



SAW Components

SAW RF filter for base stations

TD-LTE

Series/type:	B5175
Ordering code:	B39262B5175U410
Date:	Mar 25, 2015
Version:	2.1

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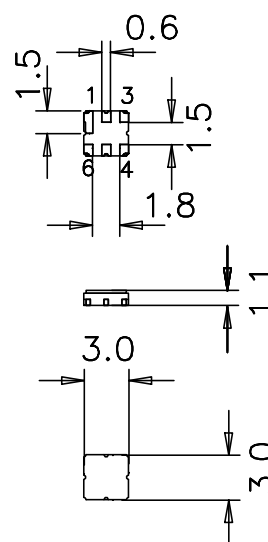
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Application

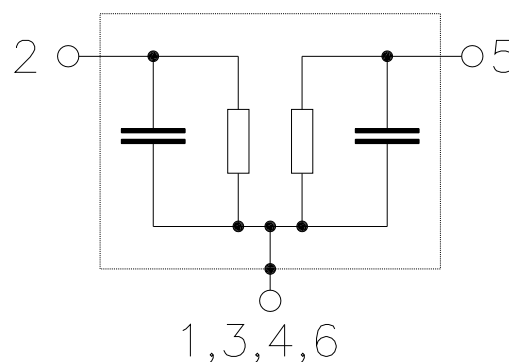
- RF filter for TD-LTE basestation
- Unbalanced to unbalanced operation
- Usable passband 100 MHz
- No matching required for operation at 50 Ω

Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitivity Level 1**
- Filter surface passivated


Pin configuration

- 2 Input
- 5 Output
- 1, 3, 4, 6 To be grounded



Data sheet


Characteristics

Temperature range for specification: $T = -40\text{ °C to }+95\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

		min.	typ. @ 25 °C	max.	
Center frequency	f_C	—	2595.0	—	MHz
Minimum insertion attenuation 2545.0 ... 2645.0 MHz	α_{\min}	—	1.4	—	dB
Maximum insertion attenuation 2545.0 ... 2645.0 MHz	α_{\max}	—	2.5	3.5	dB
Amplitude ripple (p-p) 2545.0 ... 2645.0 MHz	$\Delta\alpha$	—	1.1	2.0	dB
Input VSWR 2545.0 ... 2645.0 MHz		—	2.2	2.5	
Output VSWR 2545.0 ... 2645.0 MHz		—	2.1	2.5	
Absolute group delay 2545.0 ... 2645.0 MHz	$\bar{\tau}$	—	11	40	ns
Absolute attenuation 10.0 ... 2300.0 MHz	α_{abs}	25	30	—	dB
2300.0 ... 2495.0 MHz		20	25	—	dB
2495.0 ... 2515.0 MHz		4	10	—	dB
2690.0 ... 2720.0 MHz		10	20	—	dB
2720.0 ... 3000.0 MHz		20	25	—	dB
3000.0 ... 6000.0 MHz		10	12	—	dB

