



NSNJ2023

769.5 MHz / 860.5 MHz SAW Filter

■ APPLICATION

For 769.5 MHz / 860.5 MHz nominal center frequency
Usable pass band 13 MHz / 19 MHz

■ ELECTRICAL SPECIFICATIONS

Generation condition : $T_a = -30$ to $+85^\circ\text{C}$, the device characteristics are measured with application circuit.

Parameters			Target specification			Unit
			MIN	TYP (@25°C)	MAX	
Filter 1	Nominal center frequency (f0)		-	769.5	-	MHz
	Insertion loss	763 to 776 MHz	-	2.0	3.5	dB
	Response variation		-	0.5	2.0	
	Input and Output VSWR		-	1.5	2.7	
	Out of band rejection (Relative to through level)	0.3 MHz to 750 MHz	27	30	-	dB
		750 MHz to 756 MHz	4 *1	6	-	
		788 MHz to 890 MHz	7	28	-	
		890 MHz to 1500 MHz	25 *1	36	-	
			33	36	-	
Filter 2	Nominal center frequency (f0)		-	860.5	-	MHz
	Insertion loss	851 to 870 MHz	-	2.5	3.5	dB
	Response variation		-	0.6	2.0	
	Input and Output VSWR		-	1.9	3.2	
	Out of band rejection (Relative to through level)	0.3 MHz to 830 MHz	35	38	-	dB
		830 MHz to 837 MHz	15	30	-	
		885 MHz to 1500 MHz	27	29	-	

*1 : $T_a = +20$ to $+30^\circ\text{C}$

■ ABSOLUTE MAXIMUM RATINGS

Parameters	Ratings
Maximum input power	+20 dBm
Maximum DC voltage	7.5 V
Operating temperature range	-30 to $+85^\circ\text{C}$
Storage temperature	-40 to $+90^\circ\text{C}$

