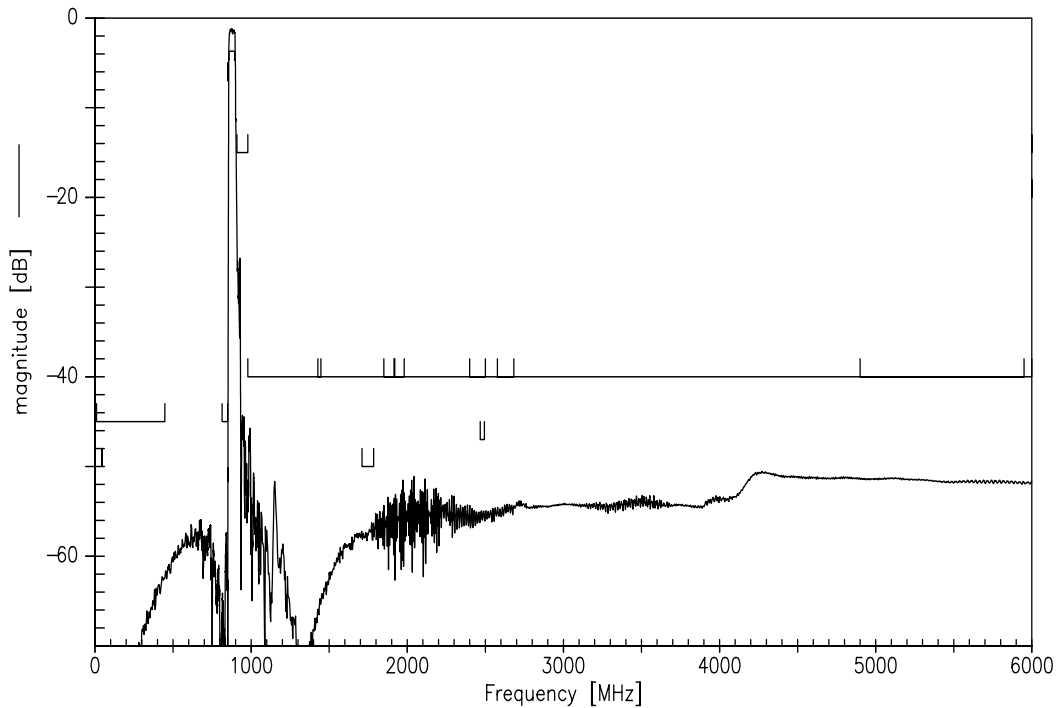
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Frequency Response TX-ANT



