

SAW Duplexer 836.0 / 881.0MHz

Model: TF0123A

Part No: MP07404

Rev. No: 1

A. MAXIMUM RATING:

Electrostatic Sensitive Device (ESD)

1. Operating temperature range: -30°C to +85°C
2. Storage temperature range: -30°C to +85°C
3. Input power: 29dBm (Ta = +50°C, 50000h, CW)
4. Maximum DC Voltage: ±3V
5. Moisture Sensitivity Level: Level 1

B. ELECTRICAL CHARACTERISTICS:

1. Terminating impedance (Tx Port): 50Ω (Single-ended)
2. Terminating impedance (Rx Port): 50Ω (Single-ended)
3. Terminating impedance (Ant Port): 50 // 6.8nH Ω (Single-ended)

Tx to ANT (f_{T0}=836.5MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	824~849MHz	dB(*1)	-	1.4	1.9	
Amplitude ripple	824~849MHz	dB	-	0.3	1.2	
VSWR	ANT	-	-	1.6	2.0	
	Tx	-	-	1.9	2.2	
Attenuation:						
DC~750MHz		dB	25	40	-	
779~804MHz		dB	30	45	-	
860~870MHz		dB	3	7	-	
869~894MHz		dB	52	58	-	
1574~1577MHz		dB	40	51	-	
1648~1698MHz		dB	40	53		
2472~2547MHz		dB	30	54		

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ANT to Rx ($f_{T0}=881.5$ MHz)

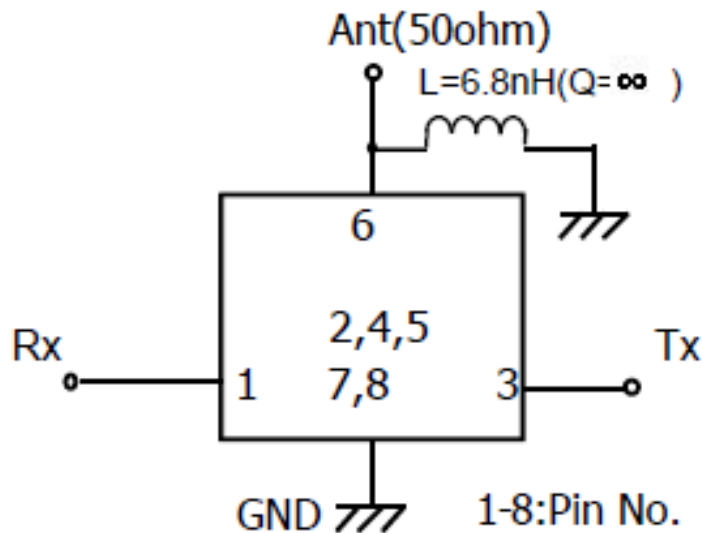
Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	869~894MHz	dB(*1)	-	1.7	2.3	
Amplitude ripple	869~894MHz	dB	-	0.4	1.3	
VSWR	ANT	-		1.7	2.0	
	Rx	-		1.7	2.0	
Attenuation:						
779~804MHz		dB	50	57	-	
824~849MHz		dB	50	60	-	

Tx to Rx

Isolation	824~849MHz	dB	55	58	-	
	869~894MHz	dB	54	59	-	

(*1) Specification of insertion loss excludes loss that comes from the test board.

