TAI-SAW TECHNOLOGY CO., LTD.
No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,
Taoyuan, 324, Taiwan, R.O.C.
TEL: 886-3-4690038 FAX: 886-3-4697532
E-mail: tstsales@mail.taisaw.com Web: www.taisaw.com

Product Specifications Approval Sheet

Product Description: SAW Filter 1582.47 MHz GPS+GLONASS+Compass

SMD 1.1X0.9 mm (BW=46.84 MHz)

TST Part No.: TA1954D

Customer Part No.:_____

Customer signature required

Company:_____

Division: _____

Approved by : _____

Date: _____

Checked by:_____ Hayley Chou _____

Approved by:_____ Andy Yu _____

Date:_____ 2017/03/03 _____

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 1582.47 MHz SMD 1.1X0.9 mm (BW=46.84 MHz)

MODEL NO.:TA1954D REV. NO.:1.0

A. MAXIMUM RATING:

1. Maximum Input Power: 15 dBm
2. Operating Temperature: -30 °C to +85 °C
3. Storage Temperature: -40 °C to +85 °C
4. Maximum ESD: +/-50 V (Human body model)

RoHS Compliant
Lead free
Lead-free soldering

Electrostatic **S**ensitive **D**evice (**ESD**)

B. ELECTRICAL CHARACTERISTICS:

Terminating source impedance: Zs = 50 Ω (Single-ended)

Terminating load impedance: Z_L = 50 Ω (Single-ended)

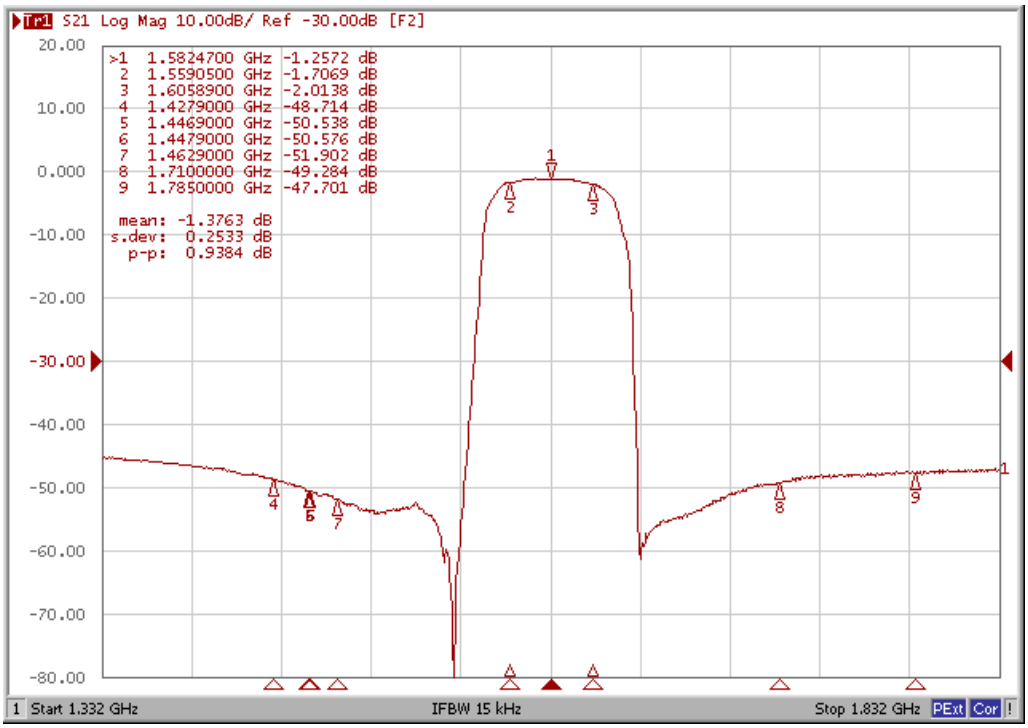
Parameters Description		Unit	Min.	Typ.	Max.
Center Frequency		MHz	-	1582.47	-
Insertion Loss	1574.42 ~ 1576.42 MHz	dB	-	1.2	1.7
	1597.55 ~ 1605.89 MHz	dB	-	2.0	2.5
	1559.05 ~ 1563.14 MHz	dB	-	1.7	2.5
Amplitude Ripple	1574.42 ~ 1576.42 MHz	dB_{p-p}	-	0.1	0.8
	1597.55 ~ 1605.89 MHz	dB_{p-p}	-	0.55	0.14
	1559.05 ~ 1563.14 MHz	dB_{p-p}	-	0.2	1.2
Group Delay Ripple	1574.42 ~ 1576.42 MHz	nsec	-	1.0	6.0
	1597.55 ~ 1605.89 MHz	nsec	-	6.0	12.5
	1559.05 ~ 1563.14 MHz	nsec	-	5.0	16.0
VSWR(Input/Output)	1574.42 ~ 1576.42 MHz	-	-	1.5	2.1
	1597.55 ~ 1605.89 MHz	-	-	1.4	2.0
	1559.05 ~ 1563.14 MHz	-	-	1.5	2.0

