

SAW Duplexer 897.0 / 942.0MHz

Model: TF0130A

Part No: MP07411

Rev. No: 1

A. MAXIMUM RATING:

Electrostatic Sensitive Device (ESD)

1. Operating temperature range: -20°C to +85°C
2. Storage temperature range: -20°C to +85°C
3. Input power: 29dB (Ta = +50°C, 10000h, WCDMA modulation)
4. Maximum DC Voltage: ±3 V
5. Moisture Sensitivity Level: Level 1

B. ELECTRICAL CHARACTERISTICS:

1. Terminating impedance (Tx Port): 50Ω (Single-ended)
2. Terminating impedance (Rx Port): 100Ω (Differential)
3. Terminating impedance (Ant Port): 50//7.5N $\hbar\omega$ (Q=∞) (Single-ended)

Tx to ANT (f_{T0}=897.5MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	882.4~912.6MHz	dB(*1)	-	1.5	2.4(*2)	
	880~915MHz	dB(*1)		1.9	3.4	
Amplitude ripple	882.4~912.6MHz	dB	-	0.6	1.9	
	880~915MHz	v		1.0	2.9	
VSWR	ANT	880~915MHz	-	-	2.0	2.6
	Tx	880~915MHz	-	-	1.8	2.4
Attenuation:						
927.4~957.6MHz		dB	42(*2)	47	-	
1573.3~1605.9MHz		dB	40	45	-	
1760~1830MHz		dB	40	45	-	
2640~2745MHz		dB	25	32	-	

SAW Duplexer 897.0 / 942.0MHz
Part No: MP07411

Model: TF0130A
Rev. No: 1

ANT to Rx (f_{T0}=942.5MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	927.4~9576MHz	dB(*1)	-	1.9	2.4(*2)	
	925~960MHz	dB(*1)		2.1	3.1	
Amplitude ripple	927.4~957.6MHz	dB	-	0.7	1.6	
	925~960MHz	dB		0.9	2.3	
Amplitude balance	925~960MHz	dB	-0.7	-0.1/+0.3	+0.7	
Phase balance	925~960MHz	dB	-7	-1/+3	+7	
VSWR	ANT	925~960MHz	-	1.9	2.3	
	RX		-	2.0	2.4	
Attenuation:						
882.4~912.6MHz		dB	48(*2)	54	-	
2400~2500MHz		dB	40	49	-	

Tx to Rx

Isolation	882.4~9126MHz	dB	52(*2)	56	-	
	927.4~957.6MHz	dB	47(*2)	51	-	

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

(*2) Integrated over ±1.92MHz around the WCDMA channel center frequency.