C. EVALUATION CIRCUIT:

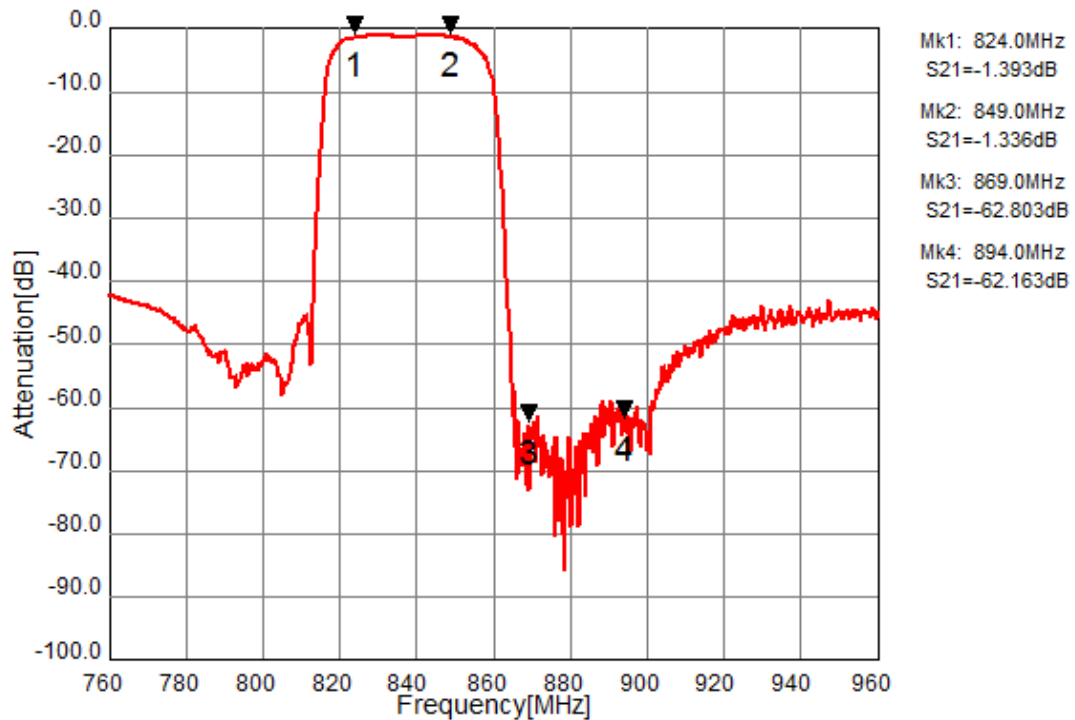


SAW Duplexer 836.0 / 881.0MHz
Part No: MP07404

Model: TF0123A
Rev. No: 1

D. FREQUENCY CHARACTERISTICS:

Tx to Ant



Ant to Rx

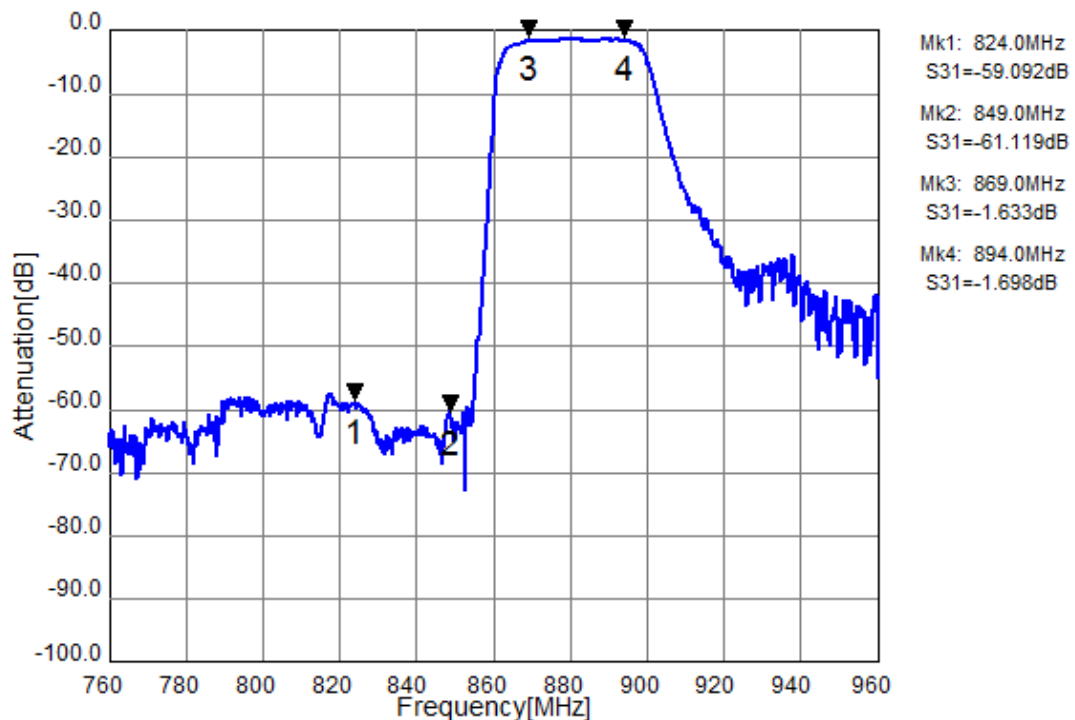
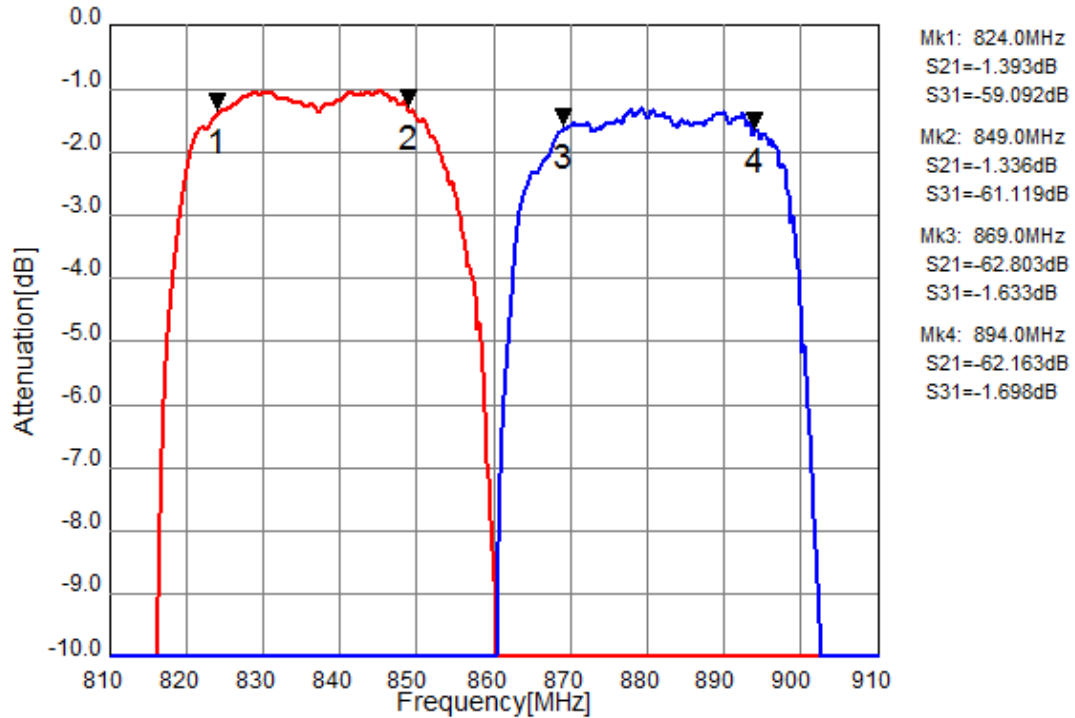


Figure 3 - 1. Electrical Characteristics. These data exclude loss that comes from the test board.