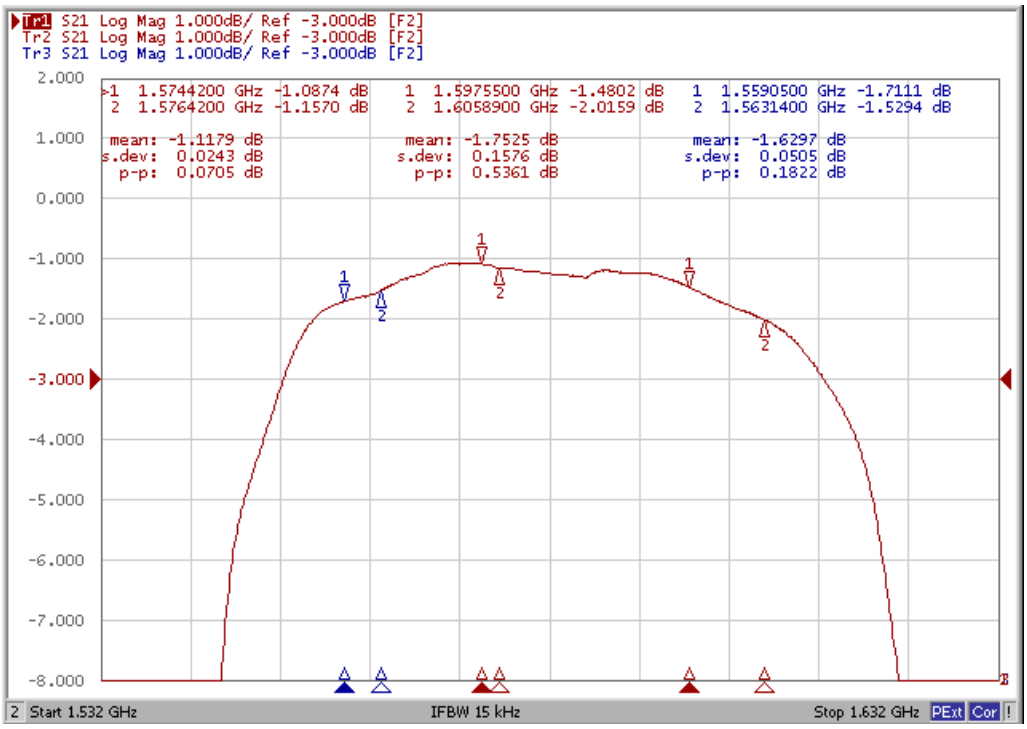
Attenuation:				
699.0~716.0 MHz	dB	37	42	-
777.0~787.0 MHz	dB	37	42	-
814.0~849.0 MHz	dB	37	42	-
880.0~915.0 MHz	dB	37	42	-
1427.9~1446.9MHz	dB	43	48	-
1447.9~1462.9 MHz	dB	45	50	-
1710.0~1785.0 MHz	dB	40	47	-
1850.0~1915.0 MHz	dB	40	46	-
1920.0~1980.0 MHz	dB	40	46	-
2400.0~2500.0 MHz	dB	37	42	-
2500.0~2570.0 MHz	dB	37	42	-