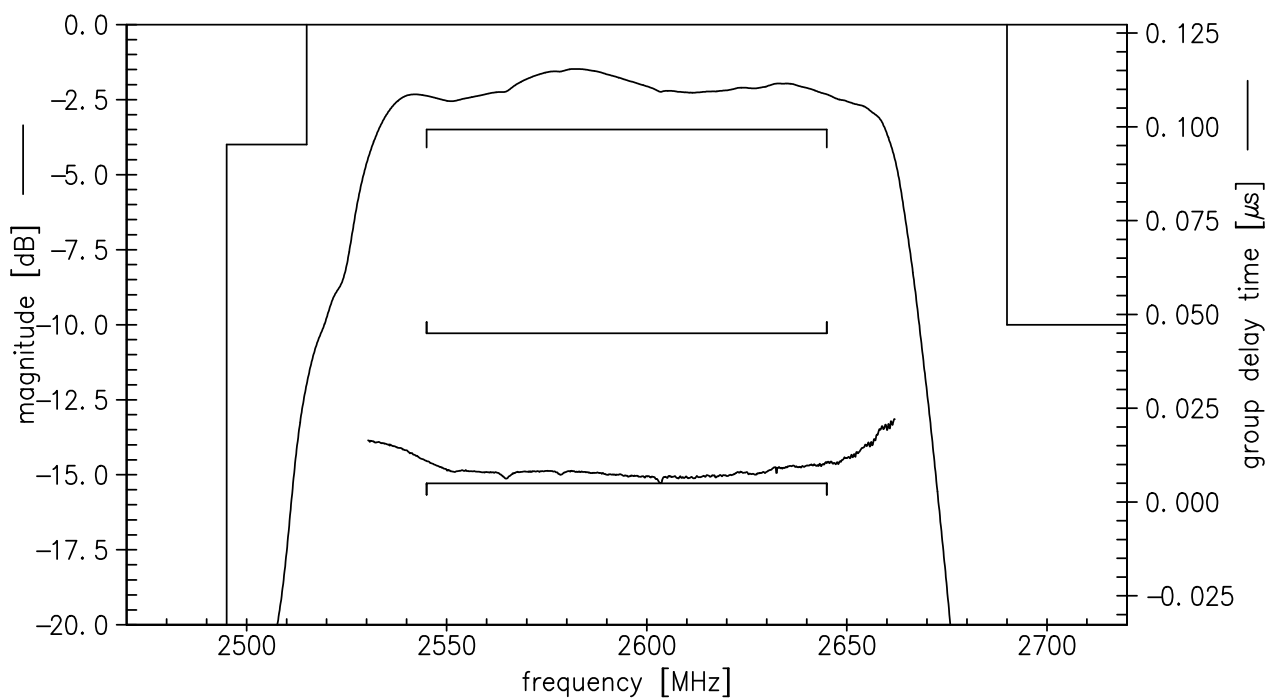
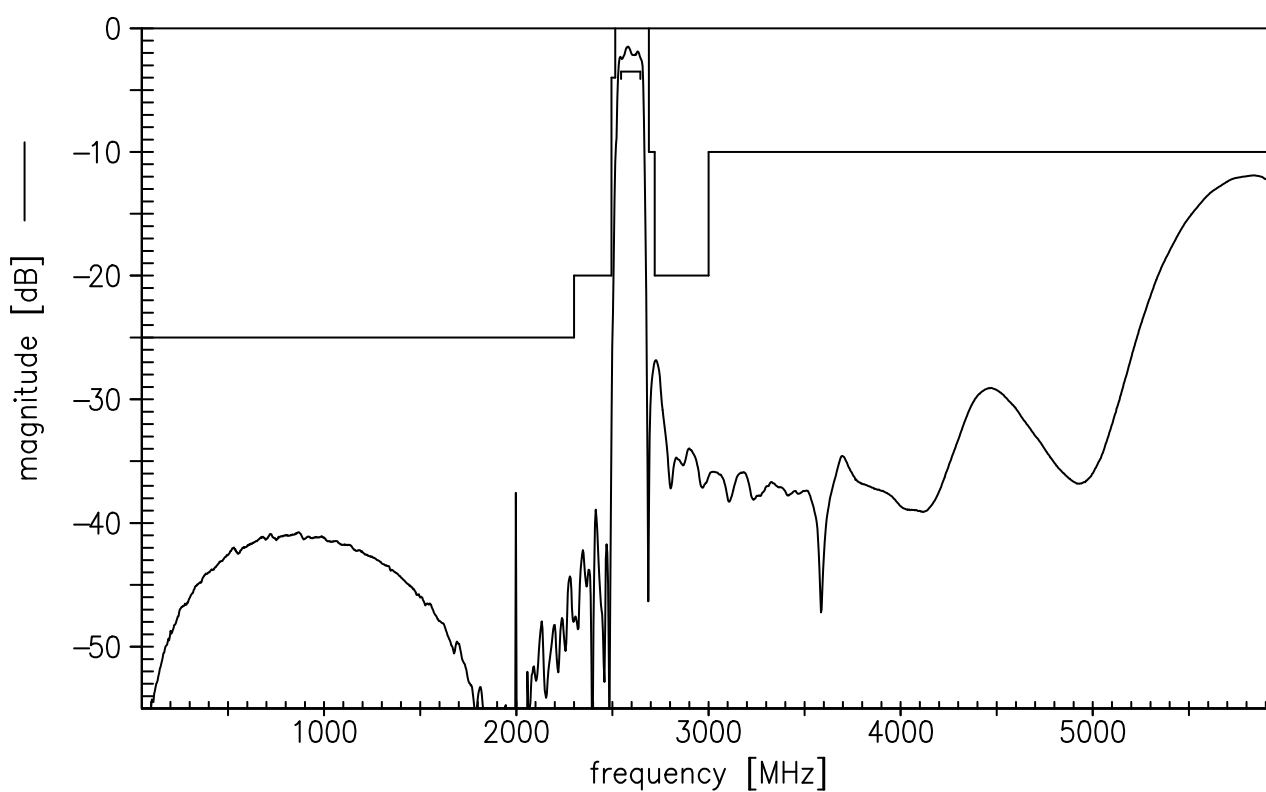
Maximum ratings

