

# **Datasheet of SAW Device**

# SAW Dual Filter for Band38\_Band40 / 1in2out Unbalanced / LH /1511

# Murata PN: SAWFD2G35KA0F0A



Note : This Murata SAW Component is Consumer grade product and applicable for Cellular phone or similar end devices. Please also read Important Notice at the end of this document.





: -20 to +85 deg.C

: Yes

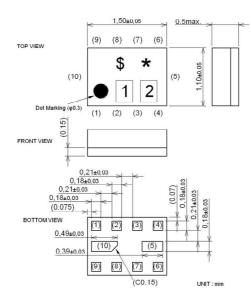
## **General Information**

- Operating temperature
- Storage temperature : -40 to +85 deg.C
- Input Power
- : +13 dBm 2000 h - D.C. Volatage between the terminals : 3V (25+/-2 deg.C)
- Minimum Resistance between the terminals : 10M ohm
- RoHS compliance
- ESD (ElectroStatic Discharge) sensitive device



#### Dimensions

Land Pattern



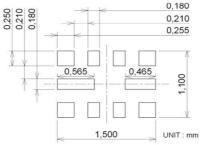
#### Marking : Laser Printing

- \* : Month code
- \$: Date code
- 1:2
- 2 : C

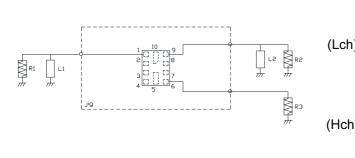
**Terminal Number** 

- (1): Unbalanced port-Lch/Hch
- (9): Unbalanced port-Lch
- (6): Unbalanced port-Hch
- Others : GND

Notice) Please refer to Measurement Circuit for Port information in detail.



# Measurement Circuit (Top Thru View)



R1 : 50 ohm	L1 :2.7nH(Ideal inductor)
R2 : 50 ohm	L2 :7nH(Ideal inductor)
R3 : 50 ohm	
	R2 : 50 ohm

# 050



# Electrical Characteristic < Low Freq. Filter >

Low Freq. Filter						racteri o +85 d		Unit	Note
					min.	typ.	max.		
Center Frequency						2350		MHz	
Insertion Loss	2300.	to	2400.	MHz		2.6	3.7	dB	
	2300.	to	2400.	MHz		2.6	3.0	dB	+23 to +27deg.C
	2302.5	to	2397.5	MHz		2.4	3.3	dB <sub>INT</sub>	Any 4.5MHz
Ripple Deviation	2300.	to	2400.	MHz		1.6	3.0	dB	
VSWR	2300.	to	2400.	MHz		1.8	2.0		
Absolute Attenuation	10.	to	2215.	MHz	25	27		dB	
	2215.	to	2240.	MHz	38	43		dB	
	2430.	to	2440.	MHz	20	43		dB	
	2440.	to	2450.	MHz	38	44		dB	
	2450.	to	2500.	MHz	38	41		dB	
	2500.	to	8000.	MHz	25	29		dB	
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\* Typical value at 25±2deg.C



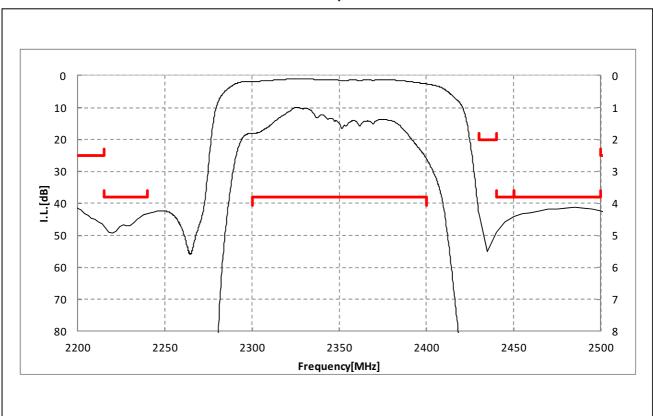
## Electrical Characteristic < High Freq. Filter >