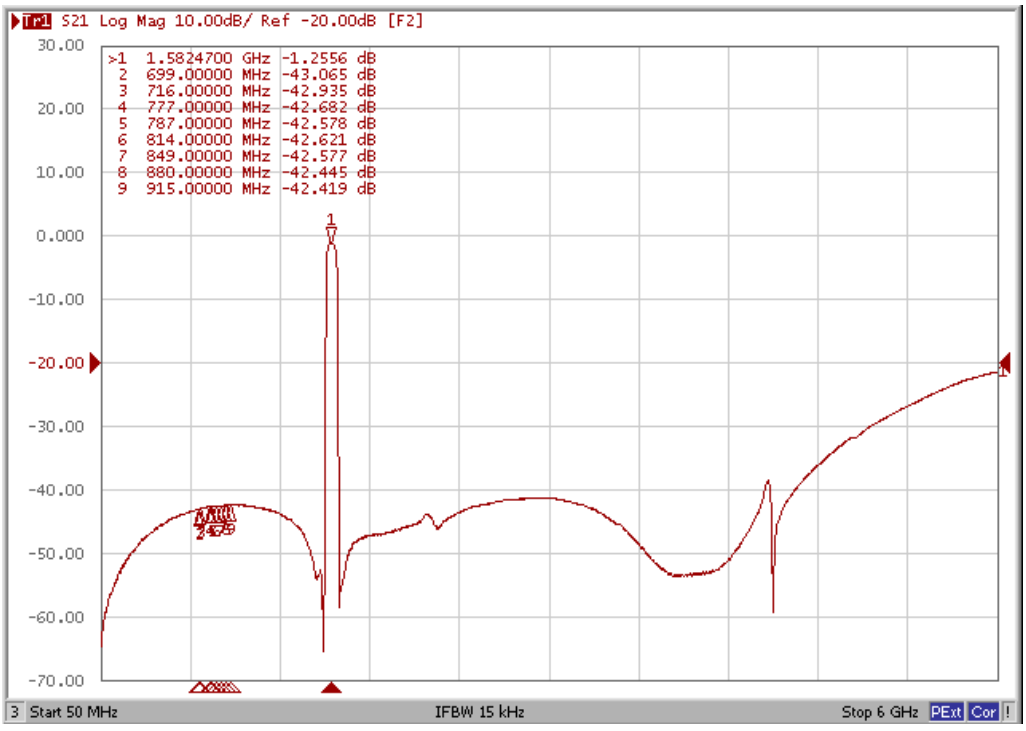
Notes: (1) No Matching Network.