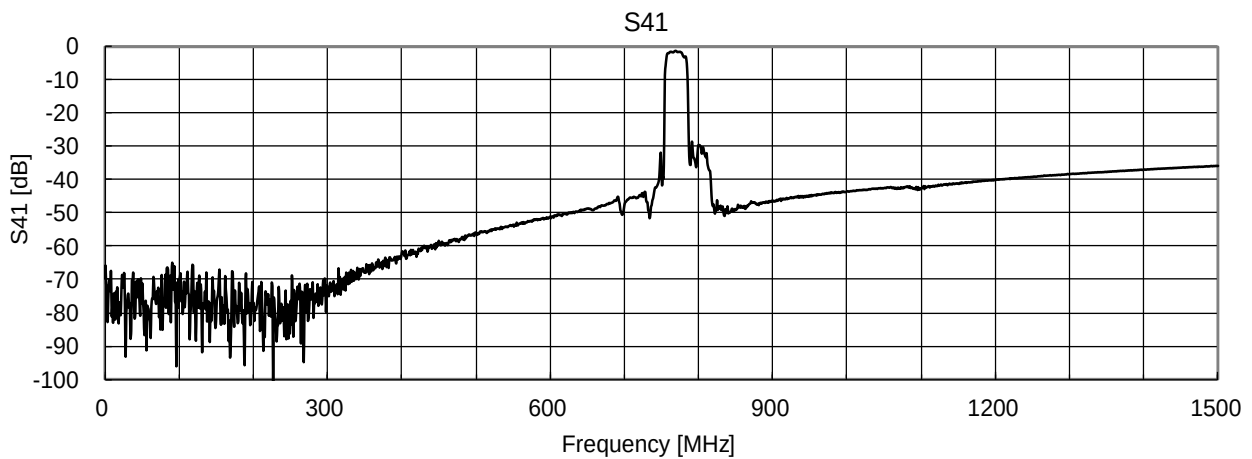
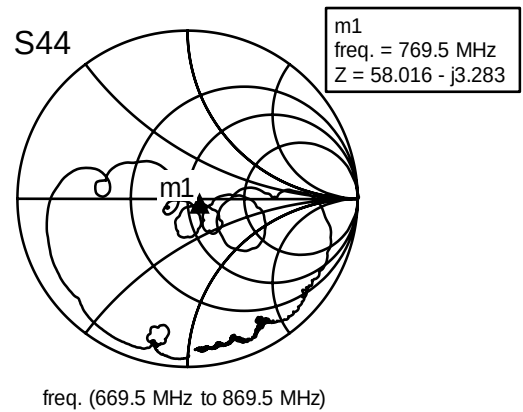
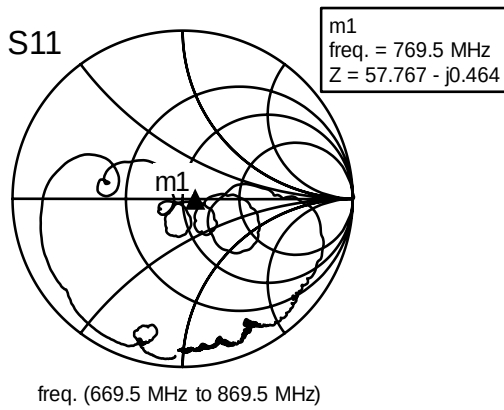
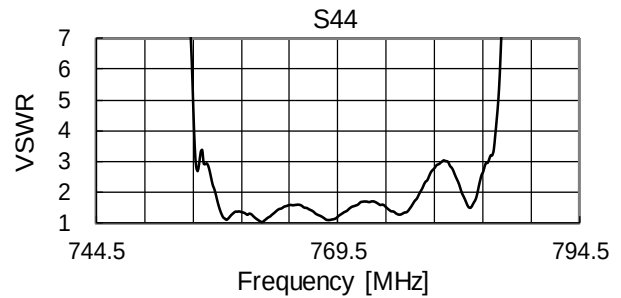
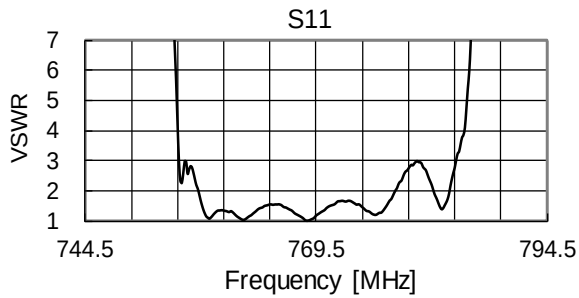
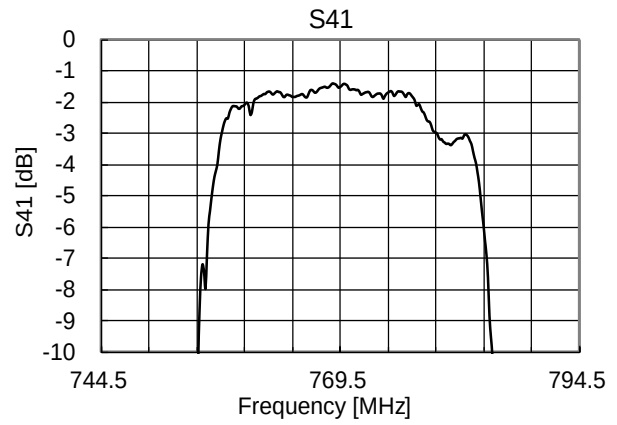
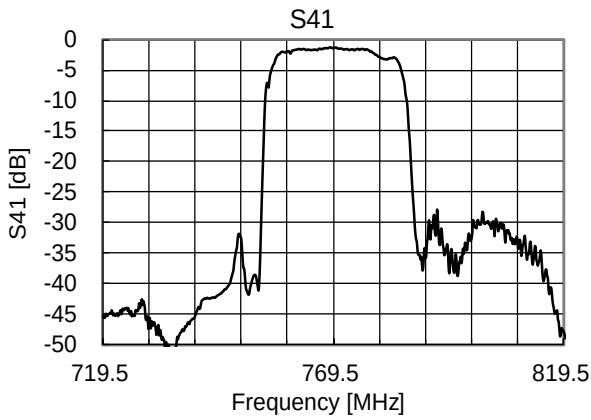
ABSOLUTE MAXIMUM RATINGS

Electronic and mechanical stress momentarily exceeded absolute maximum ratings may cause permanent damage and may degrade the lifetime and safety for both device and system using the device in the field. The functional operation at or over these absolute maximum ratings is not assured.

