



TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,
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Product Specifications Approval Sheet

Product Name: SAW Rx Filter 1842.5 MHz LTE Band 3 SMD 1.1x0.9 mm (BW=75 MHz)

TST Parts No.: TA1857A

Customer Part No.: _____

Customer signature required

Company: _____

Division: _____

Approved by : _____

Date: _____

Checked by: _____ Hayley Chou *Hayley Chou*

Approved by: _____ Andy Yu *Andy Yu*

Date: _____ 2019/09/18

1. Customer signed back is required before TST can proceed with sample build and receive orders.
2. Orders received without customer signed back will be regarded as agreement on the specifications.
3. Any specifications changes must be approved upon by both parties and a new revision of specifications shall be released to reflect the changes



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SAW Filter 1842.5 MHz

MODEL NO.:TA1857A

REV. NO.:3.0

A. MAXIMUM RATING:

1. Input Power Level: 10 dBm (in passband)
2. DC Voltage : +/-5 V
3. Operating Temperature: -30 °C to +85 °C
4. Storage Temperature: -40 °C to +100 °C
5. Moisture Sensitive Level: Level 1 (MSL1)
6. ESD: 50 V(MM), 100 V(HBM)

RoHS Compliant

Lead-free soldering

Electrostatic Sensitive Device (ESD)