C. FREQUENCY CHARATERISTIC:

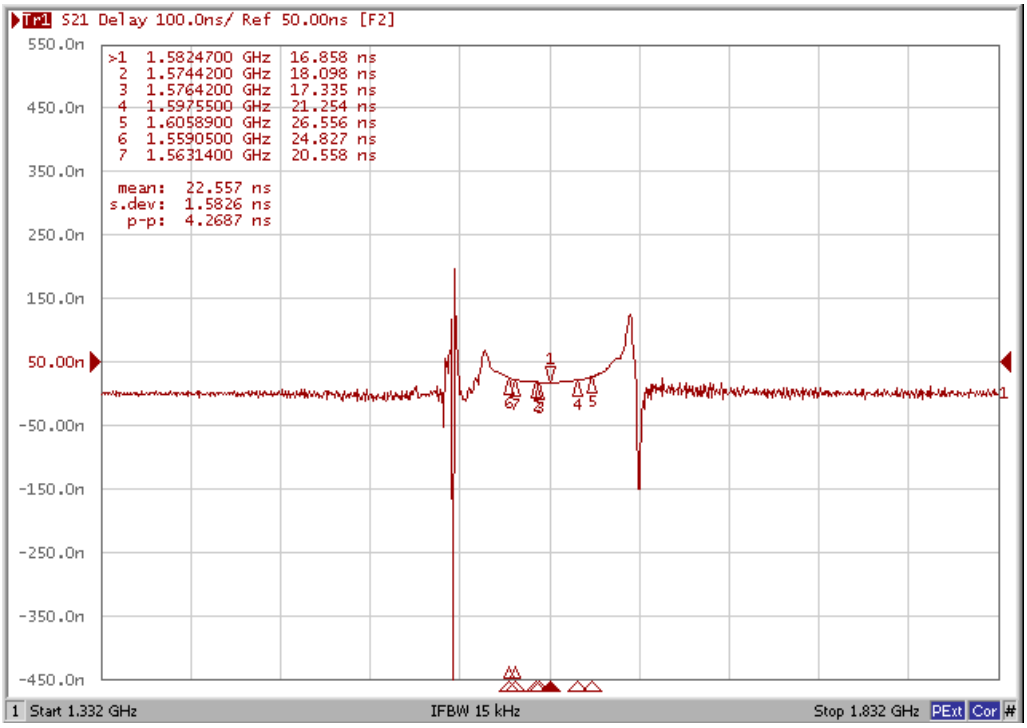
Frequency Response



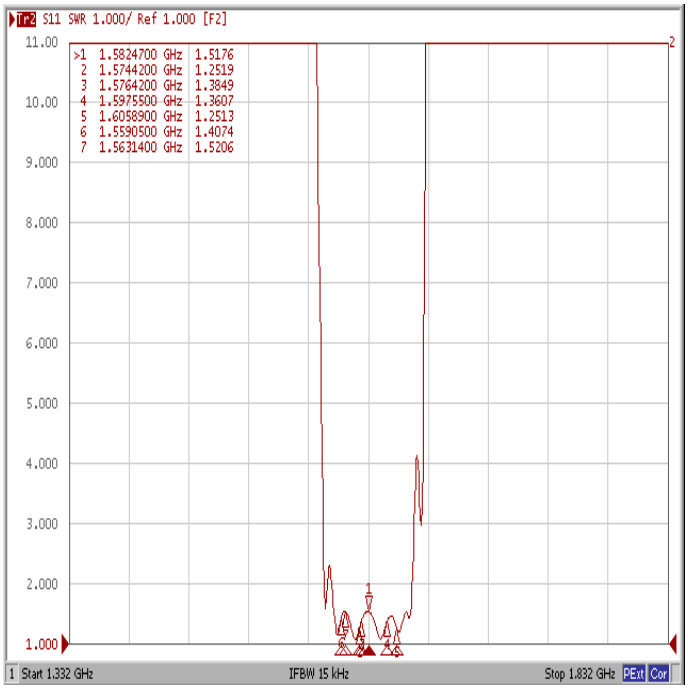

Tr1 S21 Log Mag 1.000dB/ Ref -3.000dB [F2]
Tr2 S21 Log Mag 1.000dB/ Ref -3.000dB [F2]
Tr3 S21 Log Mag 1.000dB/ Ref -3.000dB [F2]
>1 1.5744200 GHz -1.0874 dB
2 1.5764200 GHz -1.1570 dB
mean: -1.1179 dB
s.dev: 0.0243 dB
p-p: 0.0705 dB
1 1.5975500 GHz -1.4802 dB
2 1.6058900 GHz -2.0159 dB
mean: -1.7525 dB
s.dev: 0.1576 dB
p-p: 0.5361 dB
1 1.5590500 GHz -1.7111 dB
2 1.5631400 GHz -1.5294 dB
mean: -1.6297 dB
s.dev: 0.0505 dB
p-p: 0.1822 dB
2.000
1.000
0.000
-1.000
-2.000
-3.000
-4.000
-5.000
-6.000
-7.000
-8.000
2 Start 1.532 GHz
IFBW 15 kHz
Stop 1.632 GHz
PExt Cor

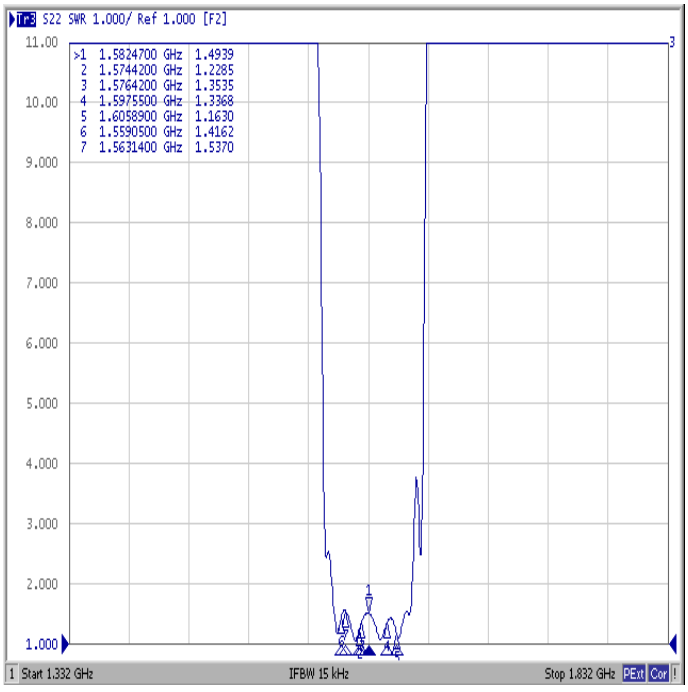

Tr1 S21 Log Mag 10.00dB/ Ref -20.00dB [F2]
>1 1.5824700 GHz -1.2556 dB
2 699.00000 MHz -43.065 dB
3 716.00000 MHz -42.935 dB
4 777.00000 MHz -42.682 dB
5 787.00000 MHz -42.578 dB
6 814.00000 MHz -42.621 dB
7 849.00000 MHz -42.577 dB
8 880.00000 MHz -42.445 dB
9 915.00000 MHz -42.419 dB
30.00
20.00
10.00
0.000
-10.00
-20.00
-30.00
-40.00
-50.00
-60.00
-70.00
3 Start 50 MHz
IFBW 15 kHz
Stop 6 GHz
PExt Cor