Characteristics     Unit     Note       Contractions     Note       Contractions     Note       Contractions     Set 5     Mitz     Contractions       2575     to 2615     Mitz     2     2     de d		acien	้อแเ		пıgn					
Init     Up:     max     Init     Mitz       Center Frequency     2875     0     2615     MHz     1						Characteristics			ł	
Center Frequency     Page 7     MHz     Page 7       insertion Loss     2575.     10.     2615.     MHz     2.0     2.4     dB       2577.     10.     2612.5     MHz     2.0     2.4     dB     response       2577.     10.     2612.5     MHz     2.3     dB     response						-	(-20 to +85 deg.C )		Unit	Note
Insertion Loss     2575     10     2616     MH2     20     22     dB     read       25775     10     2810     MH2     20     22     dB     +23 to +27 deg.C       25775     10     2820     MH2     23     28     dB     +23 to +27 deg.C       2570     to     2820     MH2     21     28     dB     +23 to +27 deg.C       2575     to     2817.5     MH2     2.1     2.8     dB     +23 to +27 deg.C       2575     to     2815.     MH2     1.0     2.0     dB     +23 to +27 deg.C       2575.     to     2815.     MH2     1.0     2.0     dB     +23 to +27 deg.C       2575.     to     2815.     MH2     1.0     2.0     dB     +43 to +27 deg.C       2575.     to     2816.     MH2     1.0     2.0     dB     HS     HA       2500.     MH2     1.0     2.0     dB     HS     HA     HA     10     2.0						min.		max.		
Insertion Loss     2575     to     2615     MHz     2.0     2.2     dB     +23 to +27deg.C       2577     to     2512     MHz     2.0     2.3     2.8     MB     Any 4.5MHz       2570     to     2520     MHz     2.3     2.8     dB     +23 to +27deg.C       2570     to     2520     MHz     2.1     2.8     dB     +23 to +27deg.C       2570     to     2520     MHz     1.0     2.0     dB     +23 to +27deg.C       2570     to     2520     MHz     1.0     2.0     dB     +23 to +27deg.C       2570     to     2820     MHz     1.0     2.0     dB     +23 to +27deg.C       2500     to     2800     MHz     1.0     2.0     dB     +43 to +27deg.C       2501     to     2802     MHz     1.0     2.0     dB     +43 to +27deg.C       2500     to     2805     MHz     1.0     2.0     dB     +43 to +27deg.C <t< td=""><td>Center Frequency</td><td></td><td></td><td></td><td></td><td></td><td>2595</td><td></td><td></td><td></td></t<>	Center Frequency						2595			
2577 5     10     2240     MHz     11     2.4     4.69 <sub>MT</sub> Any 4.5MHz       2570     10     2200     MHz     2.3     2.9     dB     -23 to +27/deg C       2570     10     2200     MHz     2.2     2.6     dB     +23 to +27/deg C       Ripple Deviation     2575     10     10     1.0     2.0     dB       2570     10     226.0     MHz     1.0     2.0     dB       2575     10     2610     MHz     1.7     2.0     dB       2575     10     2620     MHz     1.7     2.0     dB       2570     10     2620     MHz     1.7     2.0     dB     SMZ       2500     10     2560     MHz     10     2.0     dB     SMZ     GMZ       2500     10     2560     MHz     10     2.0     dB     SMZ dGHz       2500     10     2560     MHz     30     49     dB     21			to		MHz			2.4		