B. ELECTRICAL CHARACTERISTICS:

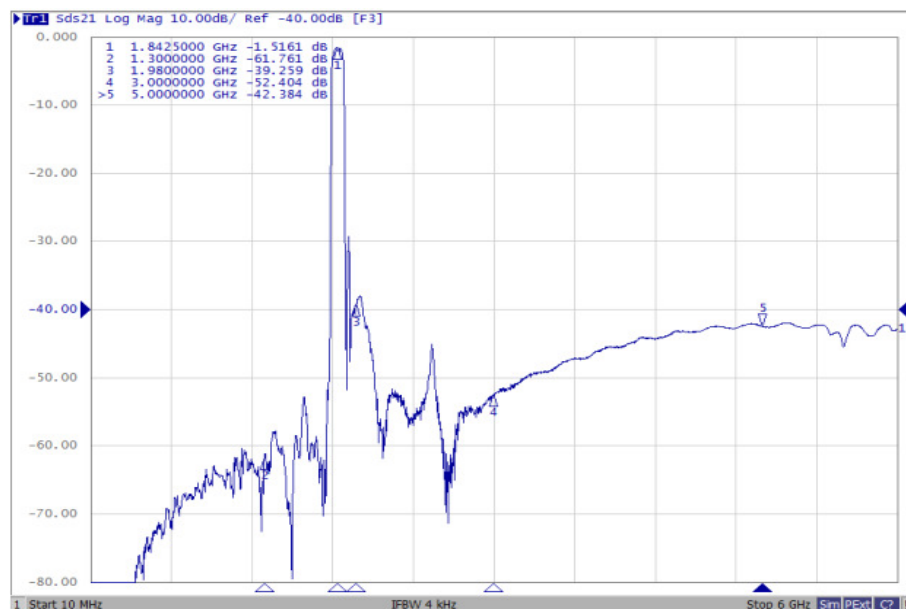
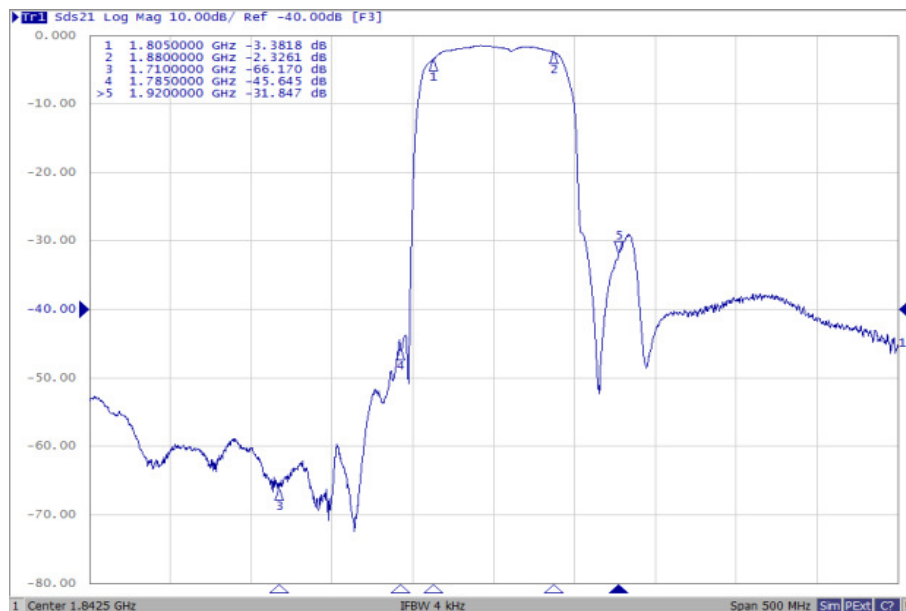
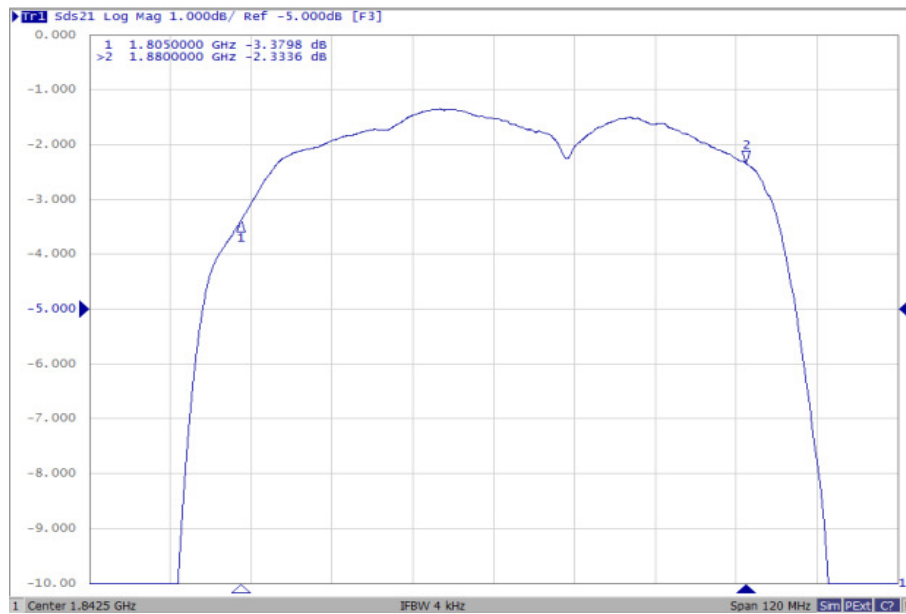
Terminating source impedance: $Z_s = 50 \Omega$

Terminating load impedance: $Z_L = 100//18nH \Omega$ (Balanced)