Group Delay Ripple

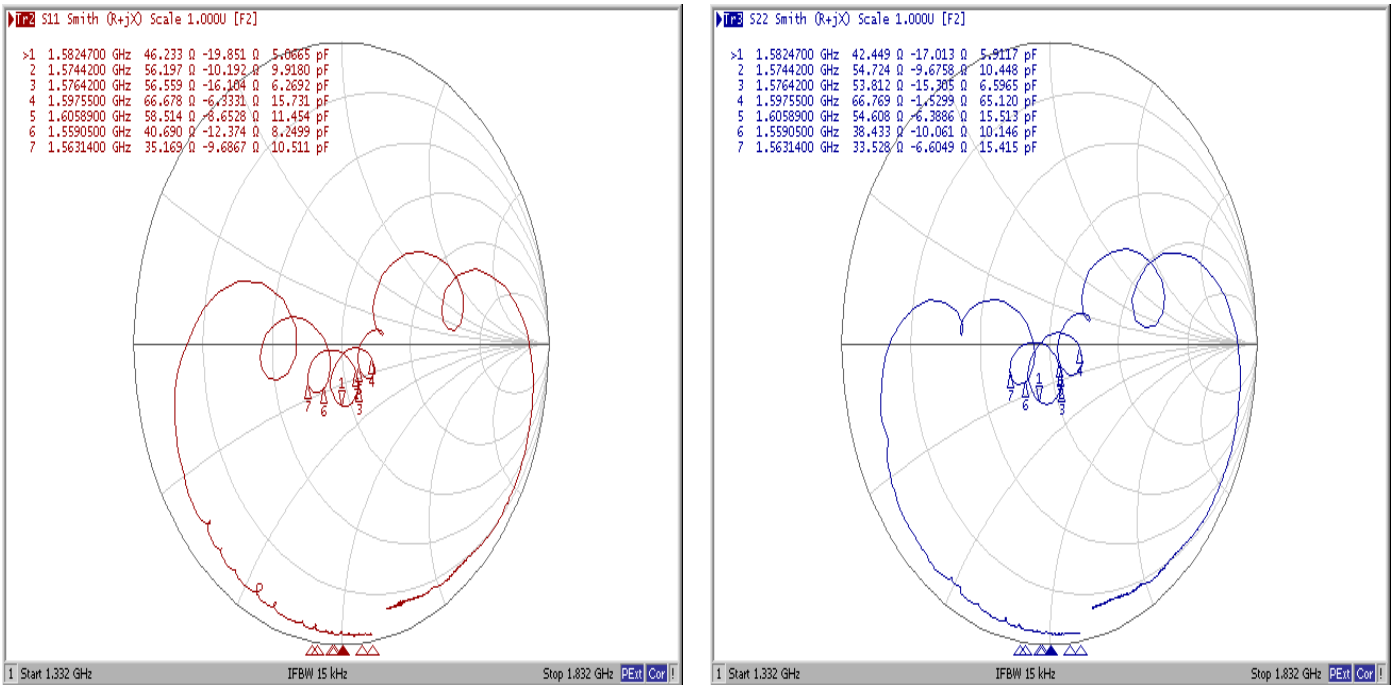


VSWR

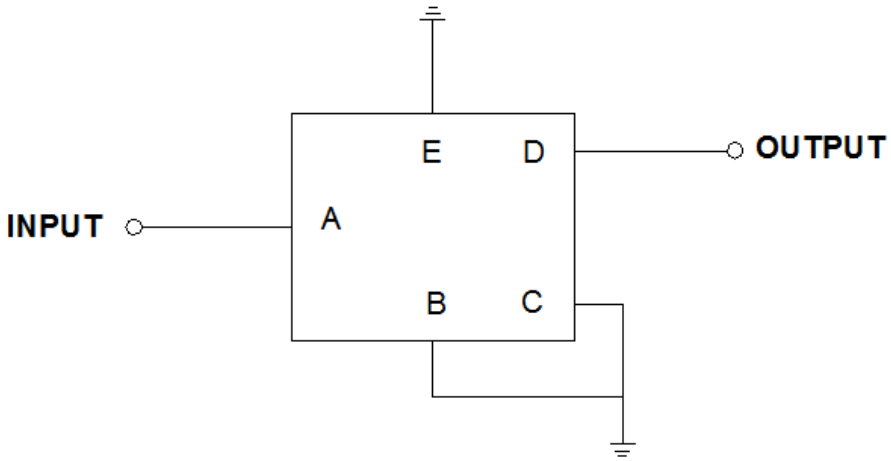




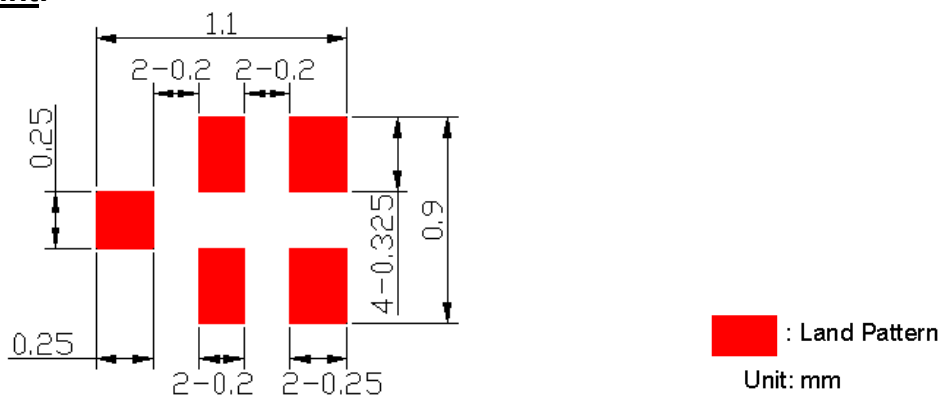
Smith Chart