SAW Duplexer 836.0 / 881.0MHz
Part No: MP07404

Model: TF0123A
Rev. No: 1

Tx to Ant ,Ant to Rx



Tx to Rx Isolation

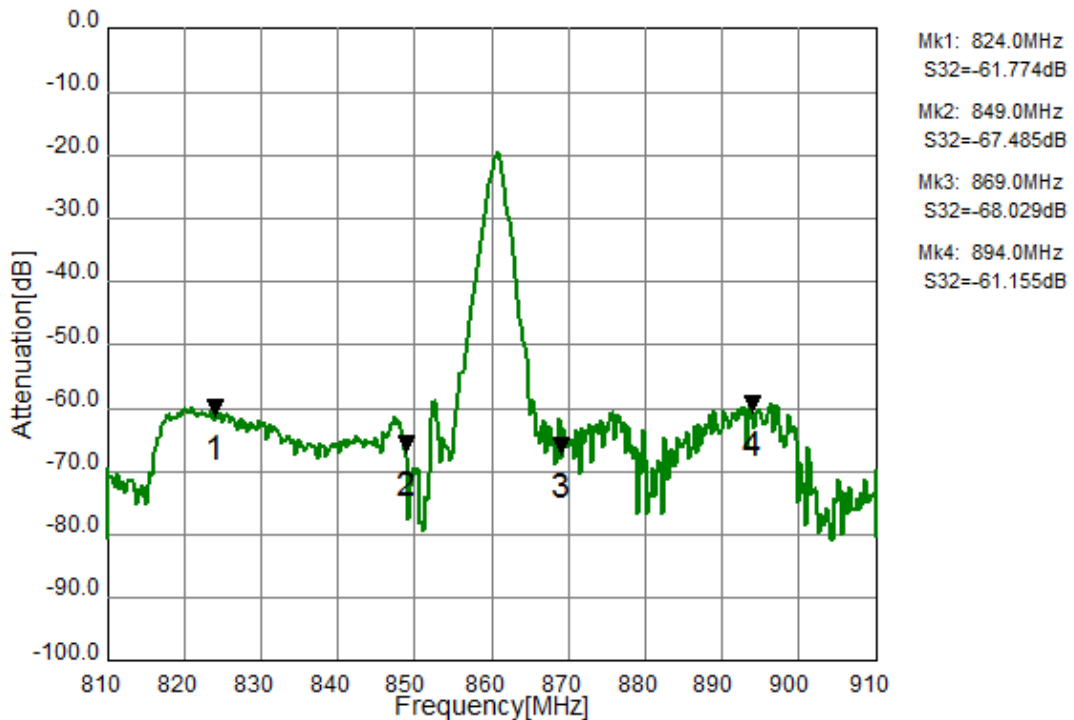


Figure 3 - 2. Electrical Characteristics. These data exclude loss that comes from the test board

SAW Duplexer 836.0 / 881.0MHz
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Tx Port

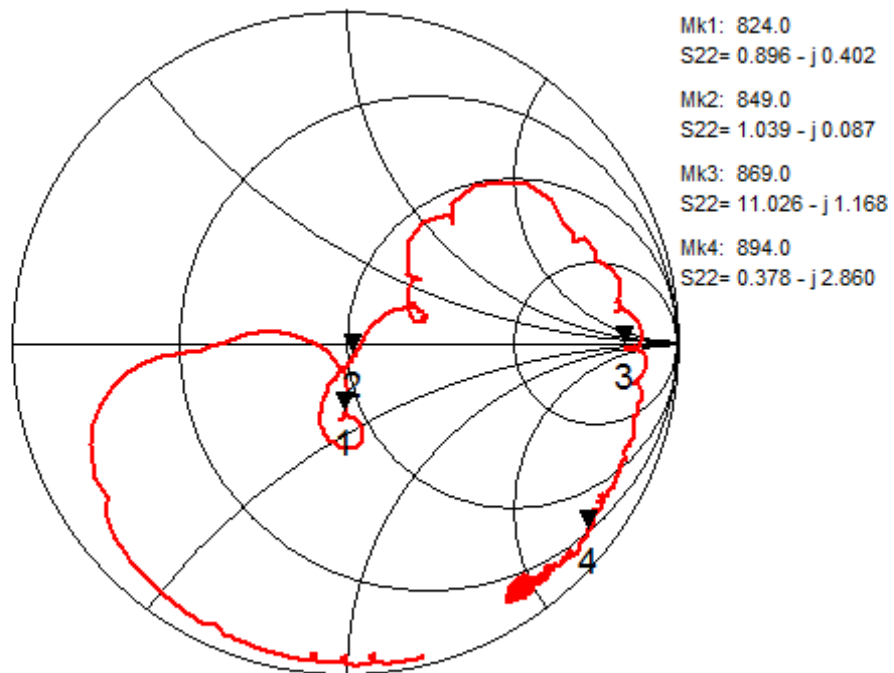
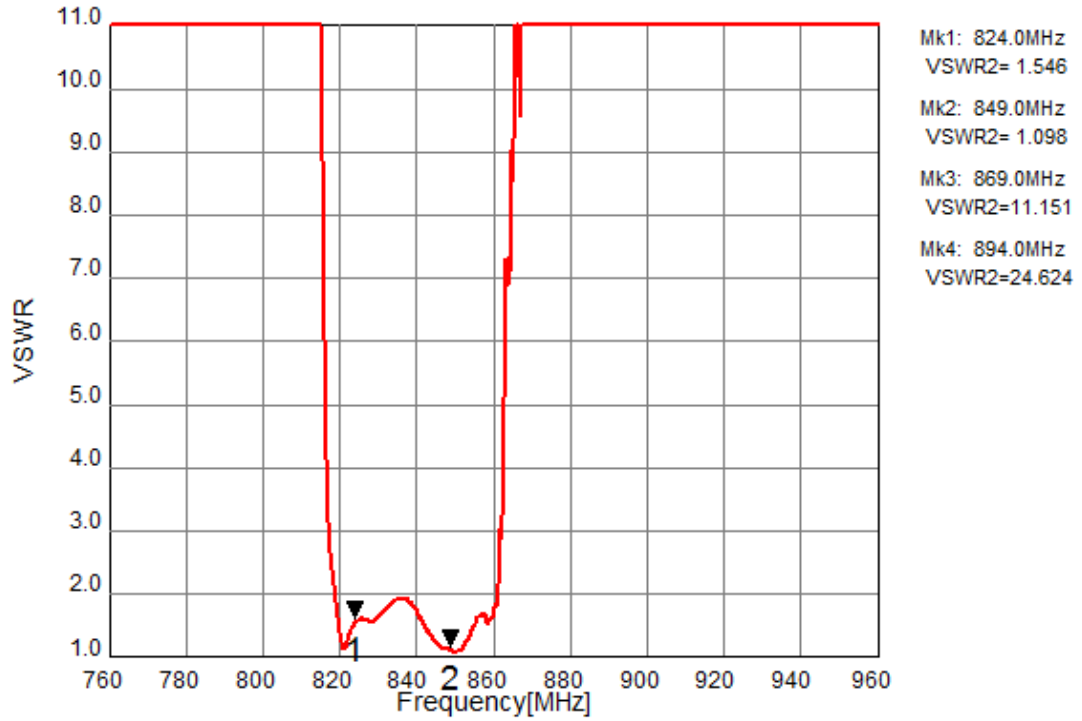