C. EVALUATION CIRCUIT:

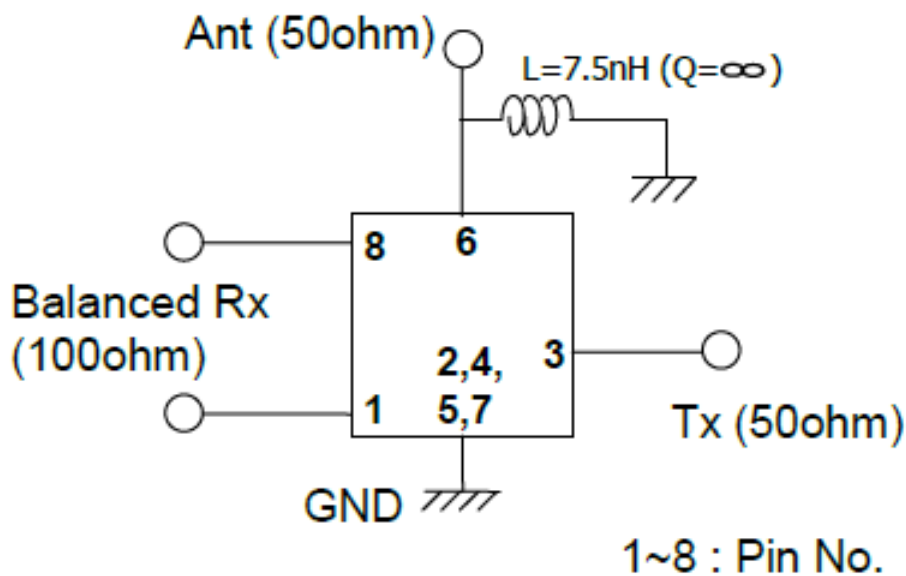


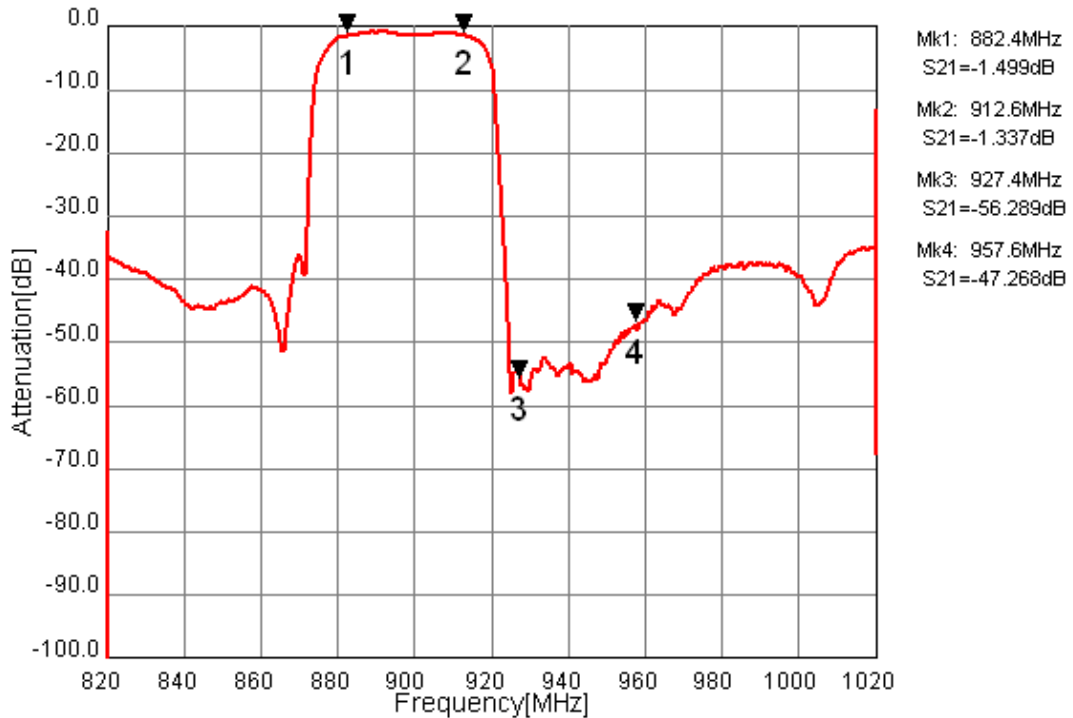
Figure 2. Evaluation Circuit

SAW Duplexer 897.0 / 942.0MHz
Part No: MP07411

Model: TF0130A
Rev. No: 1

D. FREQUENCY CHARACTERISTICS:

Tx to Ant



Ant to Rx

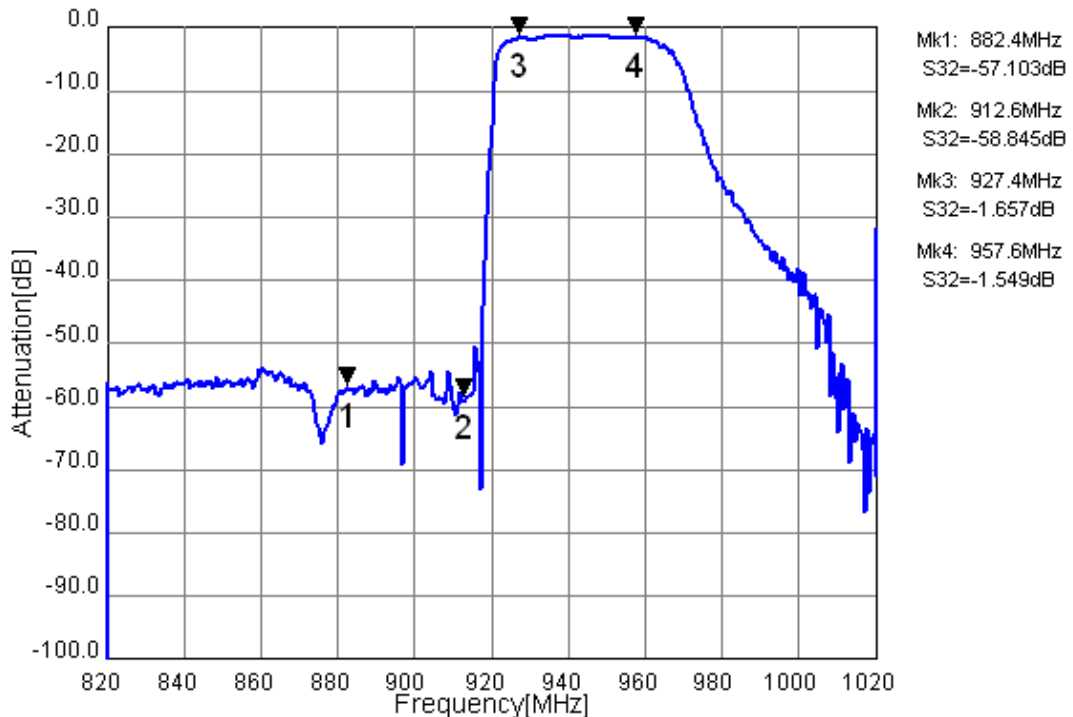
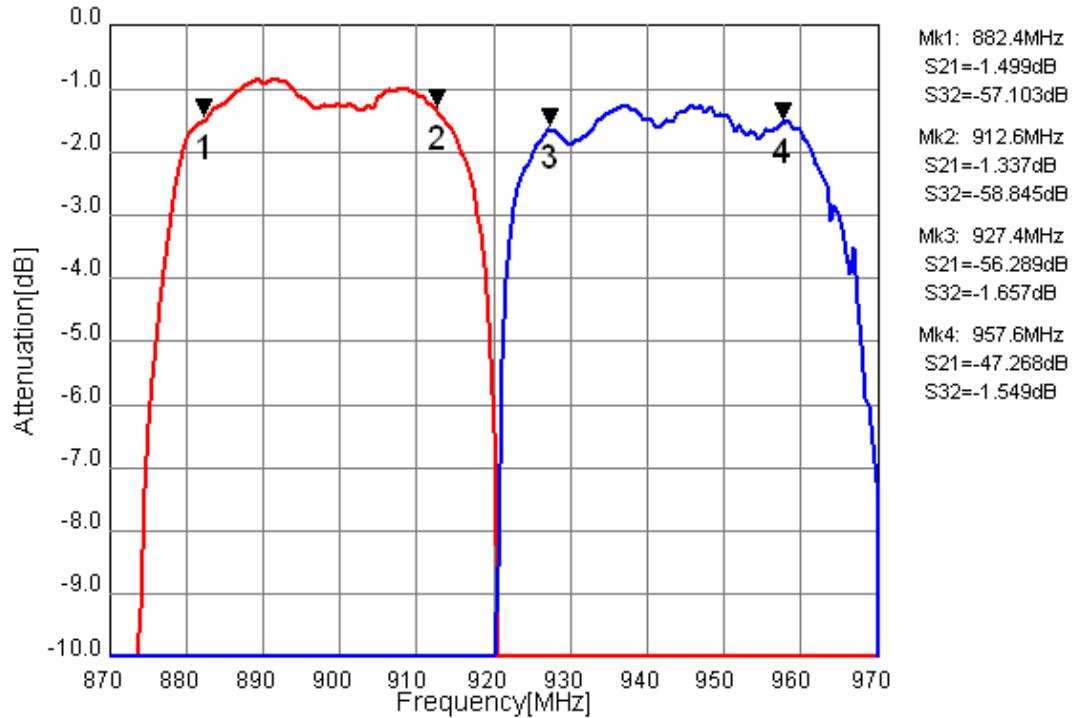


Figure 3-1. Electrical Characteristics. These data exclude loss that comes from the test board.