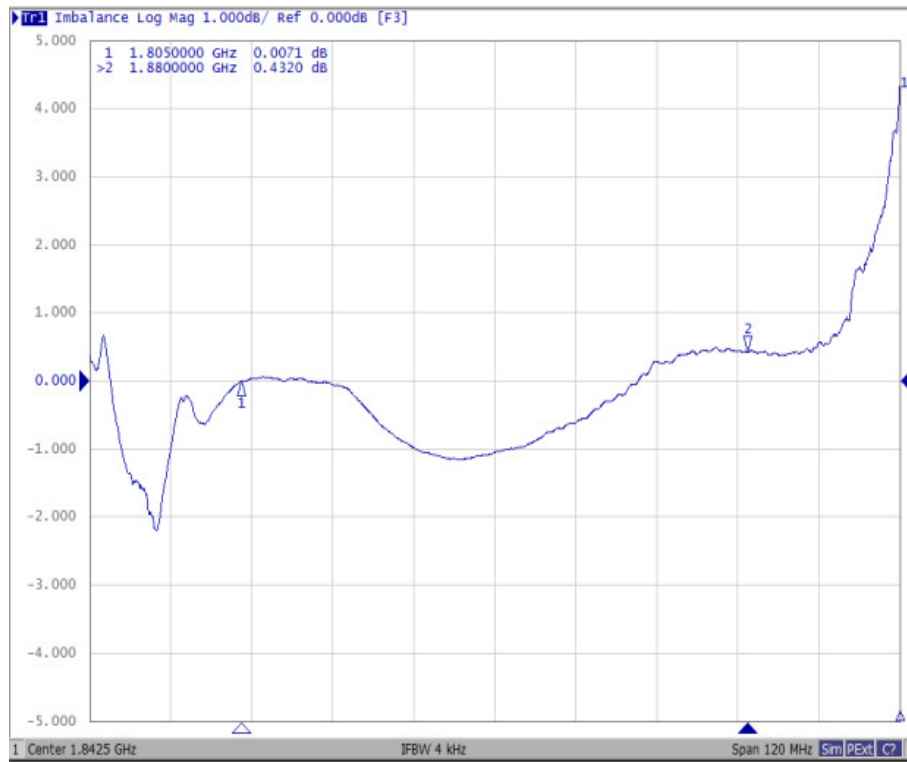
Item	Unit	Min.	Typ.	Max.
Center Frequency F_c	MHz	-	1842.5	-
Insertion Loss (1805~1880 MHz) IL	dB(*1)	-	3.2	4.5
Amplitude Ripple (1805~1880 MHz)	dB	-	1.9	3.3
Input VSWR (1805~1880 MHz)	-	-	1.8	2.3
Output VSWR (1805~1880 MHz)	-	-	2.0	2.3
Amplitude Balance ($ S_{21} / S_{31} $) (1805~1880 MHz)	dB	-1.3	+0.8/-0.5	+1.3
Phase Balance ($(\phi S_{21}-\phi S_{31})+180$) (1805~1880 MHz)	deg	+12	+3/-3	-12
Attenuation (Reference level from 0 dB)				
10 ~ 1300 MHz	dB	40	63	-
1300 ~ 1705 MHz	dB	40	53	-
1705 ~ 1785 MHz	dB	41	45	-
1920 ~ 1980 MHz	dB	24	28	-
1980 ~ 3000 MHz	dB	30	38	-
3000 ~ 5000 MHz	dB	30	50	-
5000 ~ 6000 MHz	dB	30	48	-

(*1) Specification of insertion loss includes loss that comes from the test board. (0.15 dB)

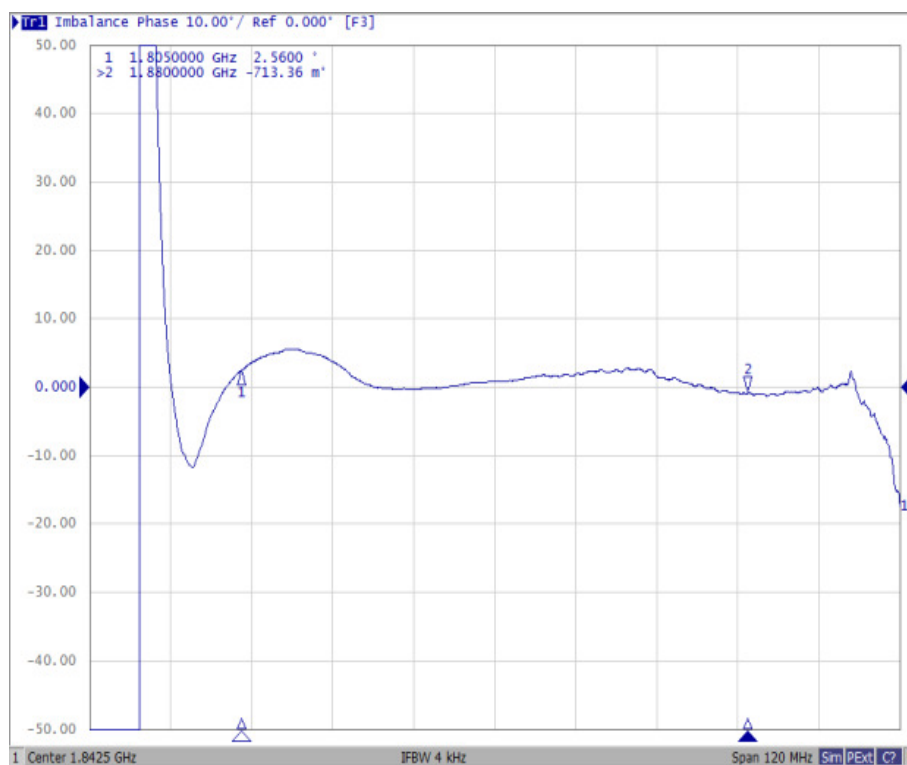
C. FREQUENCY CHARACTERISTICS:



Amplitude Balance

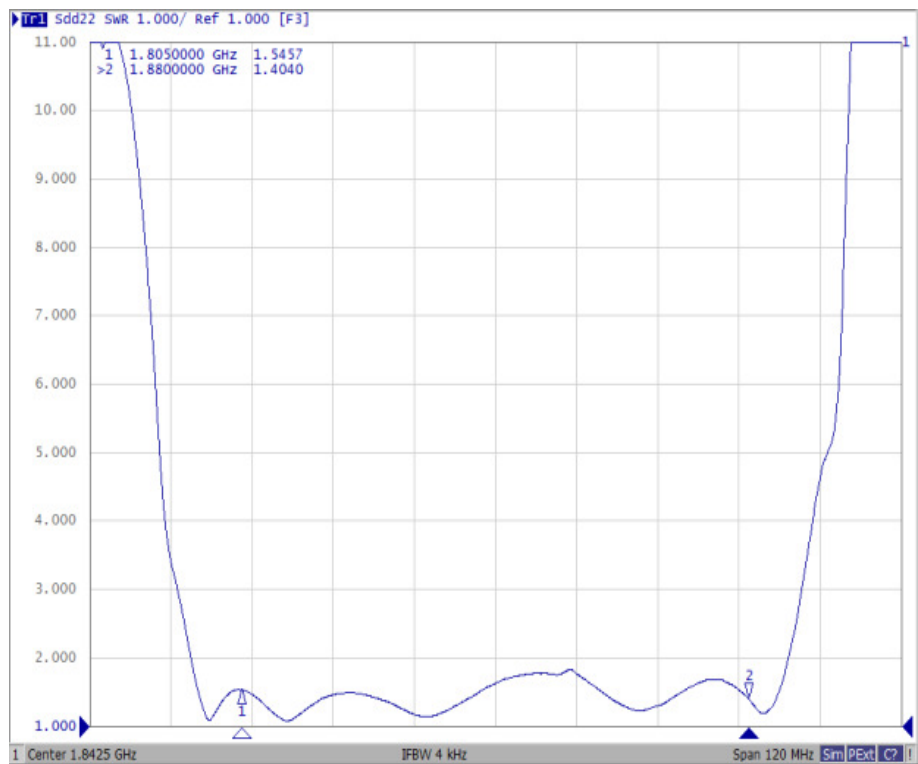
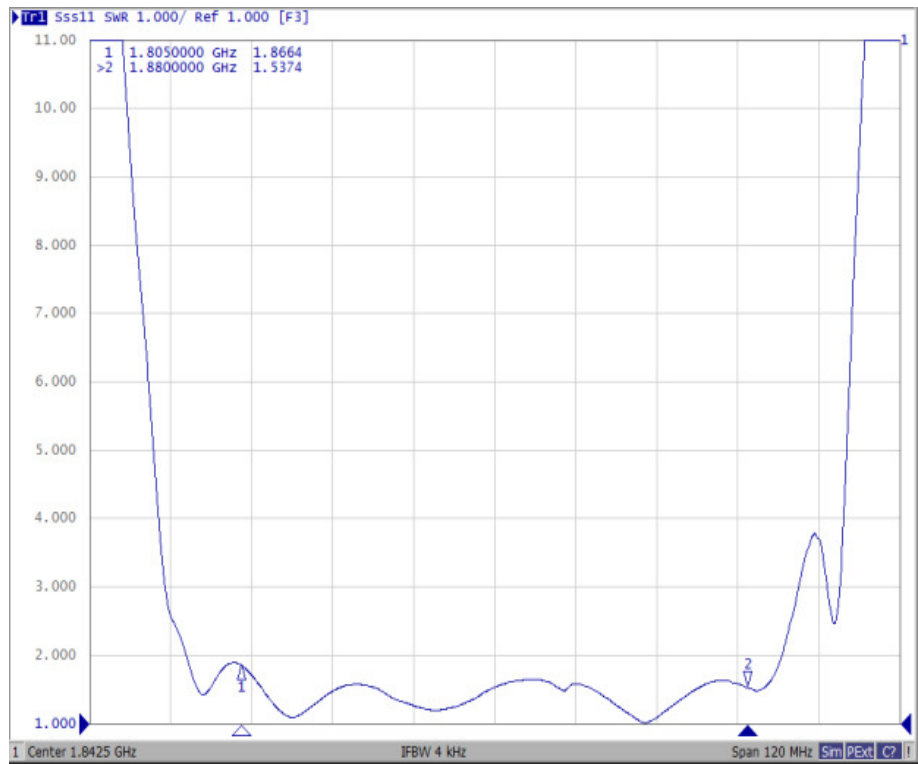