2577 5     10     282.0     MHz     2.3     2.3     3     B       2570     10     282.0     MHz     2.3     3     B     +23 to +27 deg.C       2575     10     282.0     MHz     2.1     2.8     dB     +23 to +27 deg.C       Ripple Deviation     2575     10     282.0     MHz     1.0     2.0     dB     -77 co     10     280     MBz     -77 co     dB     -77 co     -78 co     -77 co     -78 co     -77 c			to				2.0	2.2		+23 to +27deg.C
2570     10     2620     MHz     21     22.6     dB     +23 to +27 deg.C       Ripple Deviation     2575     10     2820     MHz     1.0     1.5     dB       2575     10     2820     MHz     1.0     2.0     dB       2575     10     2820     MHz     1.7     2.0     dB       2575     10     2820     MHz     1.7     2.0     dB       2575     10     2820     MHz     1.7     2.0     dB       2570     10     2820     MHz     1.7     2.0     dB       2600     0     2500     MHz     1.0     2.0     dB     B7 X       2500     0     2562     MHz     1.0     2.0     dB     End of B7 Tx       2500     10     5230     MHz     30     40     dB     3f       7725     10     7845     MHz     30     40     dB     3f       7725     10     7			to		MHz					Any 4.5MHz
2572.5     10     2617.5     MHz     10     1.5     dBy     May     Any 4.5MHz       Ripple Deviation     2570.     to     2820.     MHz     1.0     2.0     dB       2570.     to     2820.     MHz     1.7     2.0         2570.     to     2820.     MHz     1.7     2.0         2570.     to     2820.     MHz     1.0     2.0     dB        Absolute Attenuation     10     to     2562.     MHz     10     2.0     dB     B77x       2700.     to     2862.     MHz     10     2.0     dB     End of B7 Tx       2700.     to     8000.     MHz     20     40     dB     2f      7725.     to     7830.     MHz     30     40     dB     2f         dB     End of B7 Tx          dB     2f     dB     2f<			to							
Ripple Deviation     2575.     to     2615.     MHz     1.0     1.5     dB       VSWR     2576.     to     2615.     MHz     1.7     2.0     Reserved       2570.     to     2620.     MHz     1.7     2.0     Reserved			to		MHz					+23 to +27deg.C
2570.     10.     20.     ABB       VSWR     2576.     10.     20.     IT.7     20.       2570.     10.     20.200.     MHz     1.7     20.       Absolute Attenuation     10.     10.200.     MHz     40.     45.     dB     ISM2.4GHz       200.     to     2500.     MHz     10.     20.     dB     DT.x       2500.     to     2502.     MHz     10.     20.     dB     DT.x       2500.     to     2500.     MHz     10.     20.     dB     End of B7Tx       2700.     to     2500.     MHz     30.     49.     dB     27       2700.     to     530.     MHz     30.     49.     dB     27       7725.     to     7845.     MHz     30.     40.     IB     27       7725.     to     7845.     MHz     30.     ID     ID     ID     ID       7725.     to     7845.			to							Any 4.5MHz
VSWR     2575.     to     2615.     MHz     1.7     2.0       Absolute Attenuation     10.     to     2400.     MHz     35     37     0     B       2400.     to     2500.     MHz     10     20     0     2500.       2500.     to     252     MHz     10     20     0     B     B7Tx       2500.     to     2562     MHz     10     20     0     0     D     D     20     0     0     D     D     D     0     0     0     D     D     D     0     D	Ripple Deviation		to							