SAW Duplexer 897.0 / 942.0MHz
Part No: MP07411

Model: TF0130A
Rev. No: 1

Tx to Ant ,Ant to Rx



Tx to Rx Isolation

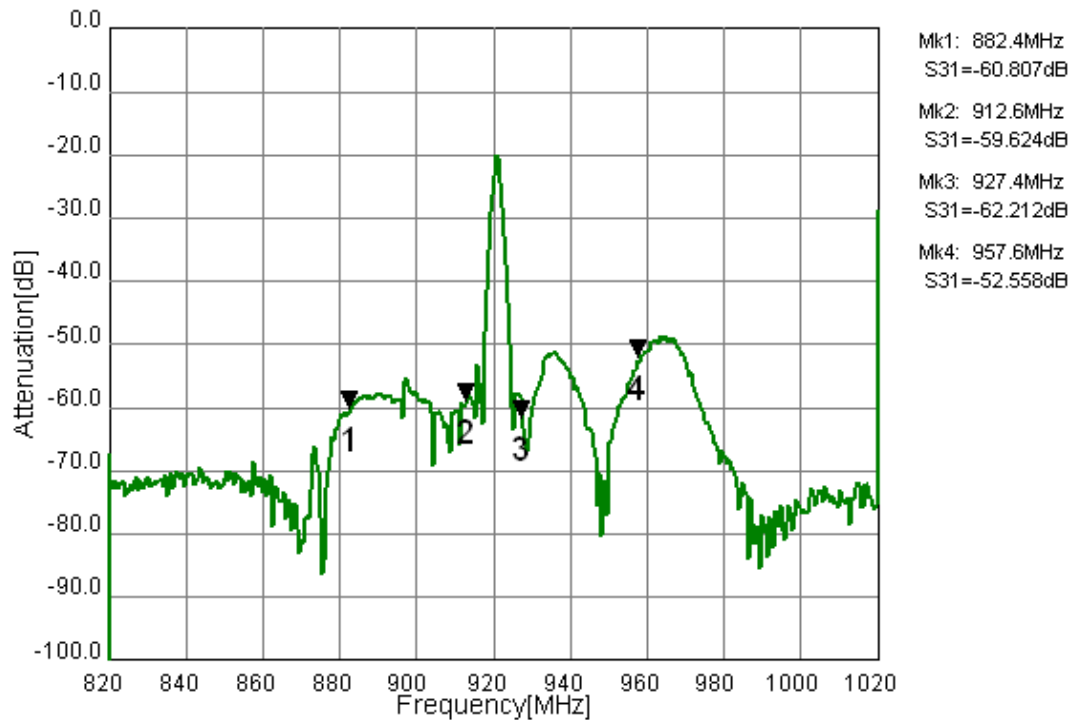


Figure 3-2. Electrical Characteristics. These data exclude loss that comes from the test board.

SAW Duplexer 897.0 / 942.0MHz
Part No: MP07411

Model: TF0130A
Rev. No: 1

Tx Port

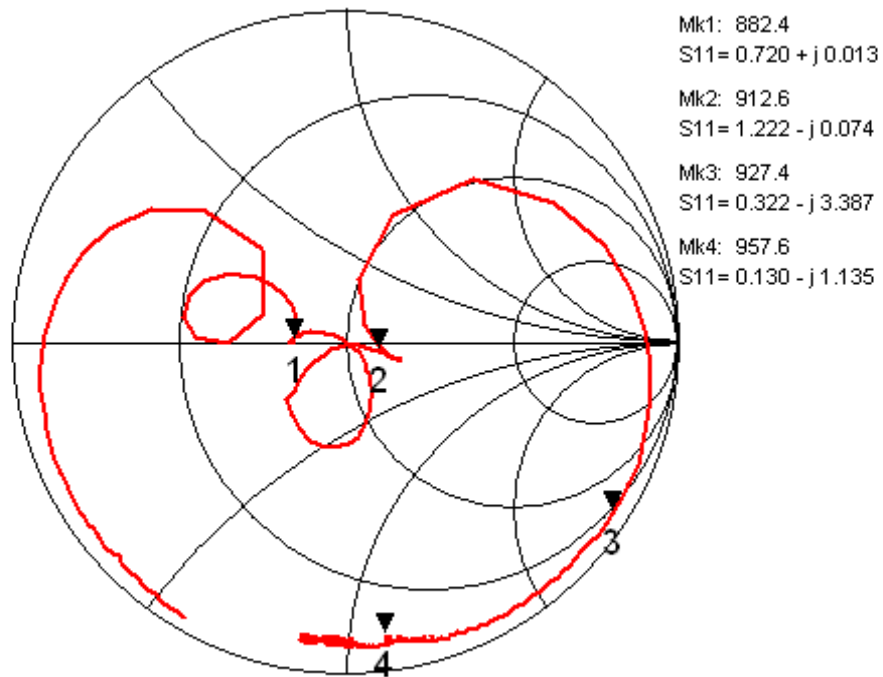
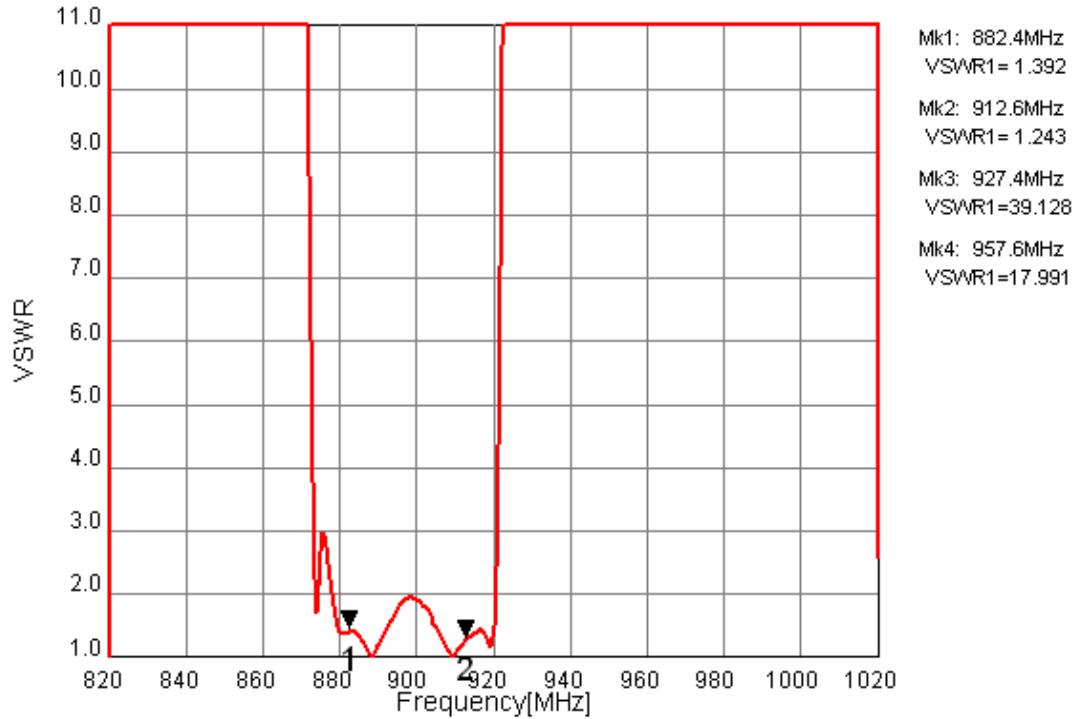