Operable temperature range	T	-45/+125	°C	
Storage temperature range	T _{stg}	-45/+125	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	Machine Model
		250 ²⁾	V	Human Body Model
Input power 2545.0 ... 2645.0 MHz	P _{IN}	15	dBm	cw, 1000 h, 85 °C

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

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

Data sheet

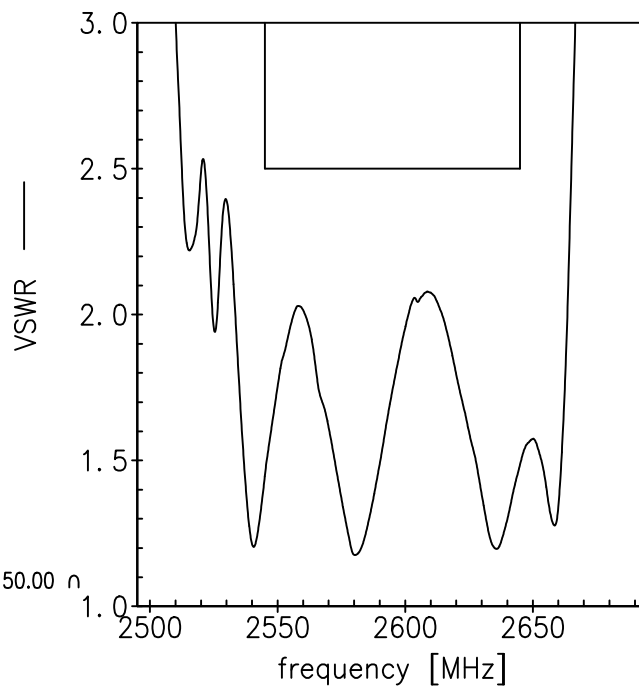
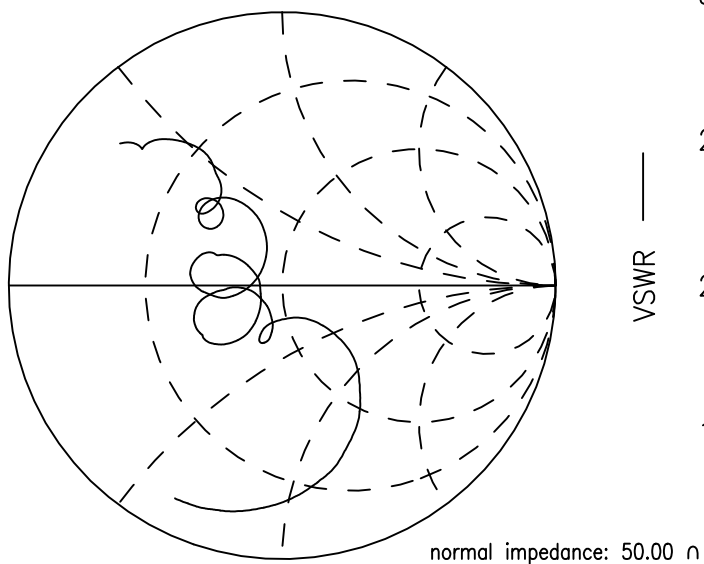
SMD
Transfer function (S21, narrowband)