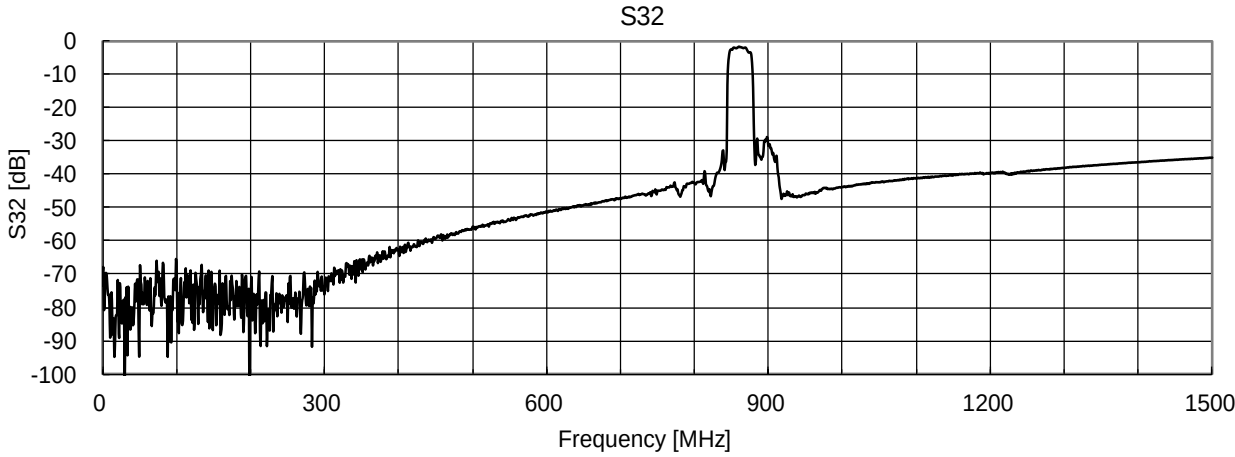
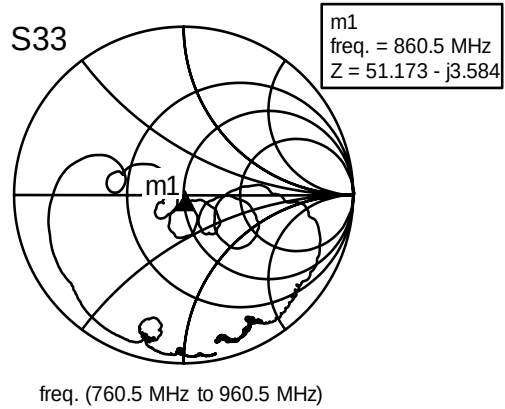
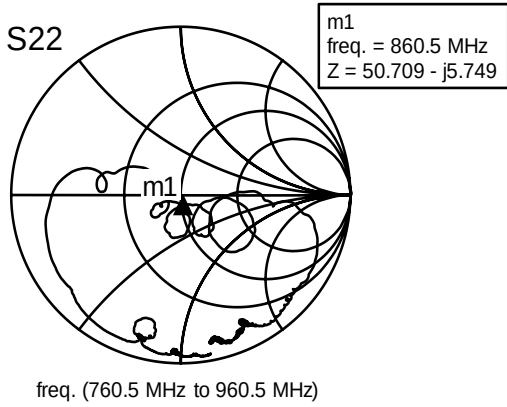
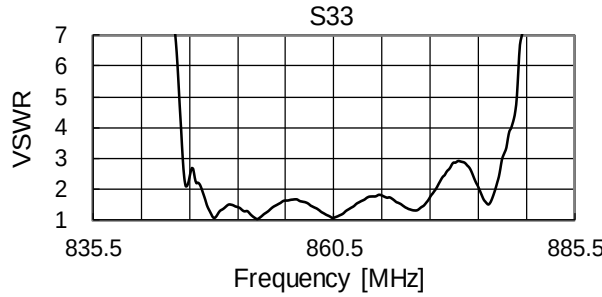
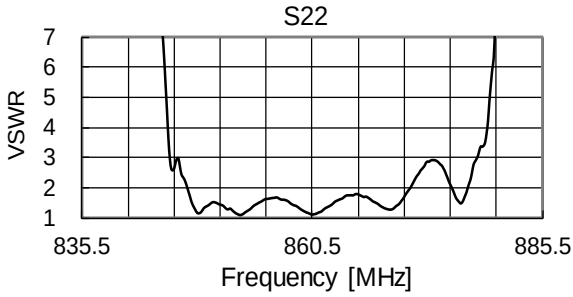
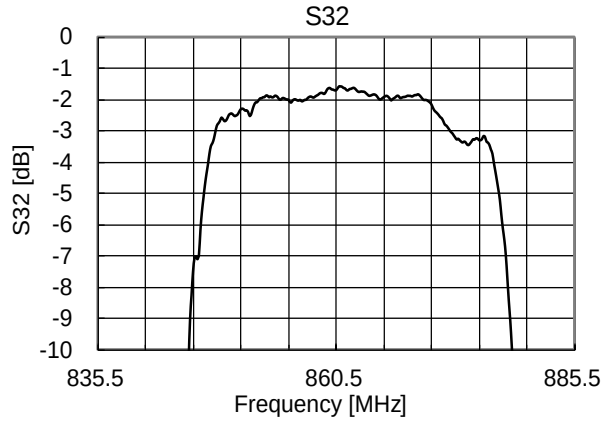
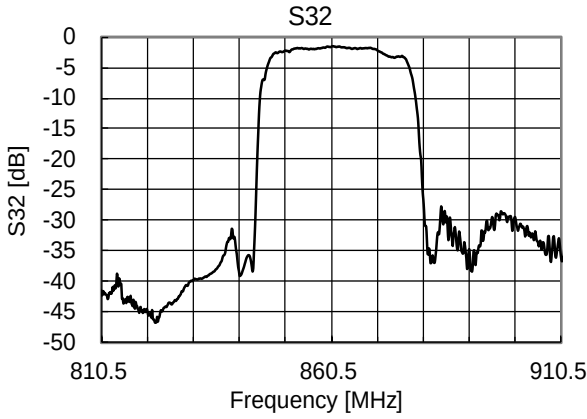
■ MECHANICAL SPECIFICATIONS