Figure 3-3. Electrical Characteristics.

SAW Duplexer 897.0 / 942.0MHz
Part No: MP07411

Model: TF0130A
Rev. No: 1

Rx Port

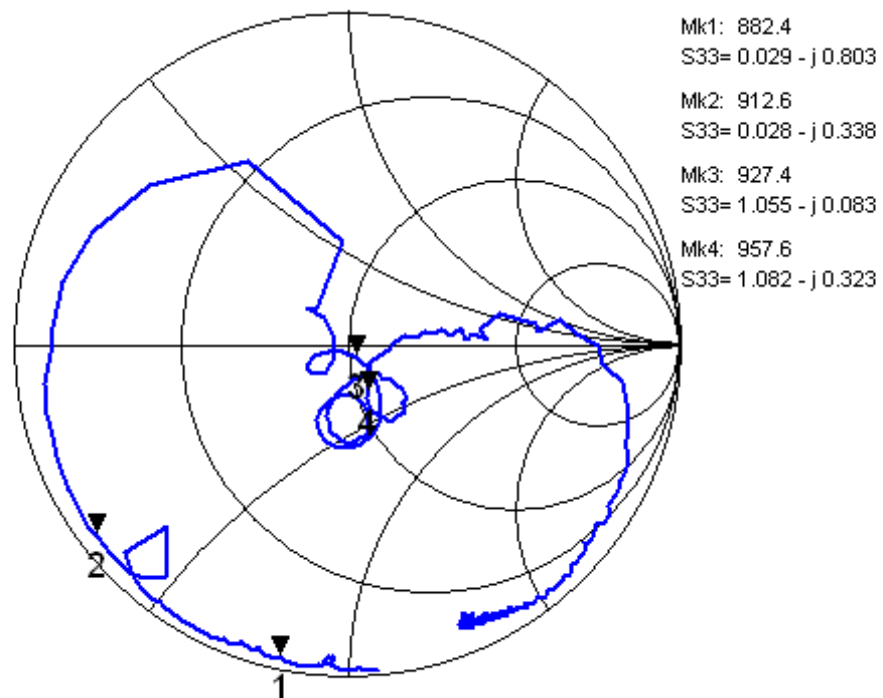
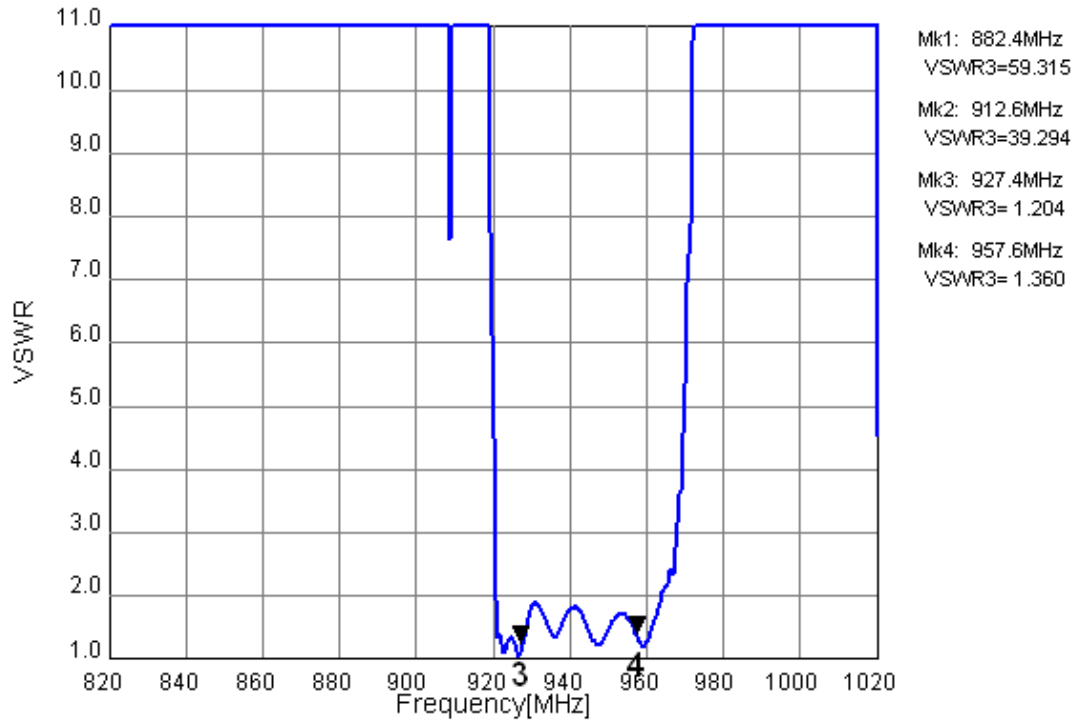


Figure 3-4. Electrical Characteristics.