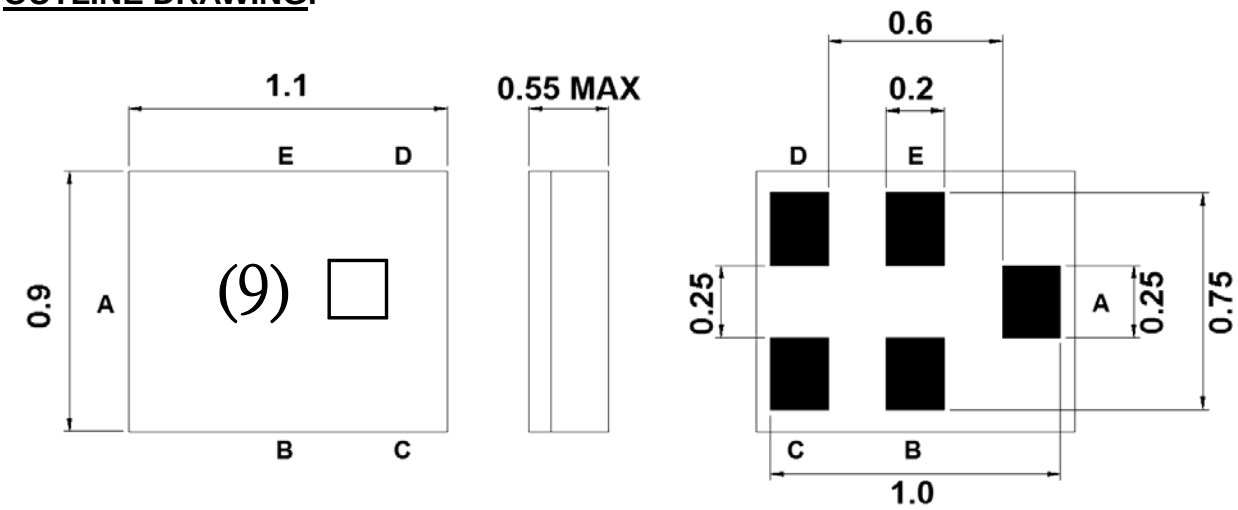
D. MEASUREMENT CIRCUIT:



E. PCB Footprint:



F. OUTLINE DRAWING:



Marking Descriptions	
(9)	Series Number
□	Date Code(Year+Month)