Phase Balance

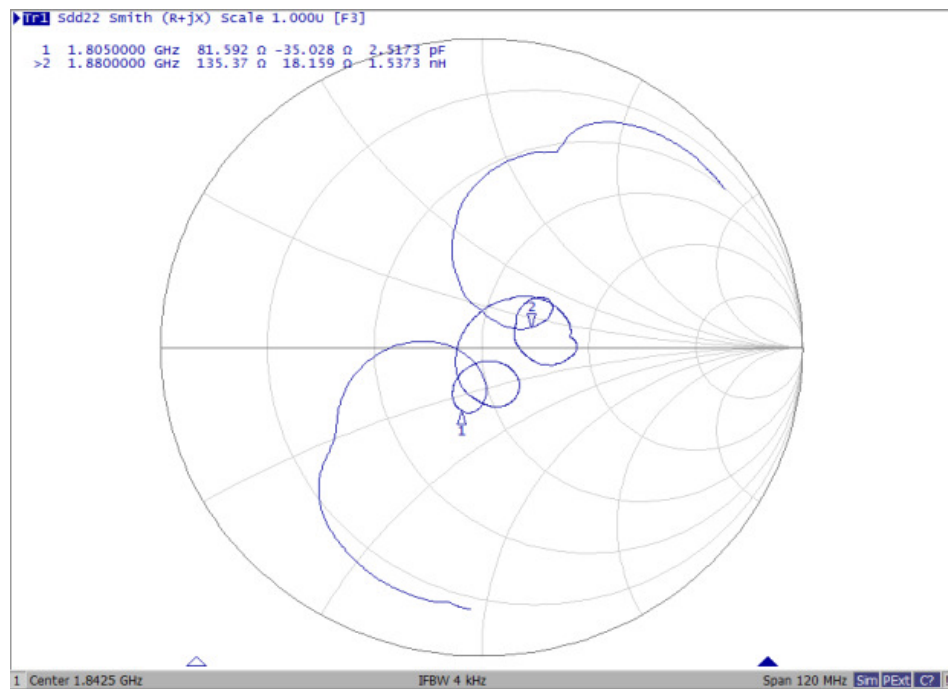
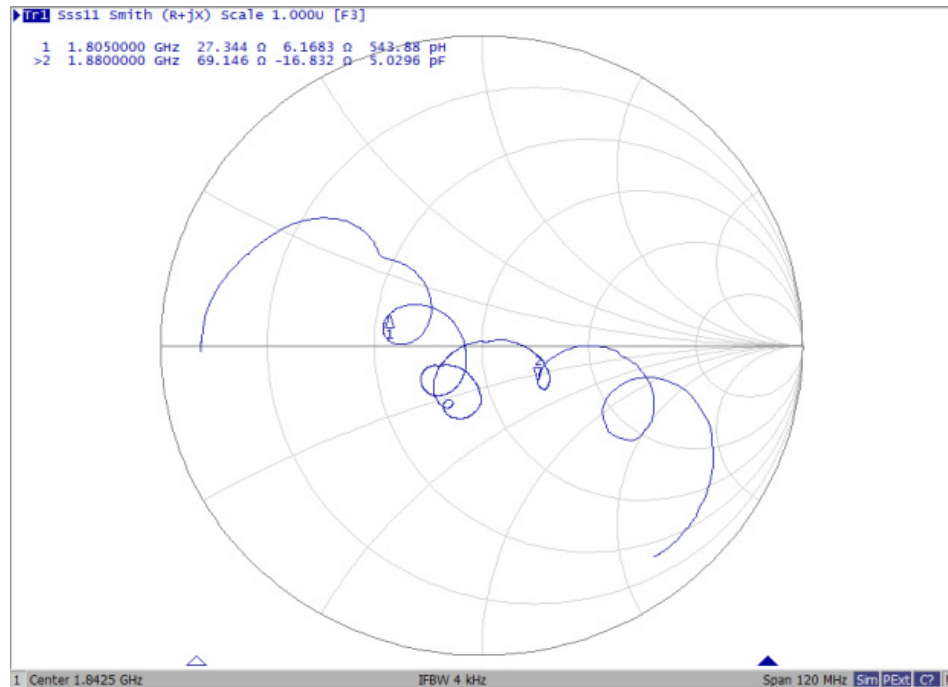


