



# **RF SAW Filter Series – RoHS Compliance**

# LTE Band 41 system

# For TRx Single Type

2555~2655 MHz Band Working Frequency

# P/N: SF14112605B41S4T

# **Approval Sheet**

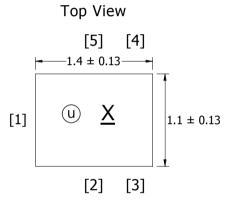
# Features

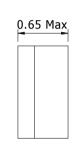
- Low loss, Low pass band ripple
- Single to single operation
- Impedance at input and output 50 Ohm
- Package for <u>Surface Mount</u> <u>Technology</u> (SMT)
- <u>E</u>lectrostatic <u>S</u>ensitive <u>D</u>evice (ESD)
- Small package : (1.4mm × 1.1mm x 0.65mm)
- RoHS Compliance
- <u>M</u>oisture <u>S</u>ensitive <u>L</u>evel 3 (MSL3)

# Application

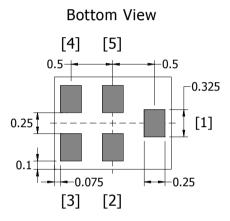
■ LTE Band 41 system

# Package Dimensions





Side View



Unit : mm

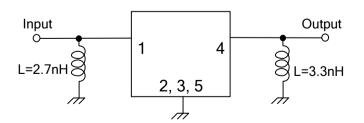
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Pin Descriptions

Pin	Description	Pin	Description
[1]	Input	[4]	Output
[2]	GND	[5]	GND
[3]	GND	-	-

Marking Descriptions				
Marking	Description			
0 Series Number				
<u>X</u>	Date Code (Year+Month)			

# Test Circuit



# PSA

# Approval Sheet Electrical Specifications

Item		Frequency	Specification			Linit
		(MHz)	Min	Тур	Max	Unit
Center frequency		-	-	2605	-	MHz
Insertion loss		2555 ~ 2575		2.4	4.0	dB
		2575 ~ 2635	-	1.6	2.5	dB
		2635 ~ 2655	-	1.3	2.5	dB
Pass band ripple		2555 ~ 2655	-	1.5	2.8	dB <sub>p-p</sub>
	Input		-	1.7	2.2	-
VSWR	Output	2555 ~ 2655	-	1.7	2.2	-
	10 ~ 960		40	52	-	dB
		1225 ~ 1559	30	39	-	dB
		1559 ~ 1606	30	38	-	dB
		1606 ~ 1710	30	35	-	dB
		1710 ~ 2170	27	31	-	dB
Absolute attenuation	n	2170 ~ 2400	27	31	-	dB
	2401 ~ 2438		33	36	-	dB
	2421 ~ 2483		35	37	-	dB
		2750 ~ 4900		34	-	dB
		4900 ~ 6000		36	-	dB
		6000 ~ 8000	25	35	-	dB
Terminating impedance		Input	50		Ohm	
		Output	50		Ohm	

Note : With matching network (Ref. testing environment circuit as shown above).

# **Absolute Maximum Ratings**

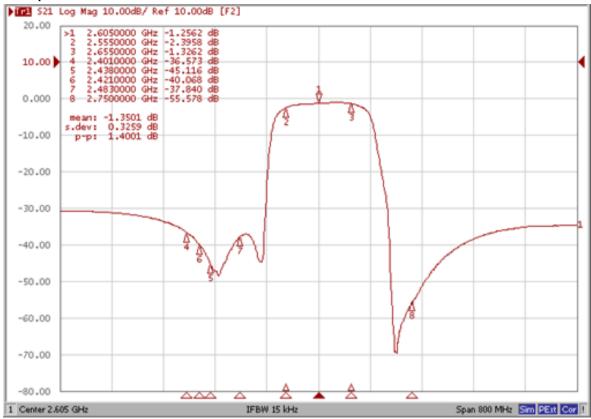
Item	Rating	Unit
DC permissive voltage	3	V
Maximum input power	28.5 (5000h, 55 deg.C)	dBm
Operating temperature range	-20 ~ +85	°C
Storage temperature range	-40 ~ +85	°C