SAW Duplexer 897.0 / 942.0MHz
Part No: MP07411

Model: TF0130A
Rev. No: 1

Ant Port

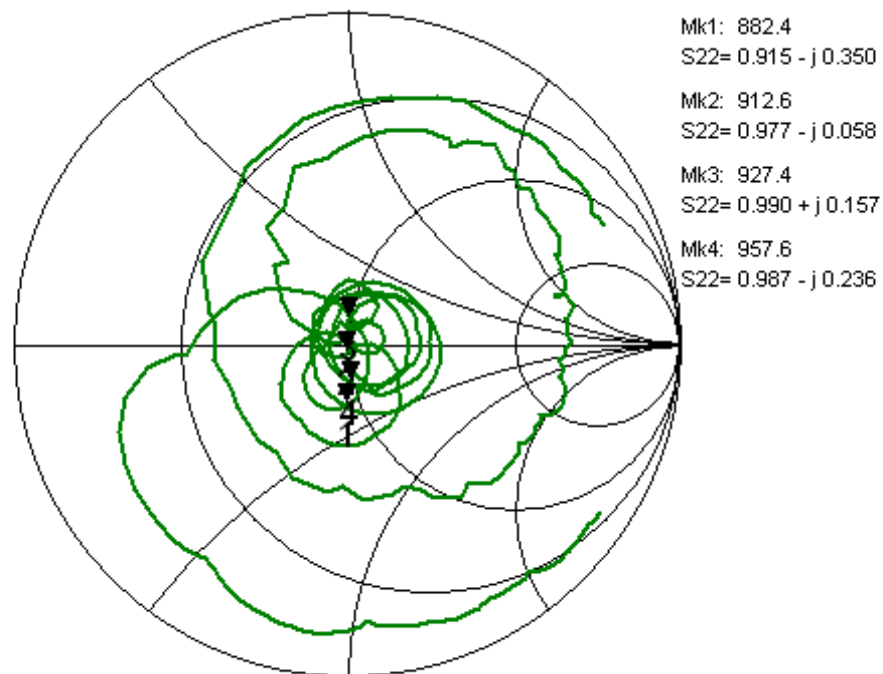
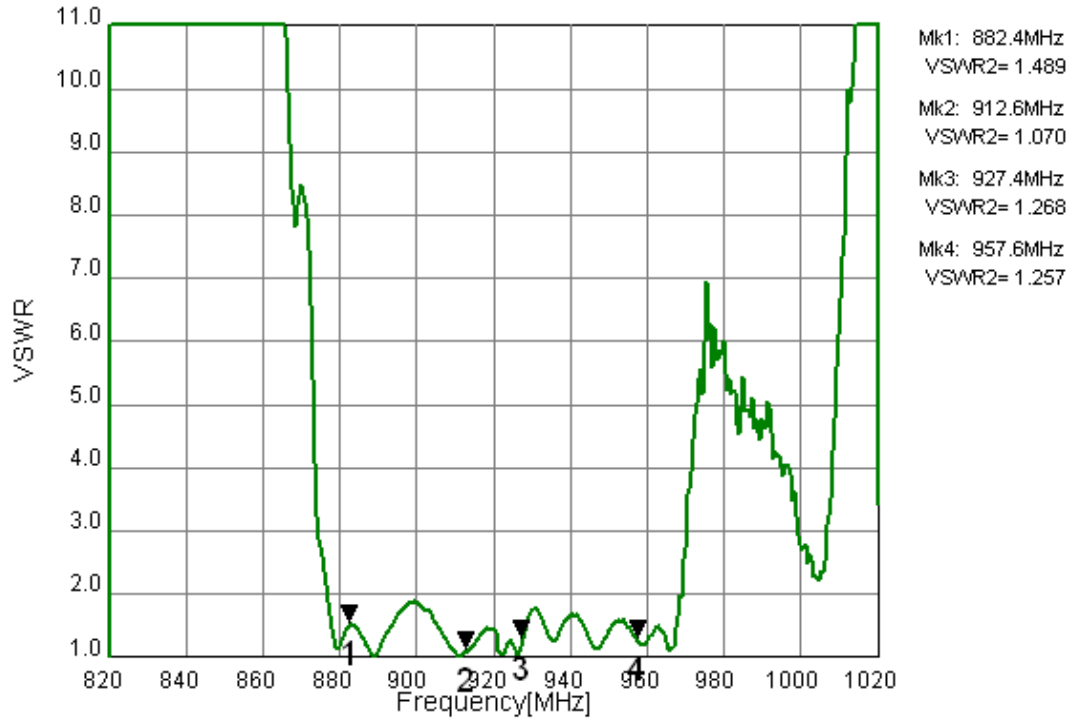
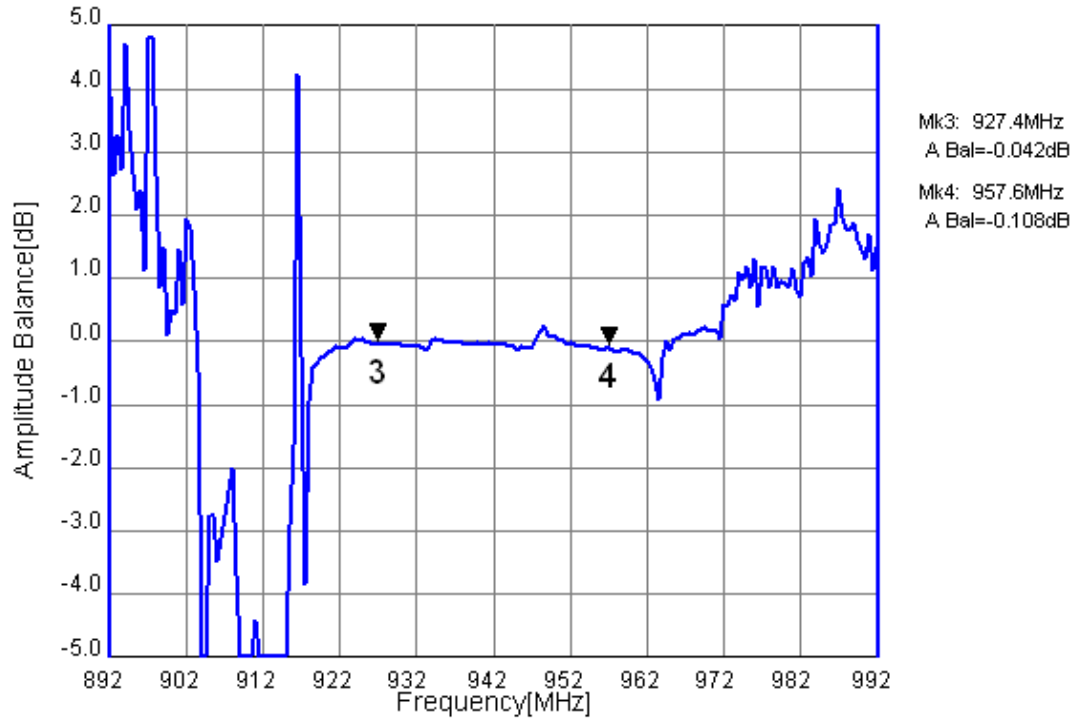


Figure 3-5. Electrical Characteristics.