Reflection Functions:

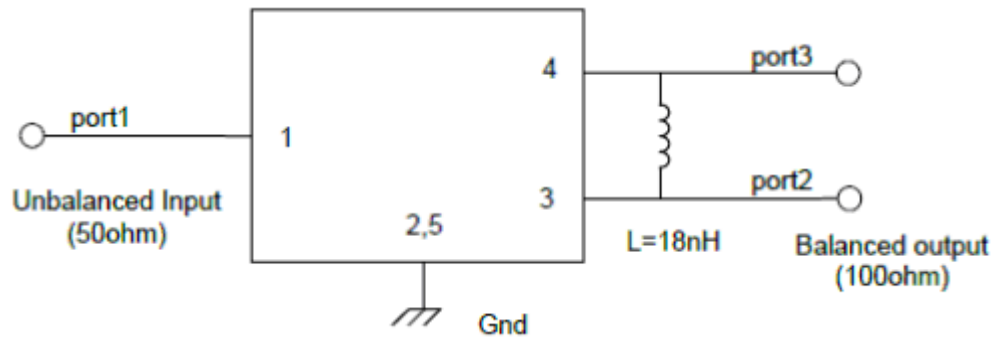
VSWR



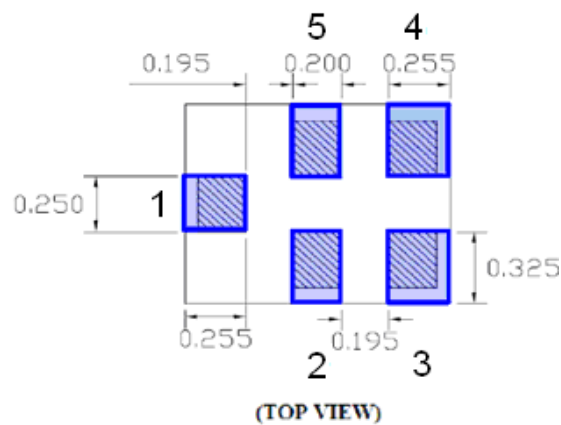
Smith Chart



D. MEASUREMENT CIRCUIT:

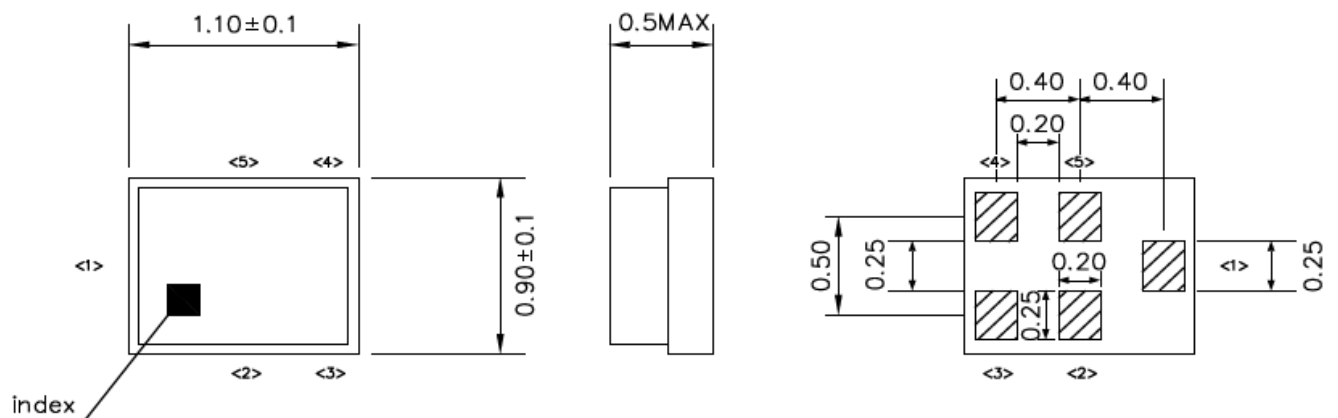


E. PCB Footprint:



F. OUTLINE DRAWING:

Device size: 1.1typ. x 0.9typ. x 0.5max.

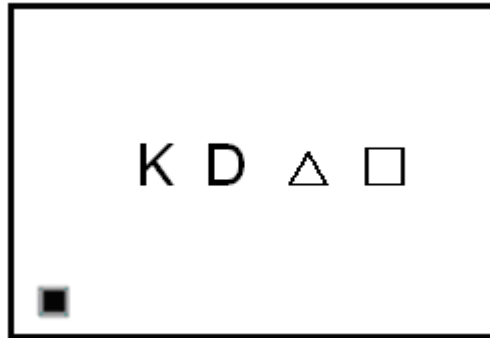


Unit : mm

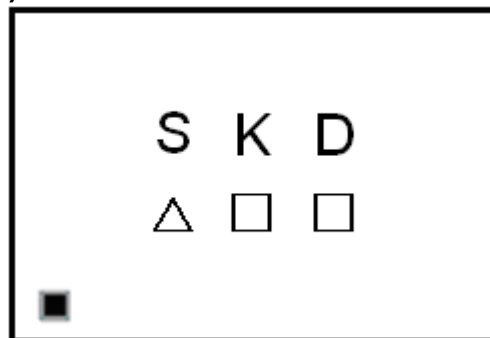