2570     to     2620     MHz     35     37     dB       Absolute Attenuation     10     to     2400     MHz     35     37     dB     B       2400     to     2500     MHz     10     2.0     dB     B7 Tx       2500     to     2582     MHz     10     2.0     dB     End of B7 Tx       2700     to     8000     MHz     20     dB     End of B7 Tx       2700     to     8000     MHz     30     49     dB     2f       2700     to     8000     MHz     30     40     dB     2f       7725     to     7845     MHz     30     40     dB     3f			to						dB	
Absolute Attenuation     10.     to     2400.     MHz     35     37     dB     ISM2.4GHz       2500.     to     2562.     MHz     10     20     dB     B7 Tx       2568.     MHz     10     20     dB     End of B7 Tx     270.     to     800.     MHz     30     49     dB     27       2700.     to     8000.     MHz     30     49     dB     27     Tx     270.     to     800.0     MHz     30     49     dB     27     Tx     270.     to     800.0     MHz     30     40     dB     27     Tx     270.     to     800.0     MHz     30     40     dB     27     Tx     Tr	VSWR		to							
2400 to 2500 MHz 10 2.0 dB ISX24GHz   2582 MHz 10 2.0 dB B7 Tx   2700. to 8000 MHz 2.0 dB End of B7 Tx   2700. to 8000 MHz 2.0 dB End of B7 Tx   2700. to 8000 MHz 2.0 dB End of B7 Tx   2700. to 8000 MHz 30 49 dB 2f   7725. to 7845. MHz 30 40 dB 3f								2.0		
2500     to     2562     MHz     1.0     2.0     dB     BT 7x       2568     MHz     1.0     2.0     dB     End of B7 Tx       2700     to     8000     MHz     20     40     dB       5150     to     5230     MHz     30     49     dB     2f       7725     to     7845     MHz     30     40     dB     3f	Absolute Attenuation		to							
2562   MHz   1.0   2.0   dB   End of B7 Tx     2700.   to   8000.   MHz   20   40   dB     3160.   to   5230.   MHz   30   49   dB   2f     7725.   to   7845.   MHz   30   40   dB   3f     7725.   to   7845.   MHz   30   40   dB   3f     7725.   to   7845.   MHz   30   40   dB   3f     7725.   to   7845.   MHz   10   10   10   10     7726.   to   10   10   10   10   10   10   10     7726.   to   10   10   10   10   10   10   10   10										ISM2.4GHz
2569.   MHz   10   2.0   dB   End of B7 Tx     2100.   to   \$300.   MHz   30   49   dB   2f     5150.   to   \$523.   MHz   30   40   dB   2f     7725.   to   7845.   MHz   30   40   dB   3f     7725.   to   7845.   MHz   30   40   dB   3f     7726.   to   7845.   MHz   30   40   dB   3f     7728.   to   7845.   MHz   30   40   dB   3f     7728.   to   7845.   MHz   30   40   dB   40     7728.   to   10   10   10   10   10   10     7728.   to   10   10   10   10   10   10   10     7728.   to   10   10   10   10   10   10   10   10   10   10   10   10   10   10   10   10   10 <td></td> <td>2500.</td> <td>to</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>B7 Tx</td>		2500.	to							B7 Tx
2700. to 5230. MHz 30 49 dB 27   7725. to 7845. MHz 30 40 dB 37										
5150   io   5230   MHz   30   49   dB   27     7725.   io   7845.   MHz   30   40   dB   3f		0700								End of B7 1x
7725.   10   7845.   MHz   30   40   dB   3f										66
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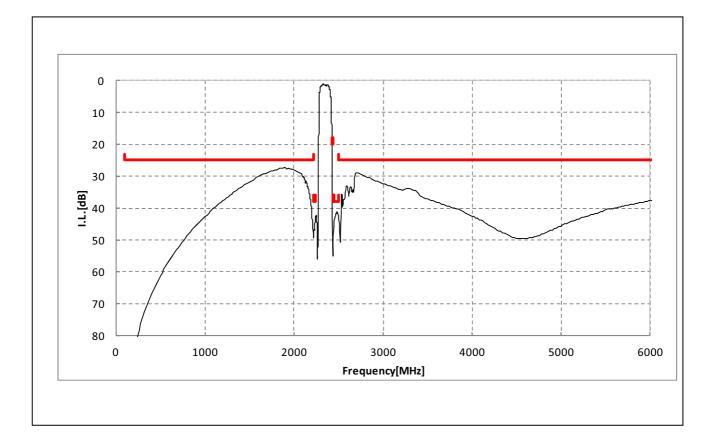
\* Typical value at 25±2deg.C