Figure 3-3. Electrical Characteristics.

SAW Duplexer 836.0 / 881.0MHz
Part No: MP07404

Model: TF0123A
Rev. No: 1

Rx Port

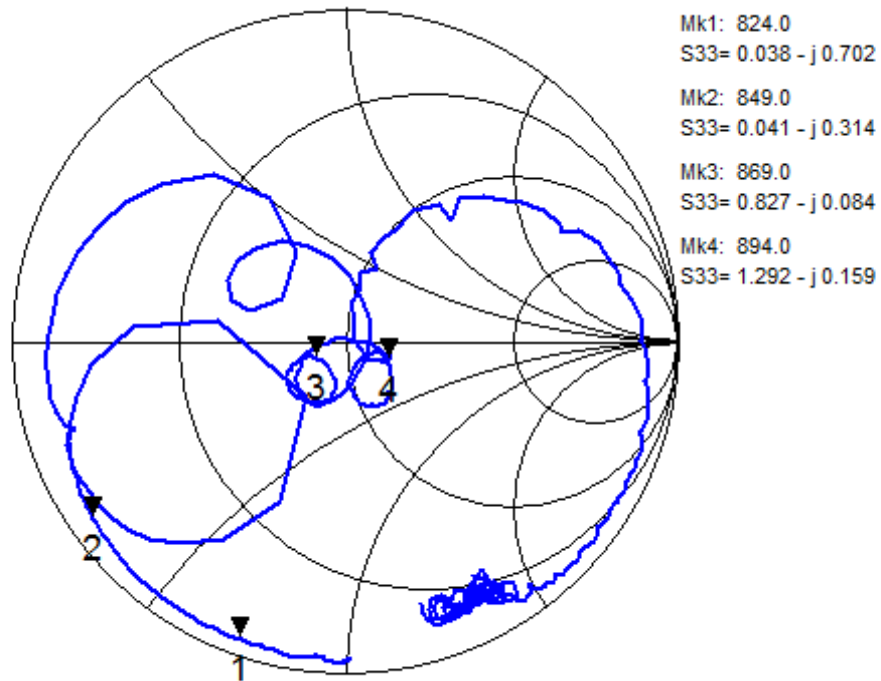
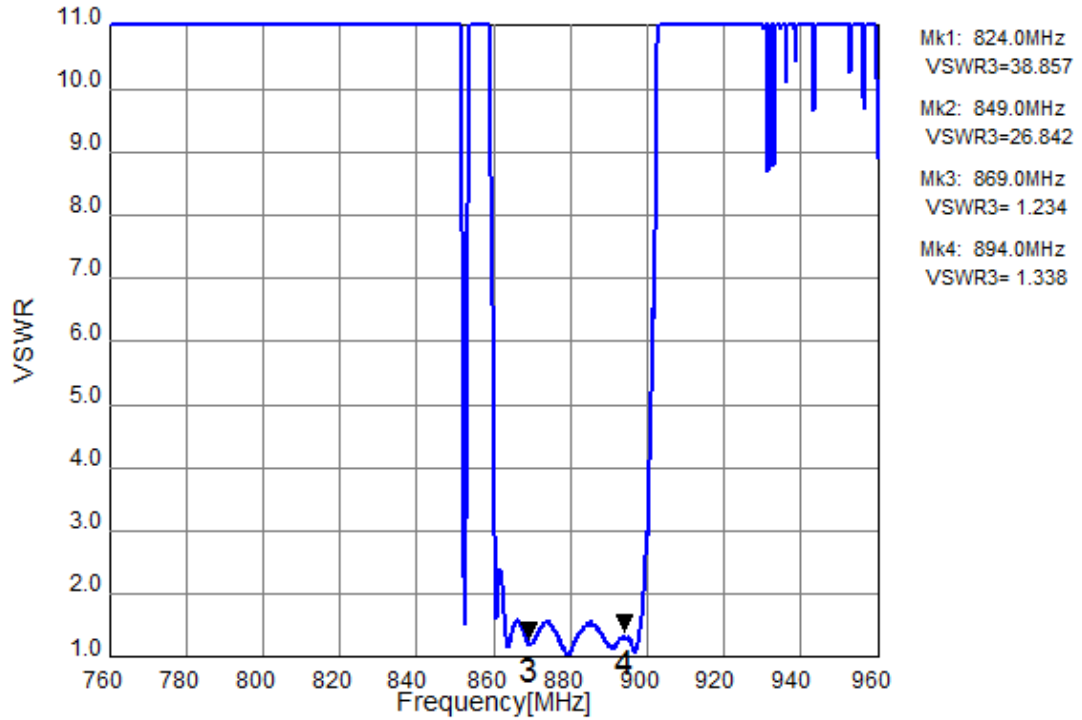