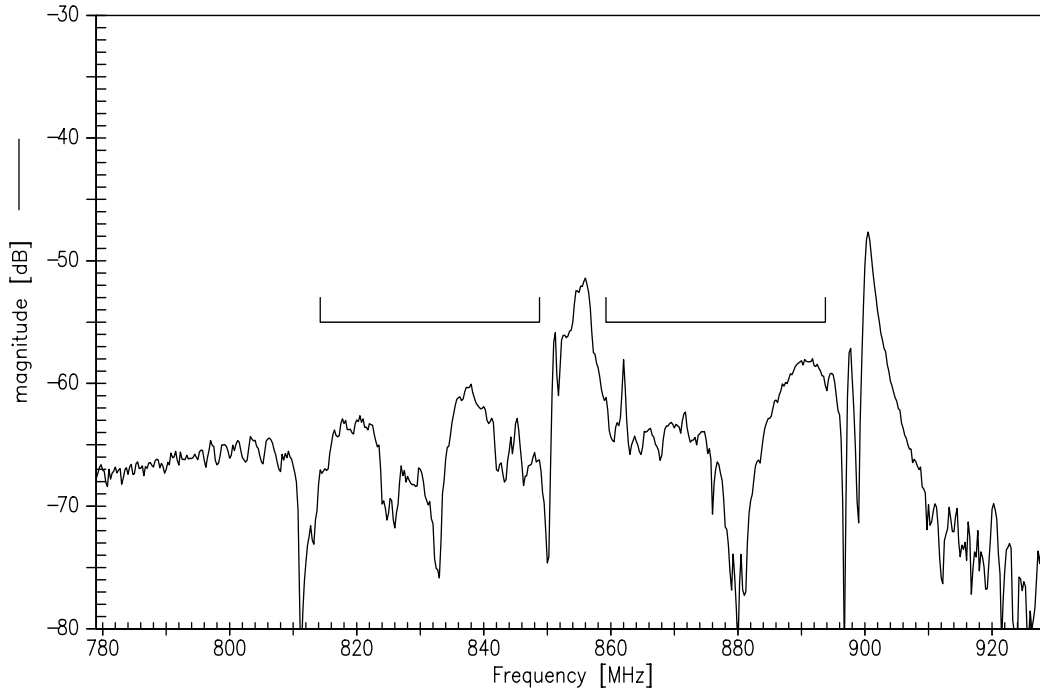
Frequency Response ANT-RX



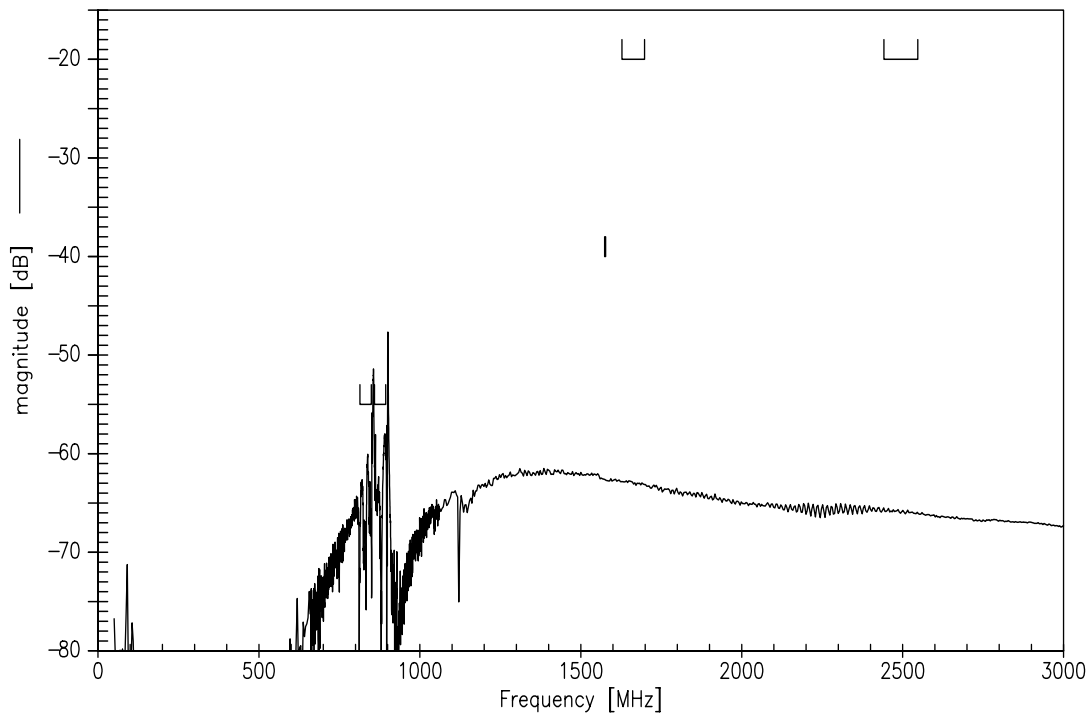
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Frequency Response TX-RX