#### **Electrical Characteristic**

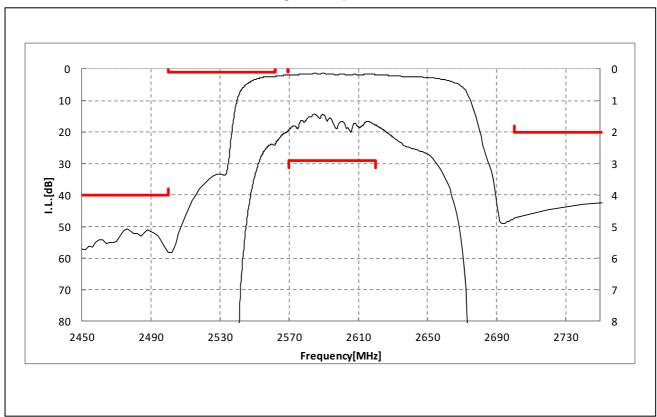


< Low Freq. Filter >

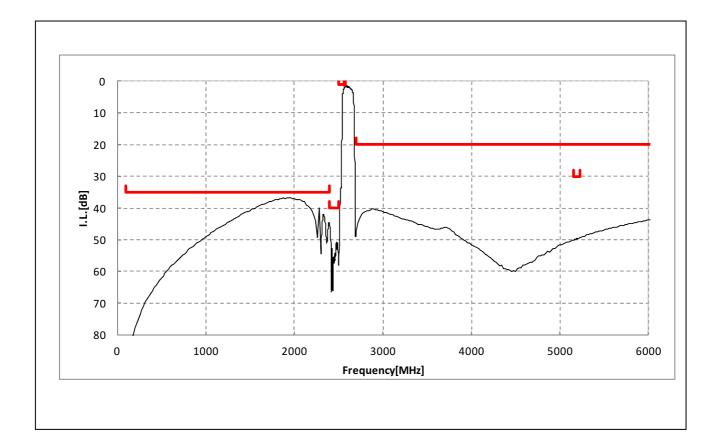




## **Electrical Characteristic**



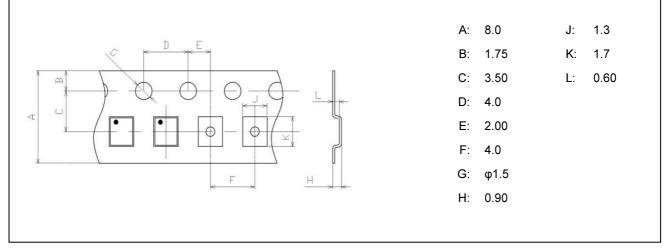
< High Freq. Filter >



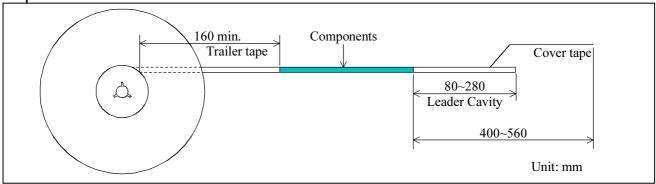


Dimensions of Tape & Reel unit: mm

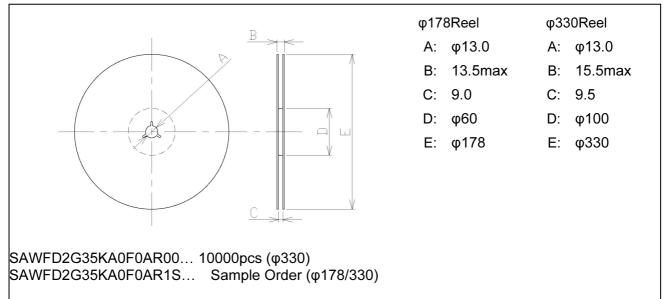
#### Carrier Tape



#### Tape



#### Reel





#### Important Notice (1/2)

PLEASE READ THIS NOTICE BEFORE USING OUR PRODUCTS.