Figure 3-4. Electrical Characteristics.

SAW Duplexer 836.0 / 881.0MHz
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Rev. No: 1

Ant Port

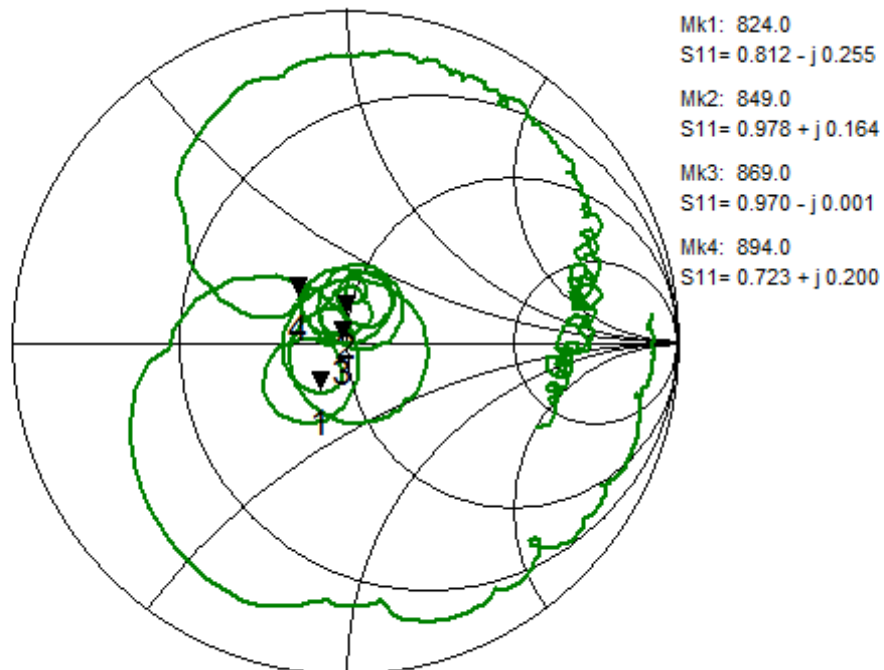
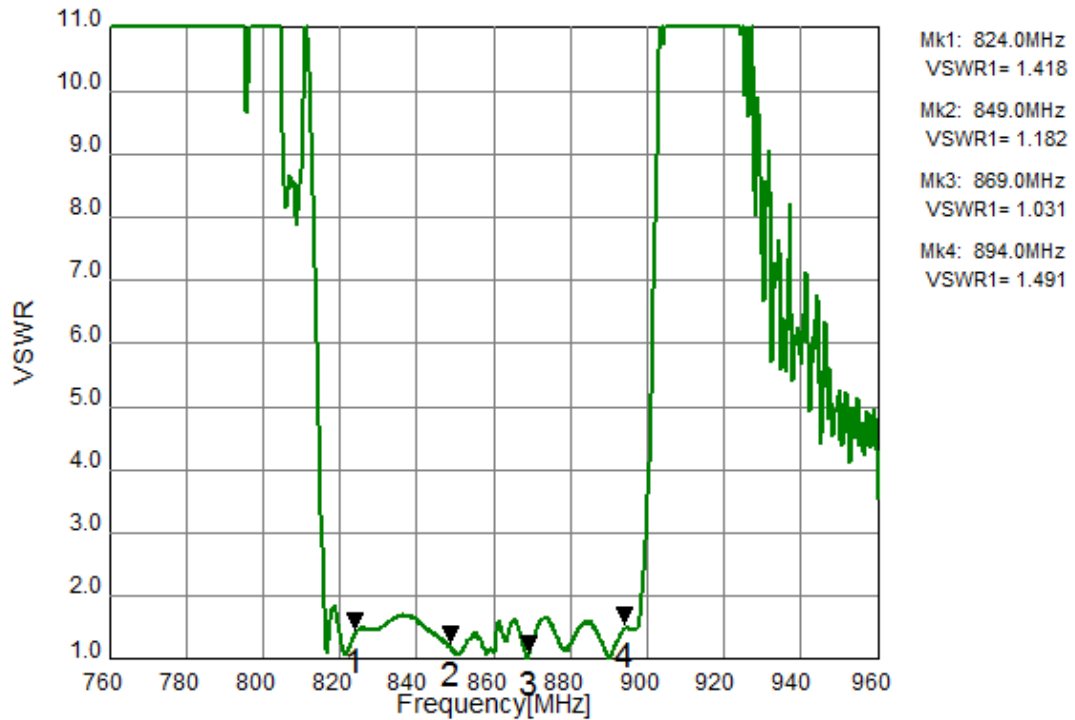
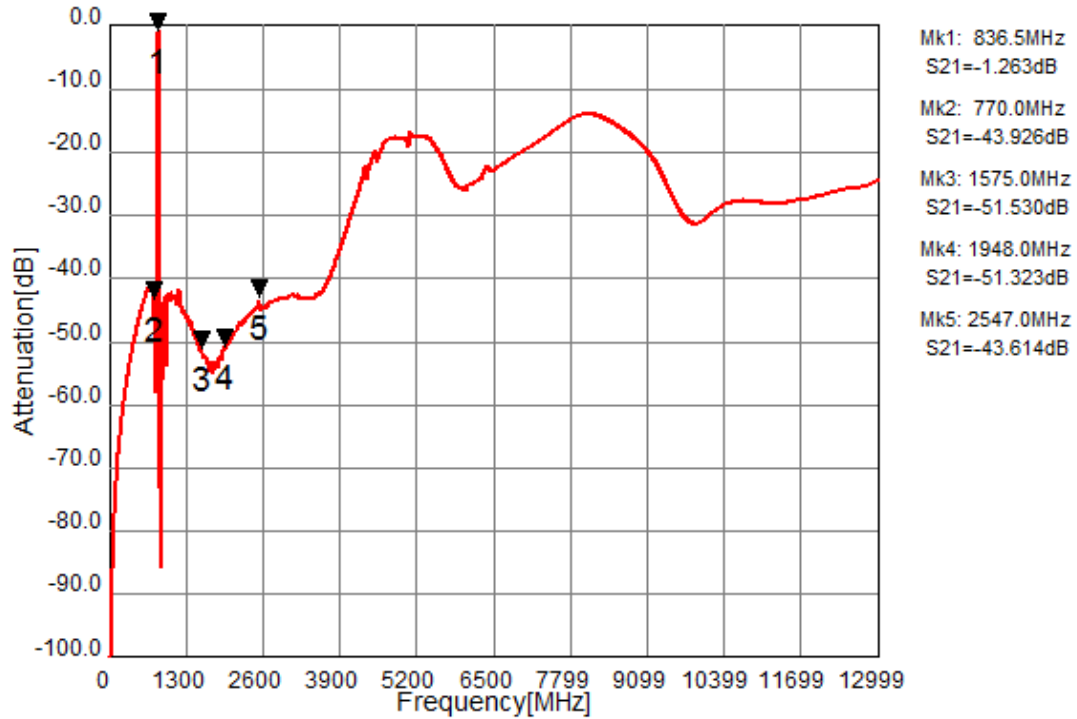