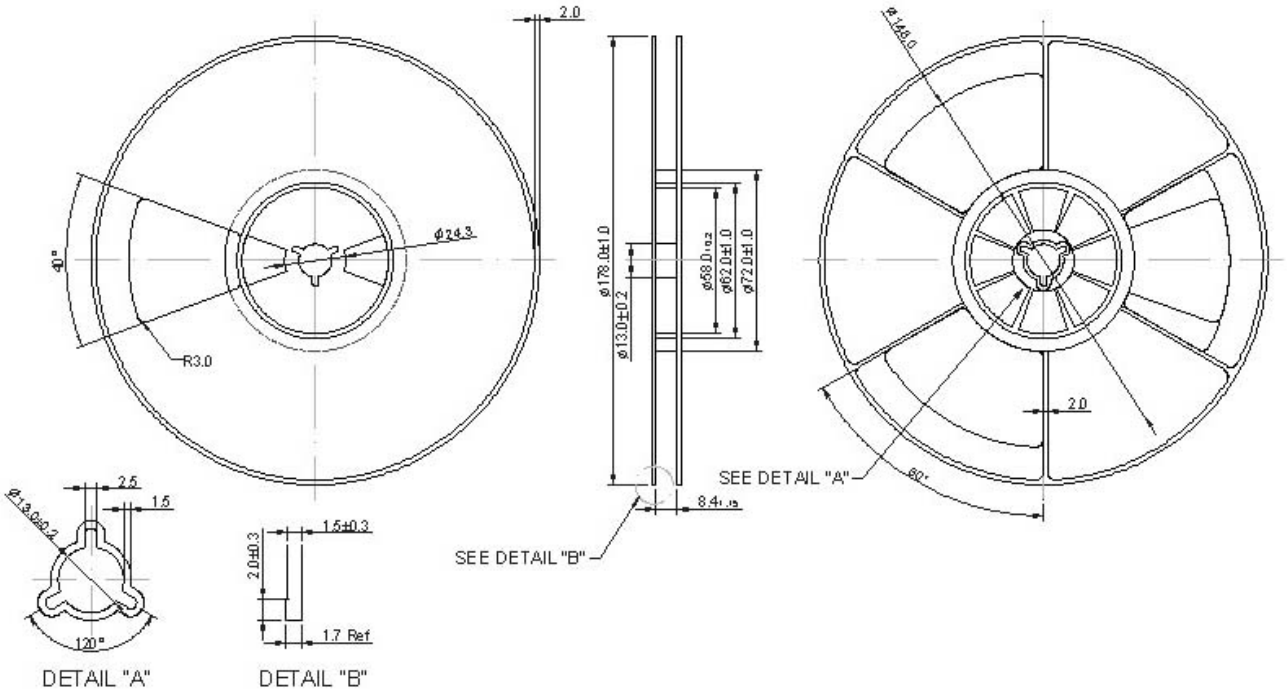
Pin Description	
B, C, E	Ground
A	Input
D	Output

Date code:

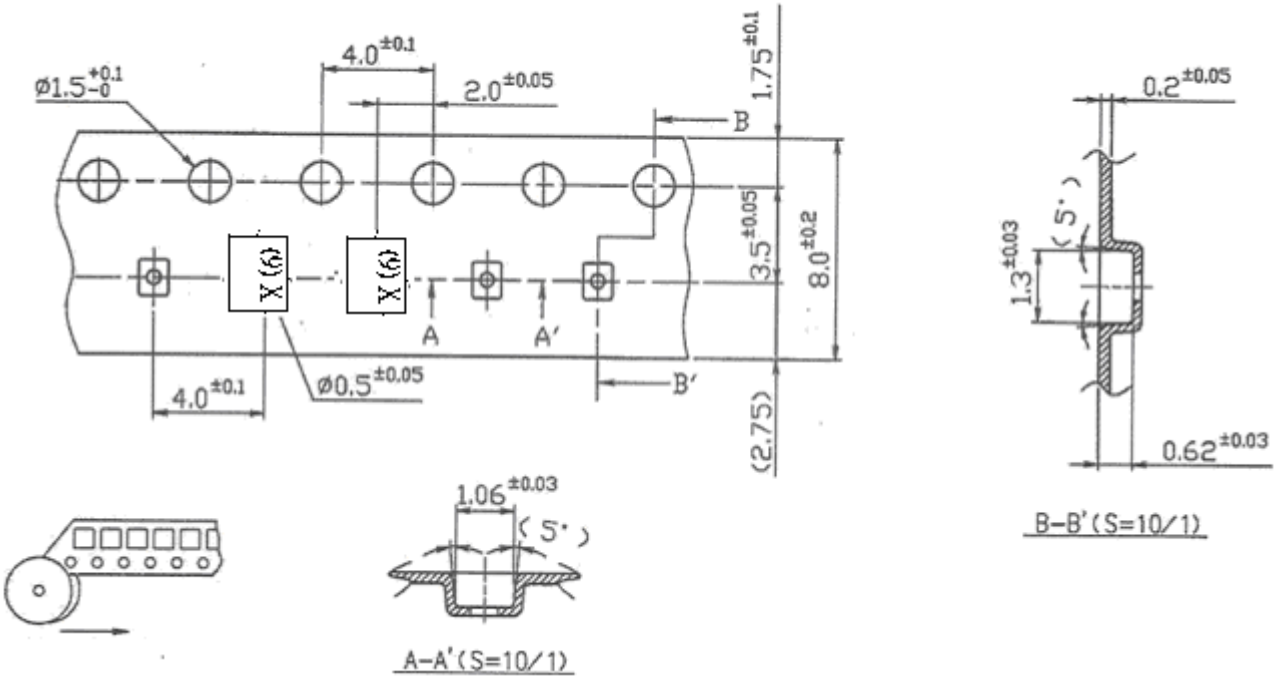
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2013	A	B	C	D	E	F	G	H	J	K	L	M
2014	N	P	Q	R	S	T	U	V	W	X	Y	Z
2015	a	b	c	d	e	f	g	h	j	k	l	m
2016	n	p	q	r	s	t	u	v	w	x	y	z
2017	A	B	C	D	E	F	G	H	J	K	L	M
2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019	a	b	c	d	e	f	g	h	j	k	l	m
2020	n	p	q	r	s	t	u	v	w	x	y	z