SAW Duplexer 897.0 / 942.0MHz
Part No: MP07411

Model: TF0130A
Rev. No: 1

Ant to Rx (Amplitude balance)



Ant to Rx (Phase balance)

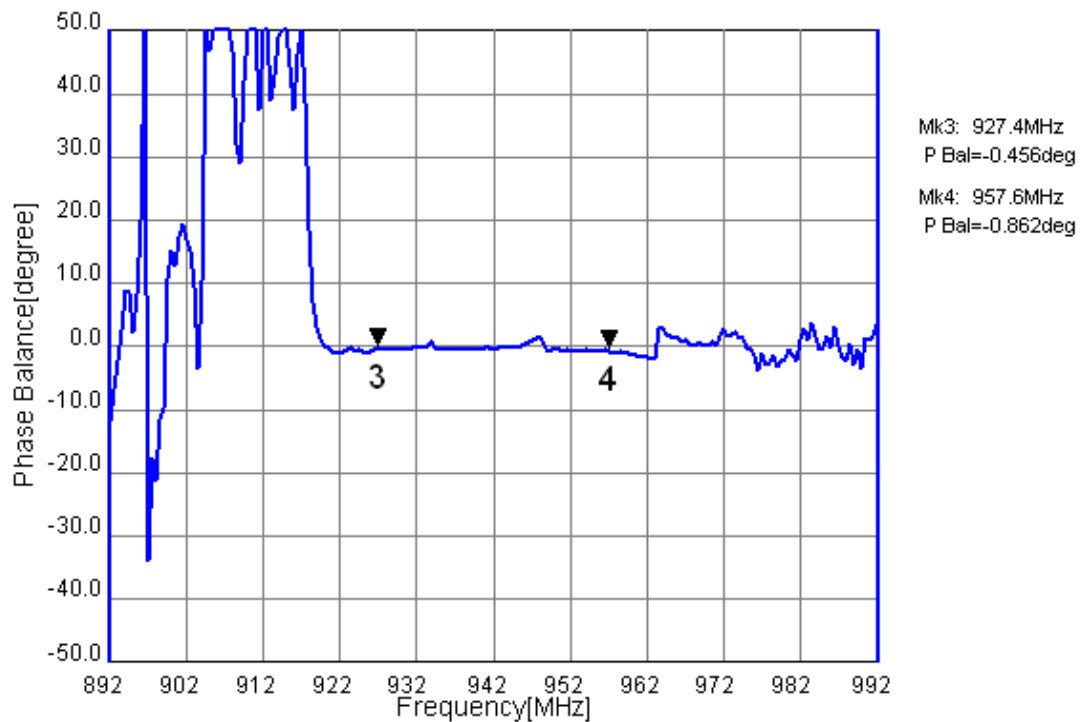
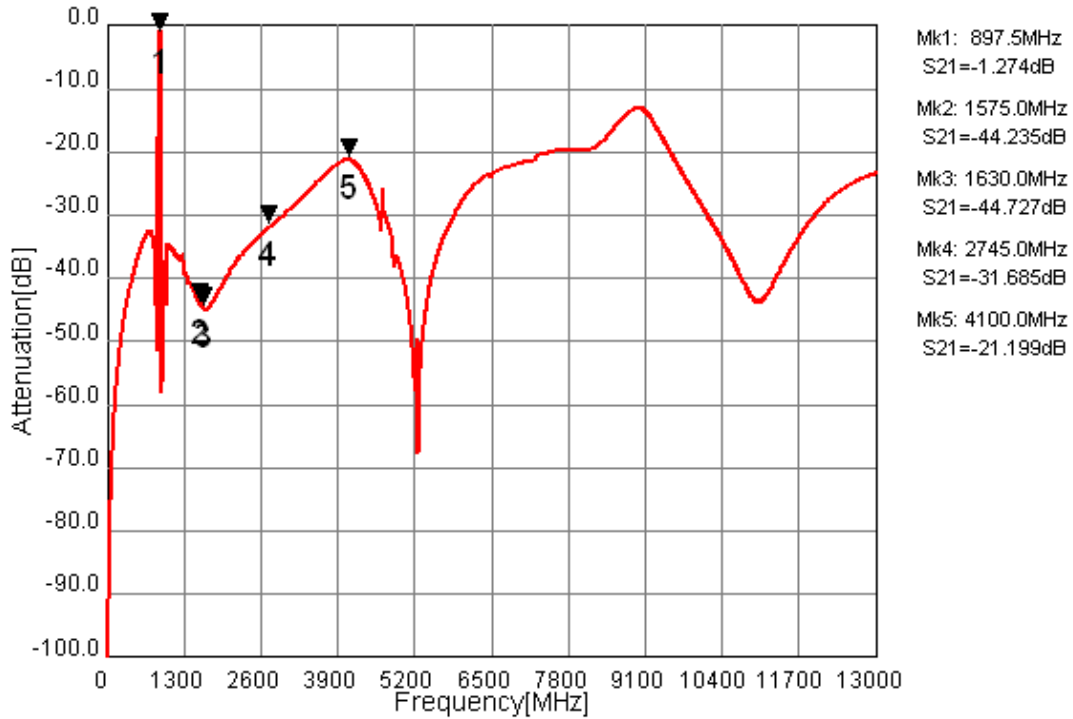


Figure 3-6. Electrical Characteristics.