Figure 3 - 5. Electrical Characteristics.

SAW Duplexer 836.0 / 881.0MHz
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Model: TF0123A
Rev. No: 1

Tx to Ant (Wide span)



Ant to Rx (Wide span)

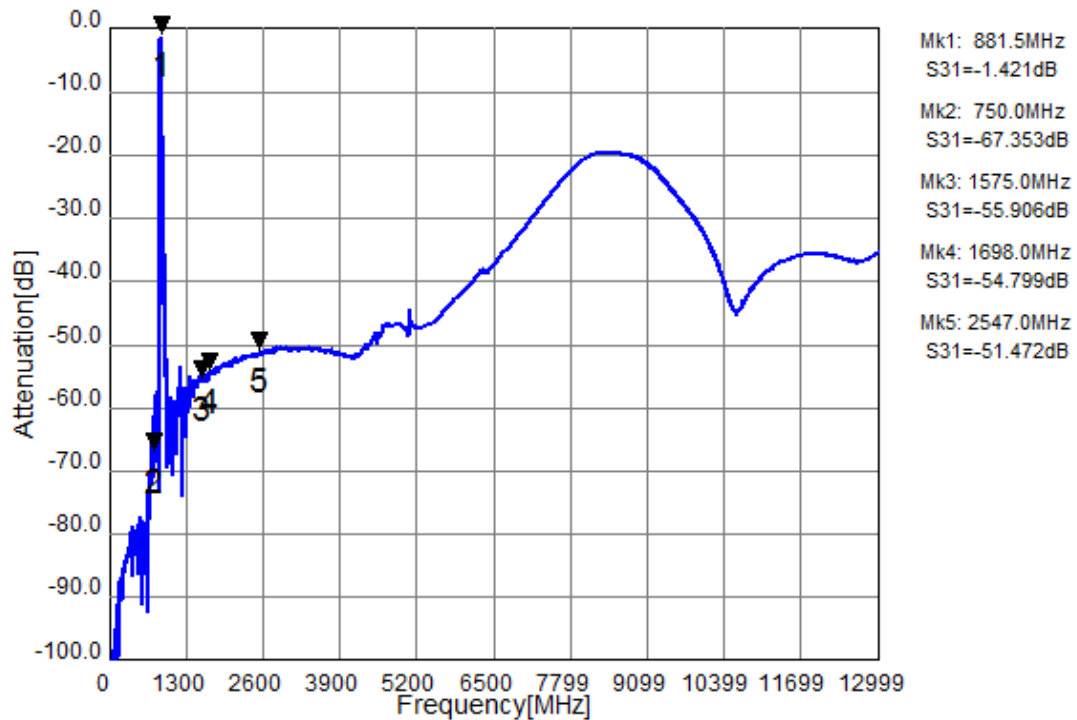
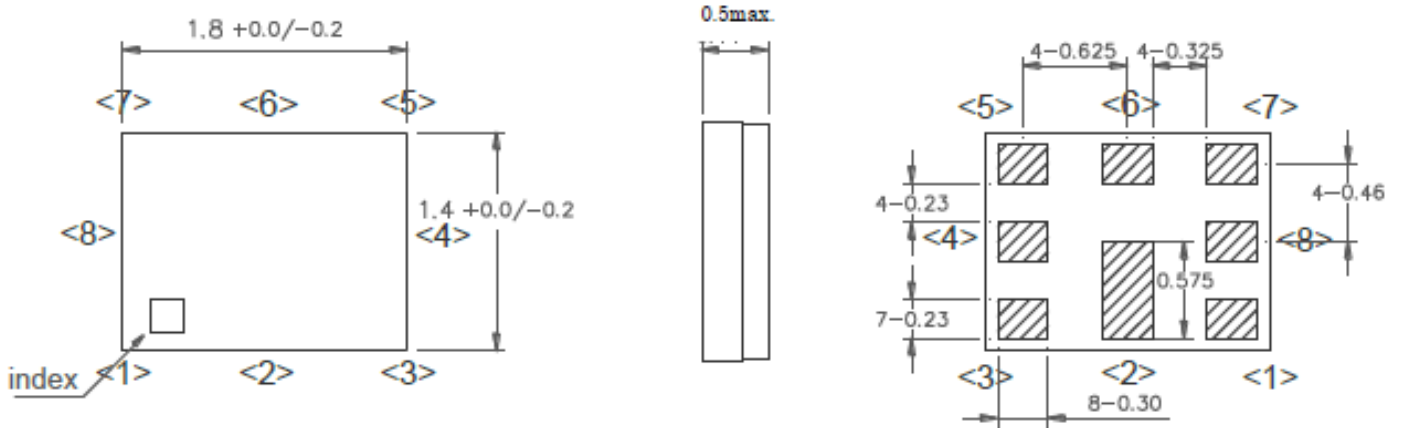


Figure 3 - 6. Electrical Characteristics.

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Rev. No: 1

E. OUTLINE DRAWING:



Pin Configuration

Pin No.	Pin name	Description
1	Rx	Receiver Pin
2	GND	Ground Pin
3	Tx	Transmitter Pin
4	GND	Ground Pin
5	GND	Ground Pin
6	ANT	Antenna Pin
7	GND	Ground Pin
8	GND	Ground Pin