Package size is designed 3.0 x 3.0 x 1.08 (mm³) for SMD (Surface Mount Device) type.

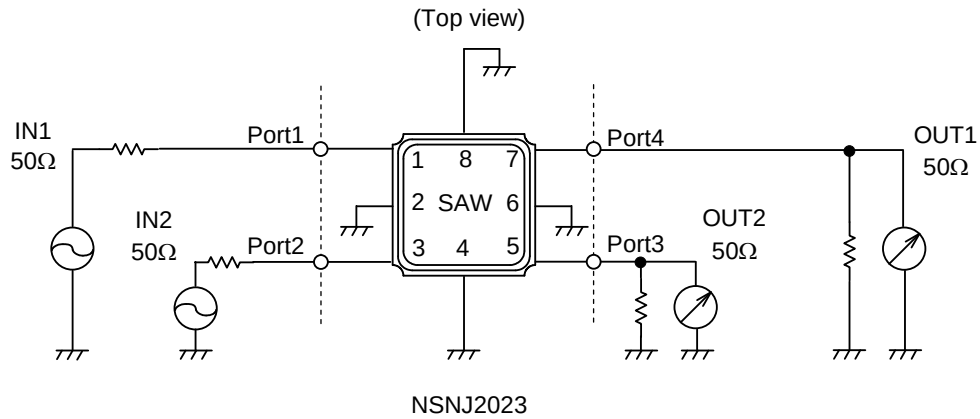
■ TYPICAL CHARACTERISTICS (Filter1 769.5 MHz)