SAW Duplexer 897.0 / 942.0MHz
Part No: MP07411

Model: TF0130A
Rev. No: 1

Tx to Ant (Wide span)



Ant to Rx (Wide span)

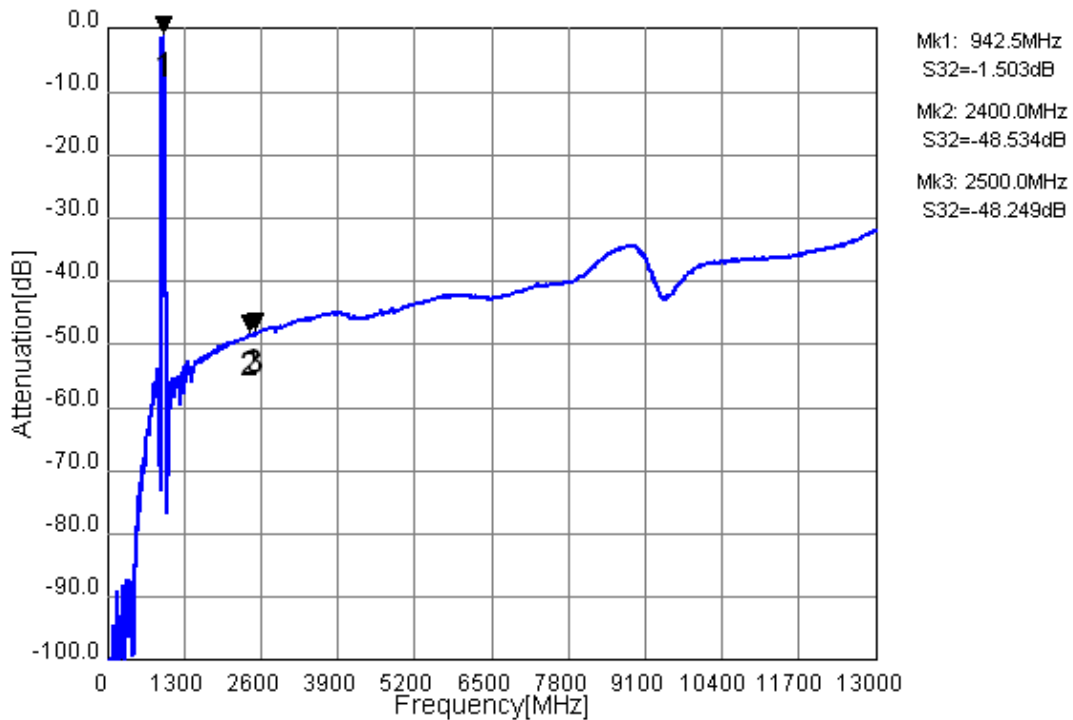


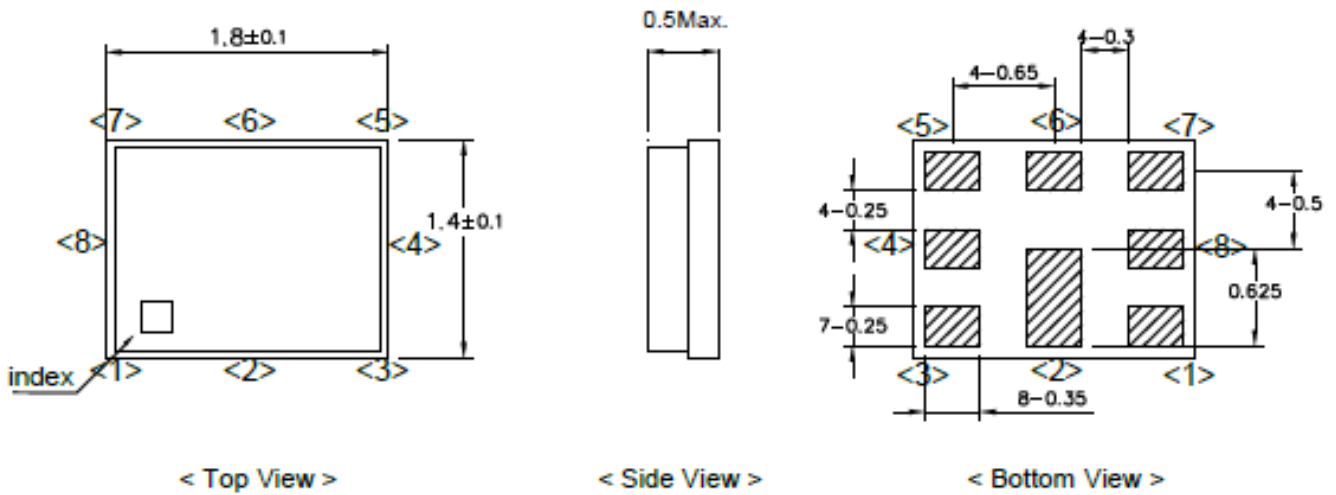
Figure 3-7. Electrical Characteristics.

SAW Duplexer 897.0 / 942.0MHz
Part No: MP07411

Model: TF0130A
Rev. No: 1

E. OUTLINE DRAWING:

Dimensions



Unit: mm

Pin Configuration

Pin No.	Pin name	Description
1	Rx	Receiver Pin (balanced)
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	Rx	Receiver Pin (balanced)