Figure 1. Dimensions and Pin assignment

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Rev. No: 1

F. FOOTPRINT:

Recommended foot print pattern

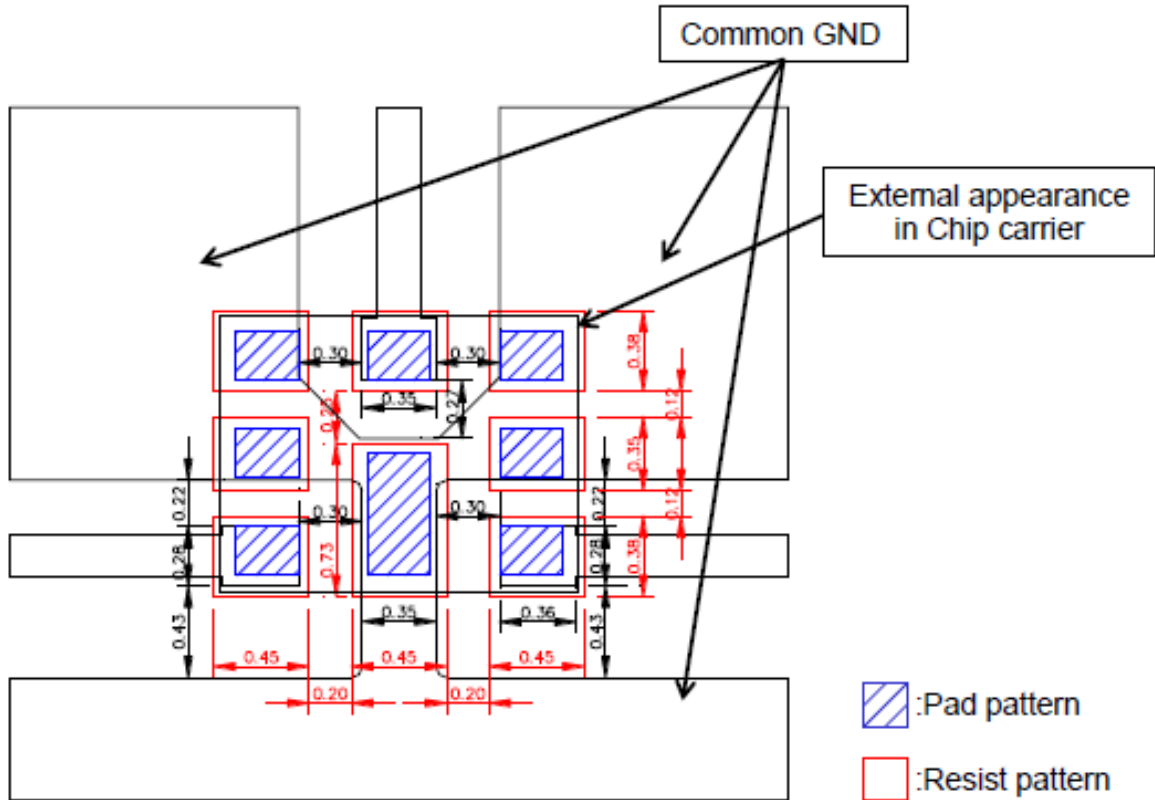


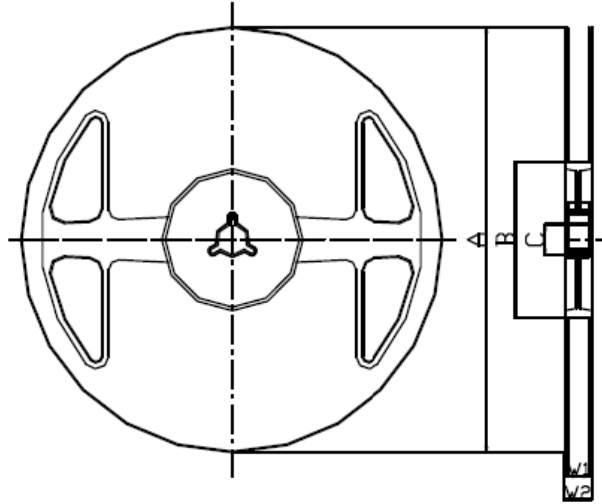
Figure 2. Recommended foot print pattern

SAW Duplexer 836.0 / 881.0MHz
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G. PACKING:

1. Reel Dimension



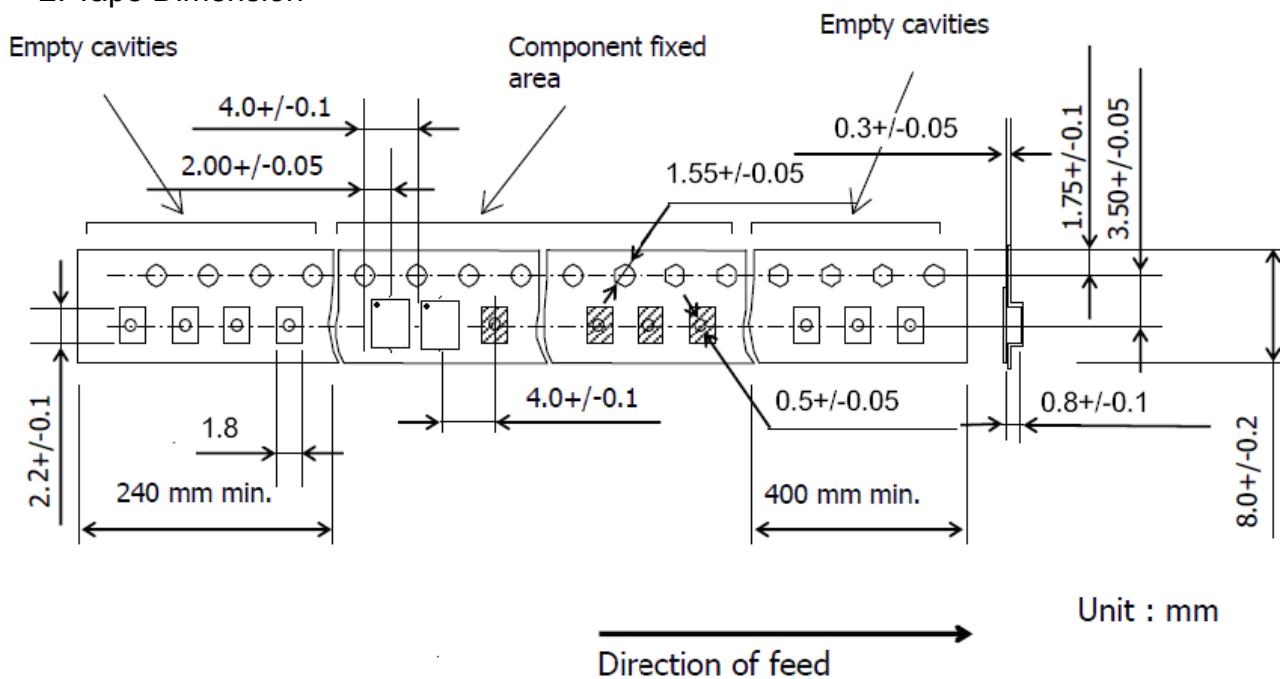
Materials of Reel

Material : Polystyrene + Carbon
 Characteristics : Conforms to EIAJ-ET-7200A
 Color : Black
 Surface resistance (reference value) : $10^9\Omega/\text{sq}$ Max.

Unit : mm

Code	Quantity	A	B	C	W1	W2
Z	3,000 pcs	$\phi 180.0 +0.0/-1.5$	$\phi 66.0 +/-0.5$	$\phi 13.0 +/-0.2$	$9.0 +1.0/-0.0$	$11.4 +/-1.0$

2. Tape Dimension



Unit : mm

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H. RECOMMENDED REFLOW PROFILE:

1. Preheating shall be fixed at 150 ~ 180°C for 60 ~ 90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50 ~ 80 seconds and at 245 ~ 260°C peak (min. 10 sec).
4. Time: 2 times.