Please make sure that your product has been evaluated and confirmed from the aspect of the fitness for the specifications of our product specified in the front page of this product specifications (the "Product" or "Products") when our Product is mounted to your product. All the items and parameters in this product specification/datasheet/catalog have been prescribed on the premise that our Product is used for the purpose, under the condition and in the environment specified in this specification. You are requested not to use our Product deviating from the condition and the environment specified in this specification.

Please note that the only warranty that we provide regarding the Product is its conformance to the specifications provided herein. Accordingly, we shall not be responsible for any defects in products or equipment incorporating such Products, which are caused under the conditions other than those specified in this specification.

WE HEREBY DISCLAIMS ALL OTHER WARRANTIES REGARDING THE PRODUCTS, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, THAT THEY ARE DEFECT-FREE, OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS.

The Product shall not be used for any application which requires especially high reliability or accuracy in order to prevent defect which incurs high possibility of damage to the third party's life, body or property such as the applications listed below as item (a) to (j) (the "Prohibited Application"). You acknowledge and agree that, if you use our Products in the Prohibited Applications, we will not be responsible for any damage caused by such use.

Furthermore, YOU AGREE TO INDEMNIFY AND DEFEND US AND OUR AFFILIATES AGAINST ALL CLAIMS, DAMAGES, COSTS, AND EXPENSES THAT MAY BE INCURRED, INCLUDING WITHOUT LIMITATION, ATTORNEY FEES AND COSTS, DUE TO THE USE OF OUR PRODUCTS IN THE PROHIBITED APPLICATIONS.

- (a) Aircraft equipment.
- (b) Aerospace equipment
- (c) Undersea equipment.
- (d) Power plant control equipment
- (e) Medical equipment.
- (f) Transportation equipment (vehicles, automotive, trains, ships, etc.).
- (g)Traffic signal equipment.
- (h)Disaster prevention / crime prevention equipment.
- (i) Burning / explosion control equipment
- (j) Application of similar complexity and/ or reliability requirements to the applications listed in the above.

For the avoidance of doubt, the Product is not automotive grade, and will not support such requests for automotive as below, also not support other specific requests for automotive.

- AEC-Q200

- PPAP
- IATF16949,VDA6.3
- Zero Defect program
- Long product life cycle
- Automotive 8D failure analysis and report



#### Important Notice (2/2)

We expressly prohibit you from analyzing, breaking, Reverse-Engineering, remodeling altering, and reproducing our product. Our product cannot be used for the product which is prohibited from being manufactured, used, and sold by the regulations and laws in the world.

Please do not use the Product in molding condition.

This product is ESD (ElectroStatic Discharge) sensitive device. When you install or measure this, you should be careful not to add antistatic electricity or high voltage. Please be advised that you had better check anti serge voltage.

We do not warrant or represent that any license, either express or implied, is granted under any our patent right, copyright, mask work right, or our other intellectual property right relating to any combination, machine, or process in which our Products or services are used. Information provided by us regarding third-party products or services does not constitute a license from us to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from us under our patents or other intellectual property.

Please do not use our Products, our technical information and other data provided by us for the purpose of developing of mass-destruction weapons and the purpose of military use. Moreover, you must comply with "foreign exchange and foreign trade law", the "U.S. export administration regulations", etc.

Please note that we may discontinue the manufacture of our products, due to reasons such as end of supply of materials and/or components from our suppliers.

Customer acknowledges that Murata will, if requested by you, conduct a failure analysis for defect or alleged defect of Products only at the level required for consumer grade Products, and thus such analysis may not always be available or be in accordance with your request (for example, in cases where the defect was caused by components in Products supplied to Murata from a third party).

The Product shall not be used in any other application/model than that of claimed to Murata.

Customer acknowledges that engineering samples may deviate from specifications and may contain defects due to their development status.

We reject any liability or product warranty for engineering samples.

In particular we disclaim liability for damages caused by

•the use of the engineering sample other than for evaluation purposes, particularly the installation or integration in the Product to be sold by you,

·deviation or lapse in function of engineering sample,

• improper use of engineering samples.

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