Transfer function (S21, wideband)


Data sheet

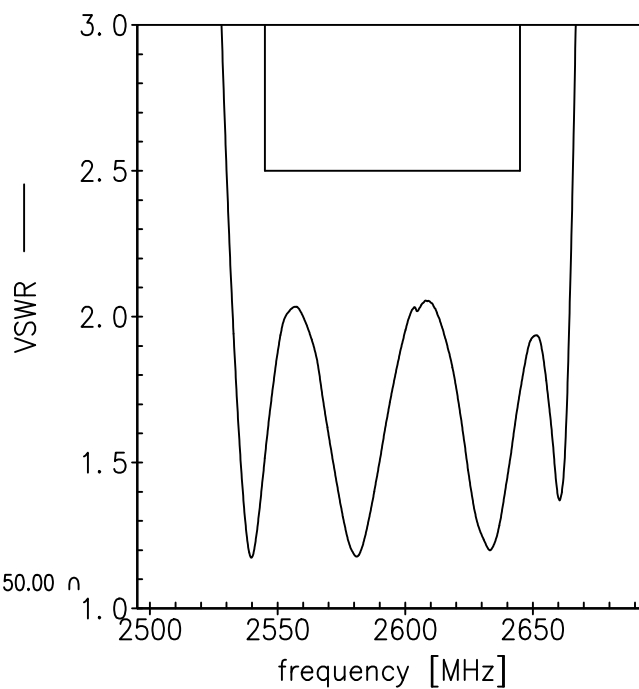
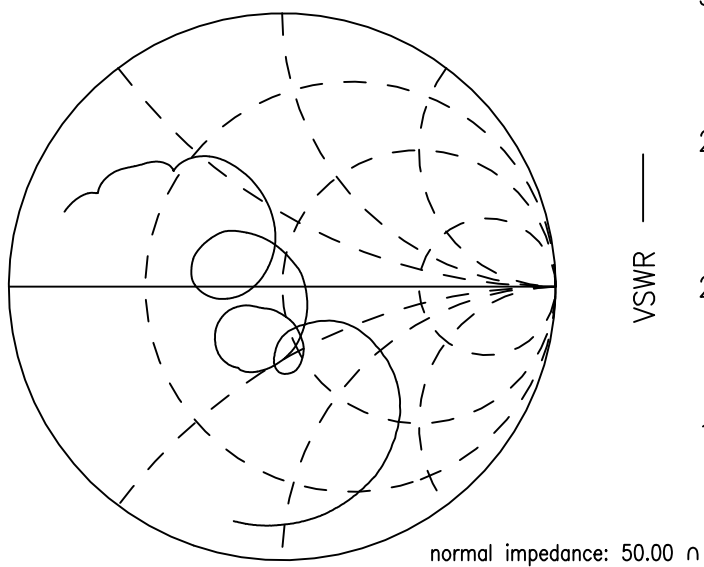
SMD

Smith charts

S₁₁ function



S₂₂ function



References

Type	B5175
Ordering code	B39262B5175U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B5175_NB.s2p B5175_WB.s2p 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.
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.

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