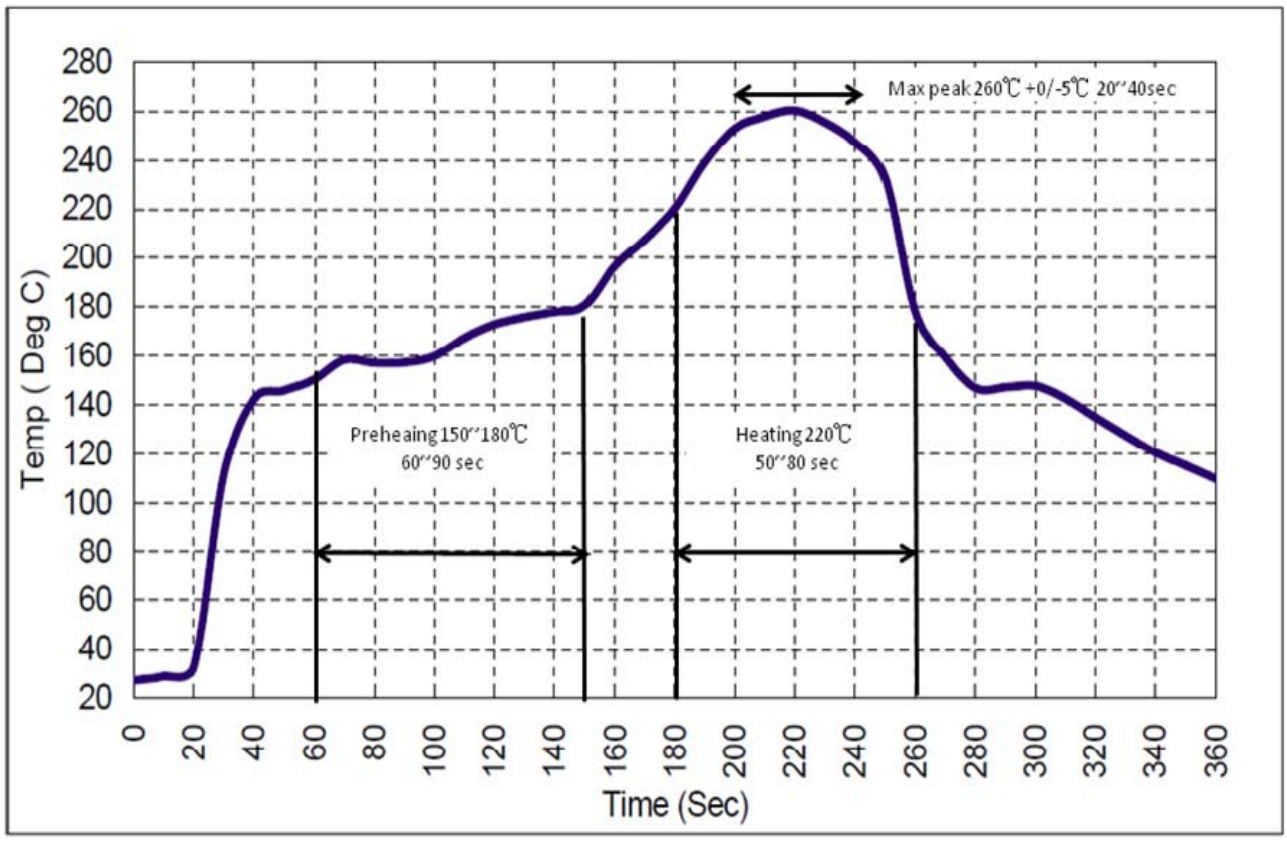
G. PACKING:

1. REEL DIMENSION



2. TAPE DIMENSION



H. <u>RECOMMENDED TEMPERATURE PROFILE OF REFLOW SOLDERING</u>:

1. Preheating shall be fixed at 150~180℃ for 60~90 seconds.
2. Ascending time to preheating temperature 150℃ shall be 30 seconds min.
3. Heating shall be fixed at 220℃ for 50~80 seconds and at 260℃+0/-5℃ peak (20~40sec).
4. Time: 2 times.