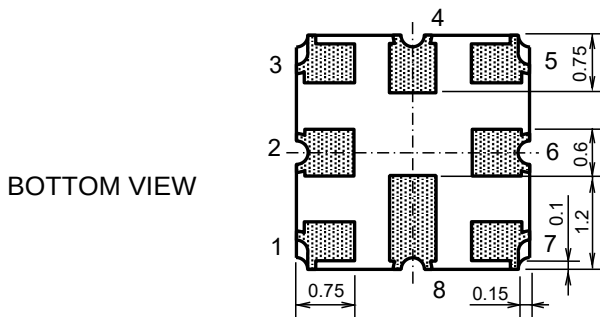
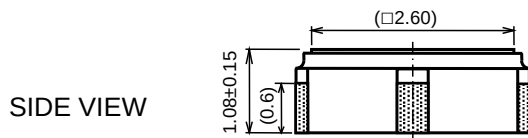
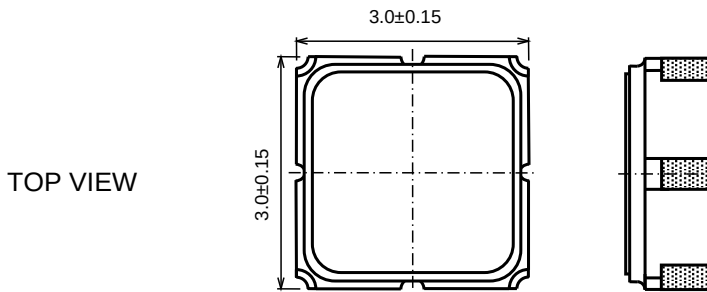
■ TYPICAL CHARACTERISTICS (Filter2 860.5 MHz)



APPLICATION CIRCUIT

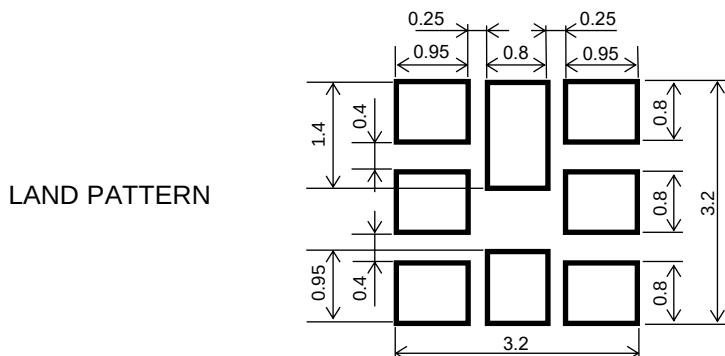


PACKAGE INFORMATION



PIN CONFIGURATION

PIN NO.	CONNECTION
1	IN1(769.5 MHz)
2	GND
3	IN2(860.5 MHz)
4	GND
5	OUT2(860.5 MHz)
6	GND
7	OUT1(769.5 MHz)
8	GND



Units: mm

Revision History

Date	Revision	Changes
January 23, 2024	Ver. 1.0	Initial release
May 9, 2025	Ver. 1.1	Revised ABSOLUTE MAXIMUM RATINGS (Maximum input power)