Frequency Response TX-RX

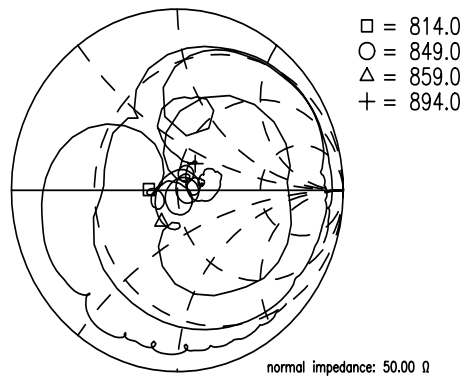
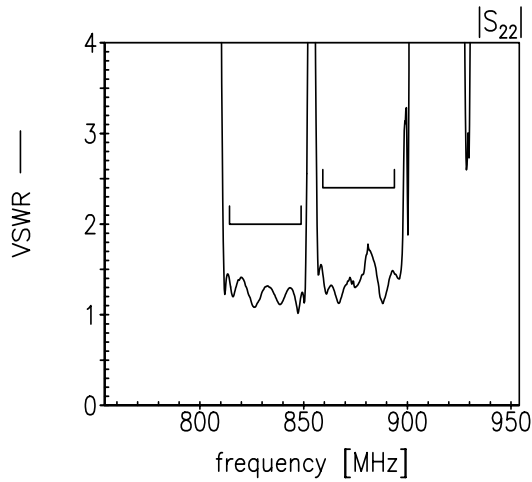
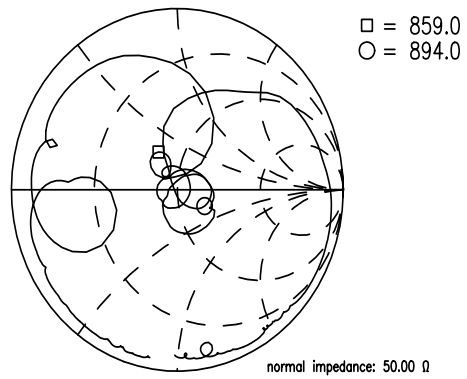
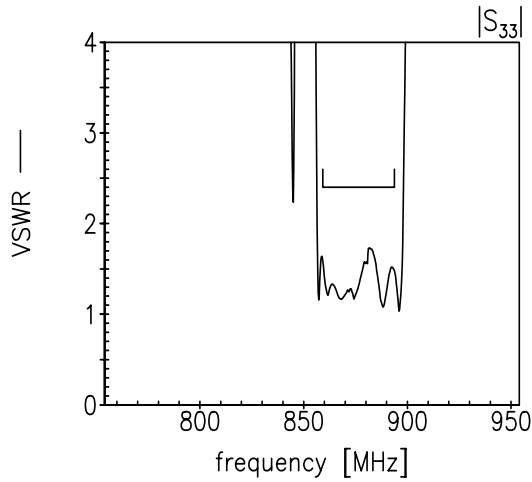
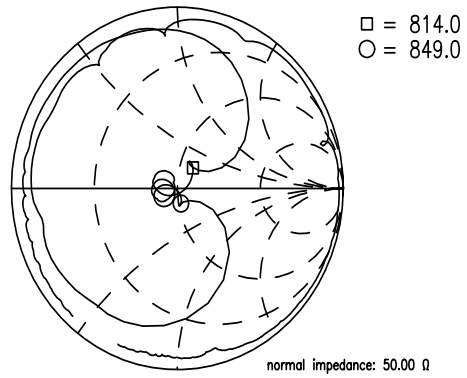
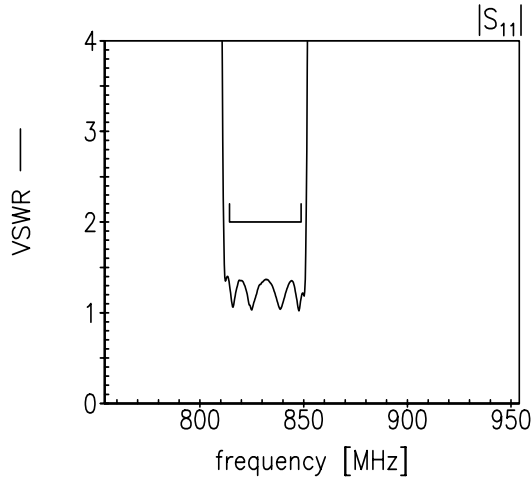


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Data sheet



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



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References

Type	B8546
Ordering code	B39871B8546P810
Marking and package	C61157-A8-A95-1-27
Packaging	F61074-V8259-Z000-2-27
Date codes	L_1126
S-parameters	B8546_NB.s3p, B8546_WB.s3p
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."
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

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