Pin Configuration

Pin No.	Symbol	Function
1	IN	Unbalanced input
2	GND	Ground
3	OUT	Balanced Output
4	OUT	Balanced Output
5	GND	Ground

Top View (Sample Production):



Top View (Mass Production):



△ : Date Code

□ : Lot No. (Indicated by 0~9 or A to Z and a to z, except I, O, i, o and l)

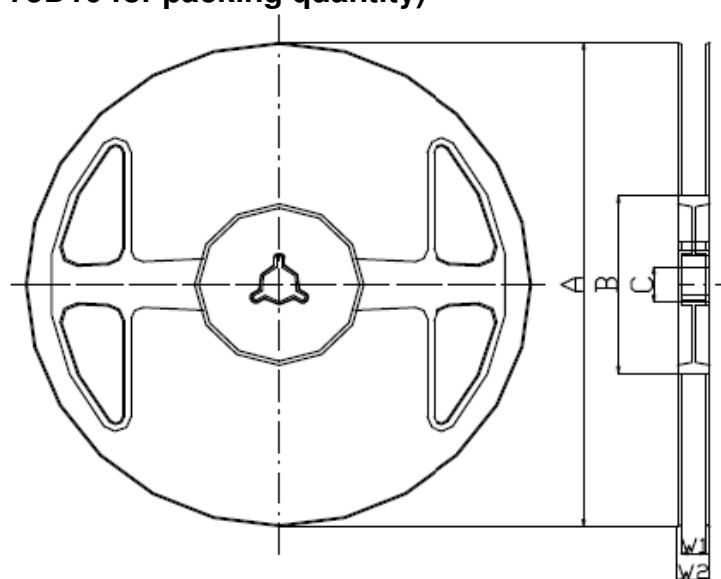
Date Code:

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2017	A	B	C	D	E	F	G	H	J	K	L	M
2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019	a	b	c	d	e	f	g	h	j	k	l	m
2020	n	p	q	r	s	t	u	v	w	x	y	z

G. PACKING: (Ref: WI-75M03)

1. REEL DIMENSION

(Please refer to FR-75D10 for packing quantity)



Materials of Reel

Material : Polystyrene + Carbon

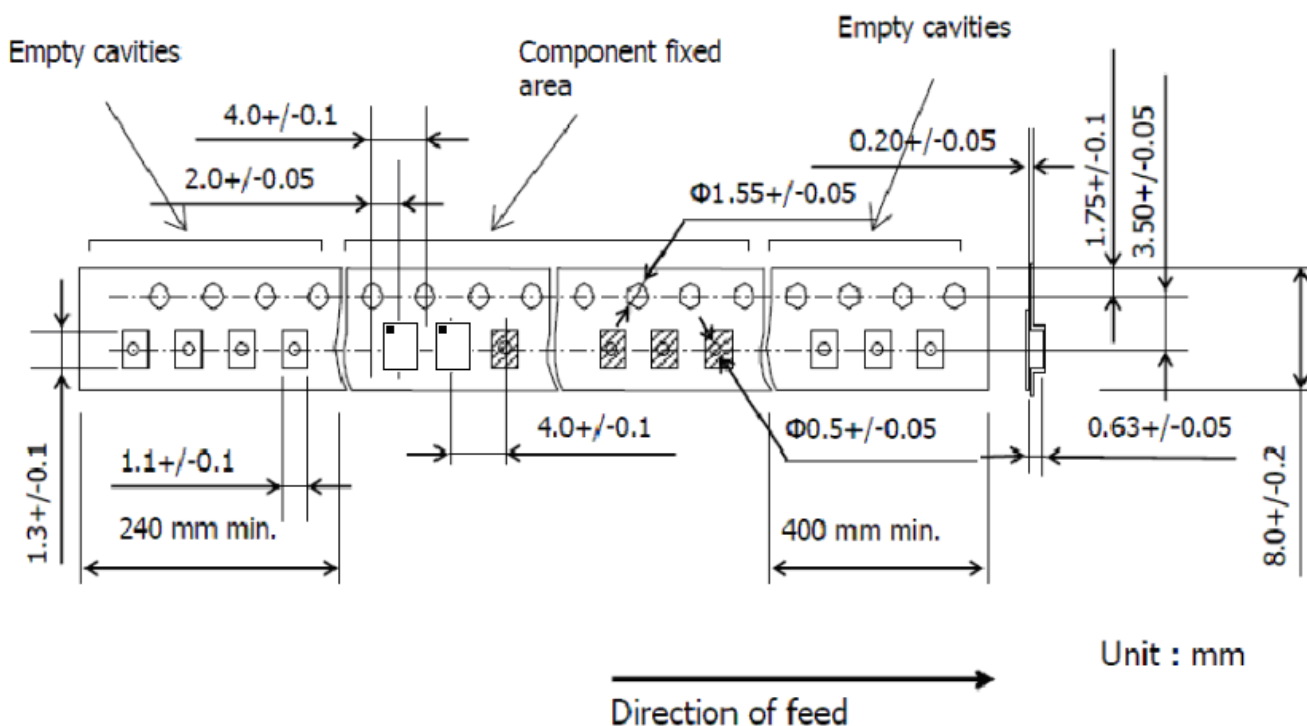
Color : Black

Surface resistance (reference value) : $10^9 \Omega/\text{sq}$ Max.

Unit : mm

A	B	C	W1	W2
$\phi 180.0 +0.0/-1.5$	$\phi 66.0 +/-0.5$	$\phi 13.0 +/-0.2$	$9.0 +1.0/-0.0$	$11.4 +/-1.0$

2. TAPE DIMENSION



Unit : mm

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 260°C +0/-5°C peak (20~40sec).
4. Time: 2 times.