1. The products and the product specifications described in this document are subject to change or discontinuation of production without notice for reasons such as improvement. Therefore, before deciding to use the products, please refer to our sales representatives for the latest information thereon.
 2. The materials in this document may not be copied or otherwise reproduced in whole or in part without the prior written consent of us.
 3. This product and any technical information relating thereto are subject to complementary export controls (so-called KNOW controls) under the Foreign Exchange and Foreign Trade Law, and related politics ministerial ordinance of the law. (Note that the complementary export controls are inapplicable to any application-specific products, except rockets and pilotless aircraft, that are insusceptible to design or program changes.) Accordingly, when exporting or carrying abroad this product, follow the Foreign Exchange and Foreign Trade Control Law and its related regulations with respect to the complementary export controls.
 4. The technical information described in this document shows typical characteristics and example application circuits for the products. The release of such information is not to be construed as a warranty of or a grant of license under our or any third party's intellectual property rights or any other rights.
 5. The products listed in this document are intended and designed for use as general electronic components in standard applications (office equipment, telecommunication equipment, measuring instruments, consumer electronic products, amusement equipment etc.). Those customers intending to use a product in an application requiring extreme quality and reliability, for example, in a highly specific application where the failure or misoperation of the product could result in human injury or death should first contact us.
 - Aerospace Equipment
 - Equipment Used in the Deep Sea
 - Power Generator Control Equipment (nuclear, steam, hydraulic, etc.)
 - Life Maintenance Medical Equipment
 - Fire Alarms / Intruder Detectors
 - Vehicle Control Equipment (automotive, airplane, railroad, ship, etc.)
 - Various Safety Devices
 - Traffic control system
 - Combustion equipment
 - Information processing equipment (computers for controlling large-scale systems)
 - For Ministry of Defense
 - Other equipment similar to the above equipment
- In case your company desires to use this product for any applications other than general electronic equipment mentioned above, make sure to contact our company in advance. Note that the important requirements mentioned in this section are not applicable to cases where operation requirements such as application conditions are confirmed by our company in writing after consultation with your company.
6. We are making our continuous effort to improve the quality and reliability of our products, but electronic device products are likely to fail with certain probability. In order to prevent any injury to persons or damages to property resulting from such failure, customers should be careful enough to incorporate safety measures in their design, such as redundancy feature, fire containment feature and fail-safe feature. We do not assume any liability or responsibility for any loss or damage arising from misuse or inappropriate use of the products.
 7. The products have been designed and tested to function within controlled environmental conditions. Do not use products under conditions that deviate from methods or applications specified in this datasheet. Failure to employ the products in the proper applications can lead to deterioration, destruction or failure of the products. We shall not be responsible for any bodily injury, fires or accident, property damage or any consequential damages resulting from misuse or misapplication of the products.
 8. **Quality Warranty**
 - 8-1. **Quality Warranty Period**

In the case of a product purchased through an authorized distributor or directly from us, the warranty period for this product shall be one (1) year after delivery to your company. For defective products that occurred during this period, we will take the quality warranty measures described in section 8-2. However, if there is an agreement on the warranty period in the basic transaction agreement, quality assurance agreement, delivery specifications, etc., it shall be followed.
 - 8-2. **Quality Warranty Remedies**

When it has been proved defective due to manufacturing factors as a result of defect analysis by us, we will either deliver a substitute for the defective product or refund the purchase price of the defective product.

Note that such delivery or refund is sole and exclusive remedies to your company for the defective product.
 - 8-3. **Remedies after Quality Warranty Period**

With respect to any defect of this product found after the quality warranty period, the defect will be analyzed by us. On the basis of the defect analysis results, the scope and amounts of damage shall be determined by mutual agreement of both parties. Then we will deal with upper limit in Section 8-2. This provision is not intended to limit any legal rights of your company.
 9. Anti-radiation design is not implemented in the products described in this document.
 10. The X-ray exposure can influence functions and characteristics of the products. Confirm the product functions and characteristics in the evaluation stage.
 11. WLCSP products should be used in light shielded environments. The light exposure can influence functions and characteristics of the products under operation or storage.
 12. Warning for handling Gallium and Arsenic (GaAs) products (Applying to GaAs MMIC, Photo Reflector). These products use Gallium (Ga) and Arsenic (As) which are specified as poisonous chemicals by law. For the prevention of a hazard, do not burn, destroy, or process chemically to make them as gas or power. When the product is disposed of, please follow the related regulation and do not mix this with general industrial waste or household waste.
 13. Please contact our sales representatives should you have any questions or comments concerning the products or the technical information.



Nisshinbo Micro Devices Inc.

Official website

<https://www.nisshinbo-microdevices.co.jp/en/>

Purchase information

<https://www.nisshinbo-microdevices.co.jp/en/buy/>