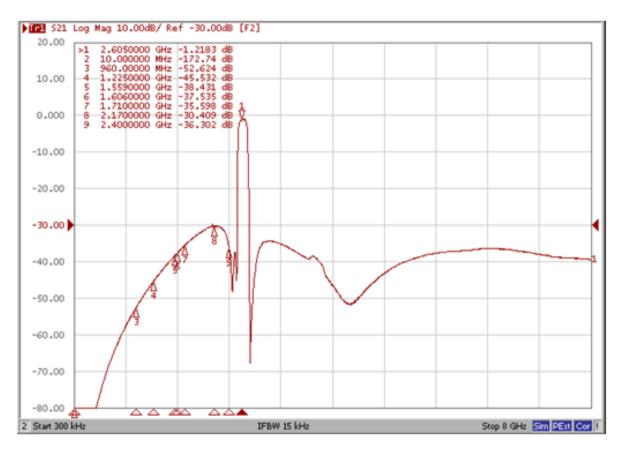


## **Approval Sheet**

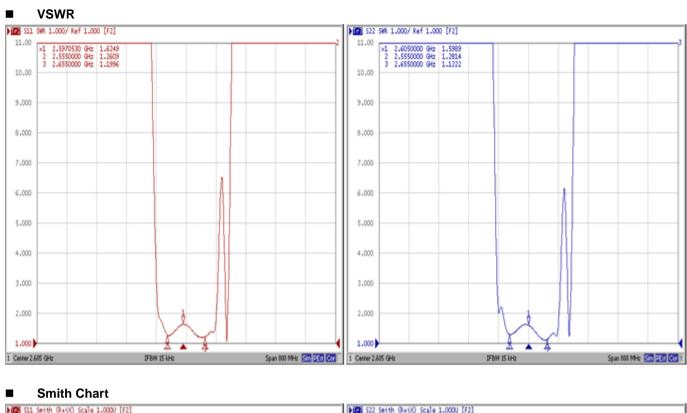
## **Typical Frequency Response**

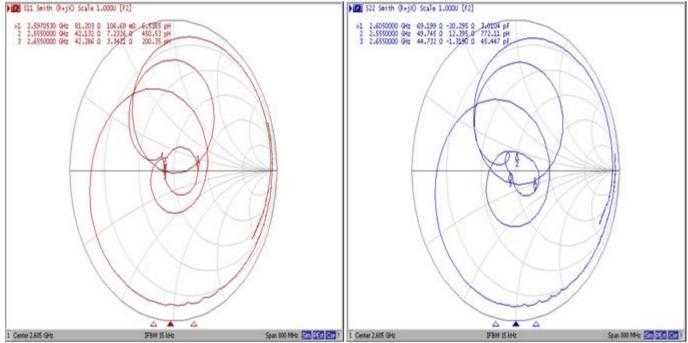
#### Input-Output insertion





# Approval Sheet

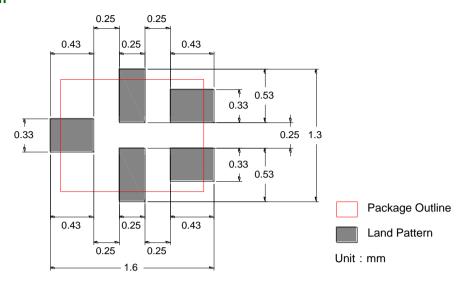




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# Approval Sheet Solder Land Pattern

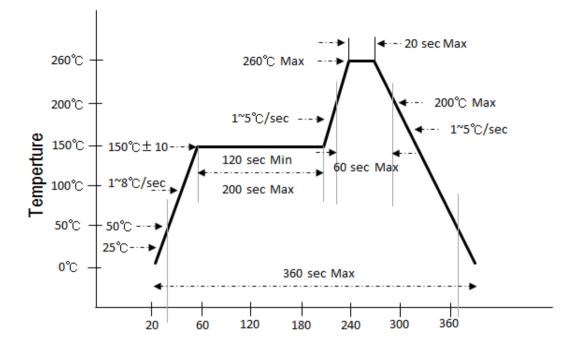


# **Reliability Test**

Test	Procedure/Test method	Requirements	
	*Frequency : 10Hz ~ 55Hz		
	*Total amplitude : 1.5mm		
Vibration	*Sweep period : 1.0 minute		
	*Vibration directions : 3 mutually perpendicular		
	*Duration : 2 hours / direct		
	*Height:1.0 m		
Drop test	*Test surface : Rigid surface of concrete or steel		
	*Times:10 times		
	*Temperature : +70°C± 2°C	After the test, specimen would be kept	
Static humidity	*Relative humidity : 90%	at room temperature for 2 hours.	
	*Duration : 96 hours		
	1. 30 minutes at -40°C,	And then the measured values shall	
Temperature cycling	2. 30 minutes at +85°C,	fulfill the Electrical Specifications.	
	*cycle time : 100 times		
	*Exposure temperature : 85°C± 5°C		
High temperature exposure	*Exposure duration : 240 hours		
	*Exposure temperature : -40°C± 5°C		
Low temperature exposure	*Exposure duration : 240 hours		
D (I) and the last	*Temperature / Duration : 275°C / 10sec		
Reflow soldering	*Total time : 6 minute (IR-reflow)		