Figure 1. Dimensions and Pin assignment

SAW Duplexer 897.0 / 942.0MHz
Part No: MP07411

Model: TF0130A
Rev. No: 1

F. FOOTPRINT:

Recommended foot print pattern

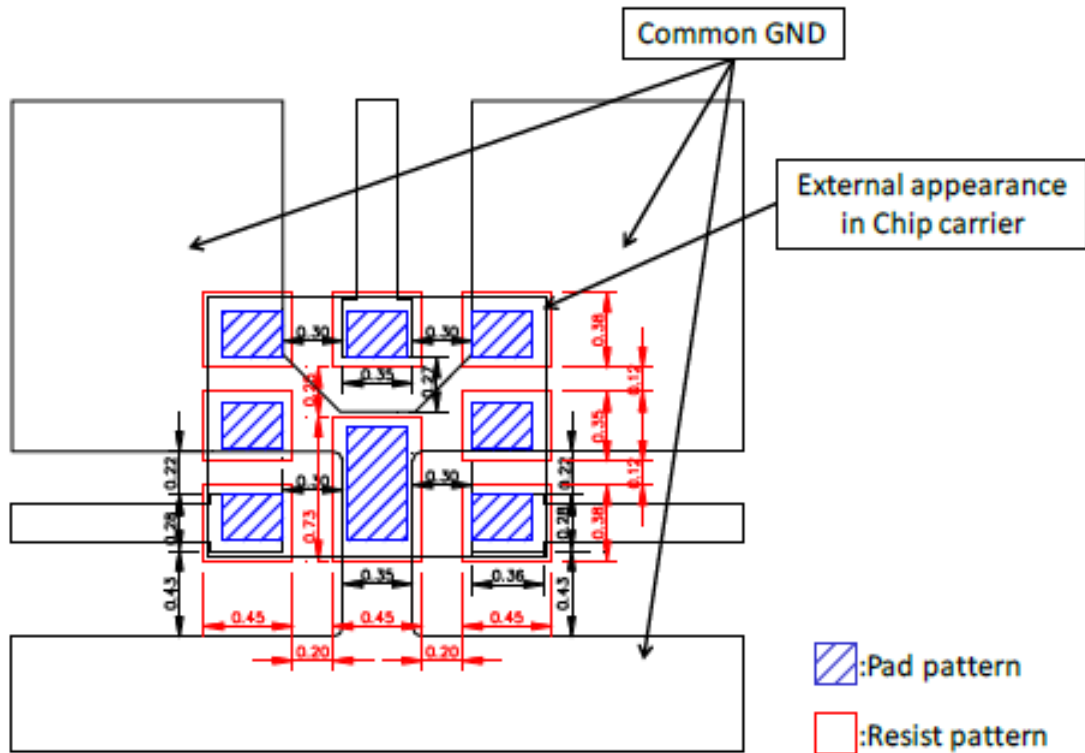


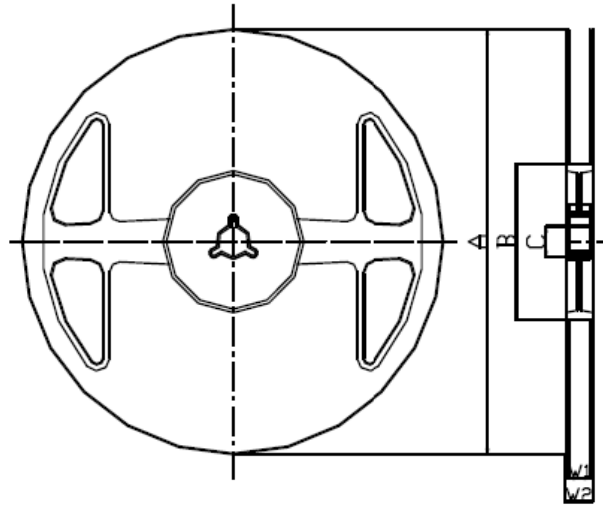
Figure 3. Recommended foot print pattern

SAW Duplexer 897.0 / 942.0MHz
Part No: MP07411

Model: TF0130A
Rev. No: 1

G. PACKING:

1. Reel Dimension



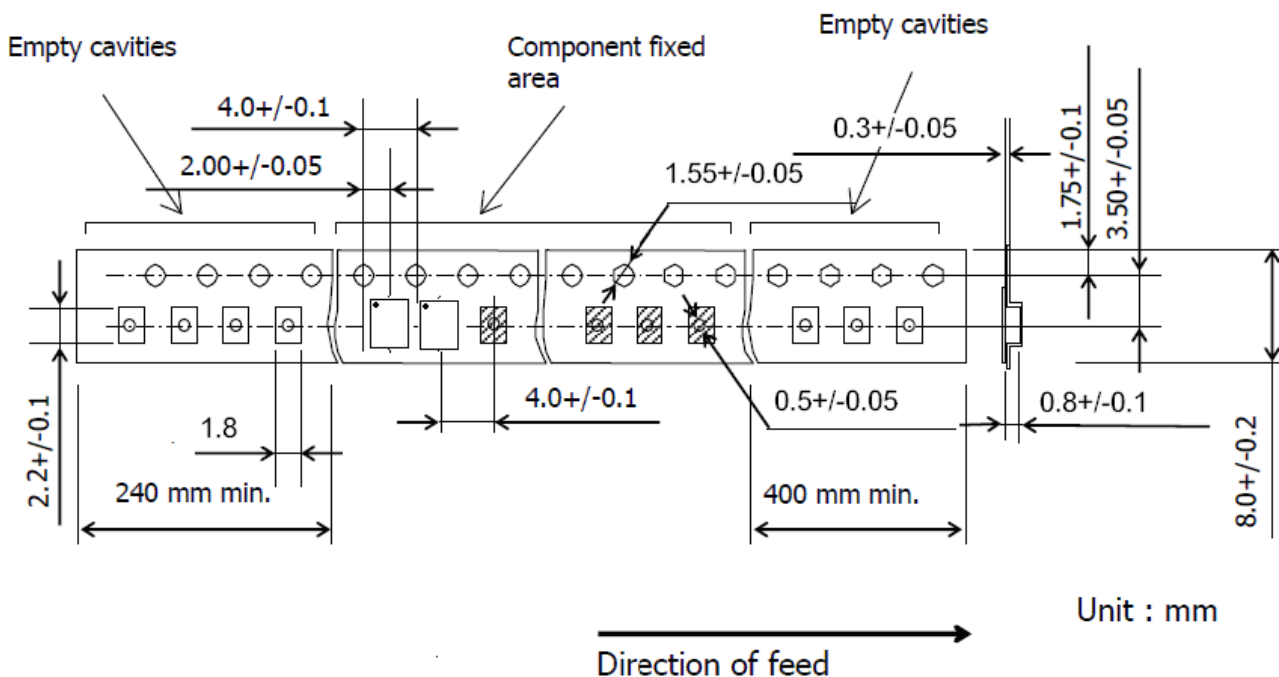
Materials of Reel

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

SAW Duplexer 897.0 / 942.0MHz
Part No: MP07411

Model: TF0130A
Rev. No: 1

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.