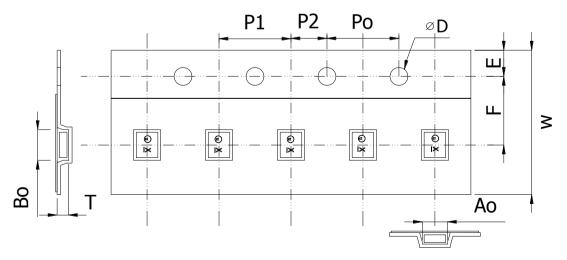
260 ℃ Suggested Solder Reflow



# **Ordering Code**

SF	1411	2605	B41	S4	Т
Series	Dimension code	Frequency	Application	Serial Number	Packing
SF : SAW Filter	Per2 digits of Length, Width 1411= Length 1.4mm Width 1.1mm	2605:Center Freq (2605MHz)	B41:LTE Band 41	Design Code	T : Reeled

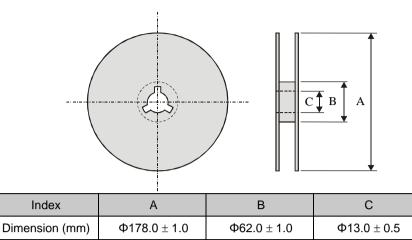
# Packing



# Plastic Tape specifications

Index	Ao	Во	ΦD	Т	W
Dimension (mm)	$1.30\pm0.10$	$\textbf{1.65} \pm \textbf{0.10}$	$1.55\pm0.05$	$\textbf{0.85} \pm \textbf{0.10}$	$8.0\pm0.30$
Index	E	F	Po	P1	P2
Dimension (mm)	$1.75\pm0.10$	$\textbf{3.50} \pm \textbf{0.10}$	$4.00\pm0.10$	$4.00\pm0.10$	$2.0\pm0.10$

# ASC\_SF14112605B41S4T\_V02



Note : The product shall be packed properly not to be damaged during transportation and storage. Taping Quantity : 3000 pieces per 7" reel

# **Caution Of Handling**

#### Limitation of Applications

Please contact us before using our products for the applications listed below which require especially high reliability for the prevention of defects, which might directly cause damage to the third party's life, body or property.

- (1) Aircraft equipment
- (2) Aerospace equipment
- (3) Undersea equipment
- (4) Medical equipment
- (5) Disaster prevention / crime prevention equipment
- (6) Traffic signal equipment
- (7) Transportation equipment (vehicles, trains, ships, etc.)
- (8) Applications of similar complexity and /or reliability requirements to the applications listed in the above.

## **Storage Condition**

- (1) Products should be used in 6 months from the day of WALSIN outgoing inspection, which can be confirmed.
- (2) Storage environment condition.
  - Products should be storage in the warehouse on the following conditions.
  - Temperature : -10 to +40°C
    - Humidity : 30 to 70% relative humidity
  - Don't keep products in corrosive gases such as sulfur. Chlorine gas or acid or it may cause oxidization of electrode, resulting in poor solderability.
  - Products should be storage on the palette for the prevention of the influence from humidity, dust and son on.
  - Products should be storage in the warehouse without heat shock, vibration, direct sunlight and so on.
  - Products should be storage under the airtight packaged condition.

#### **Important Notes**

- (1) This device should not be used in any type of fluid such as water, oil, organic solvent, etc.
- (2) Cleaning agent isopropyl alcohol and ethyl alcohol can be used.
- (3) As rapid temperature change for cleaning after reflow soldering might be a cause of degradation or destruction, clean this component after confirming that temperature of this component goes down to room temperature.
- (4) As ultrasonic vibration might be a cause of degradation or destruction, do not use ultrasonic cleaning.
- (5) This device follows JEDEC standards for moisture classifications. The following this device is classified as <u>Moisture Sensitive Level 3</u> This device is moisture sensitive and need to be handled within proper MSL 3 guidelines to avoid damage from moisture absorption and exposure to solder reflow temperatures that can result in yield and reliability degradation
- (6) This is an <u>Electrostatic Sensitive Device.</u>
  Please avoid static voltage during operation and storage.
- (7) Sudden change of temperature shall be avoided, deterioration of the characteristics can occur.
- (8) If any malfunction due to designing or manufacturing which is out of specification occurs within one year after the products have been delivered, the maker should exchange the defective products.



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