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 Tx Filter 782MHz LTE Band 13 SMD 1109

TST Part No.: TA1813A

Customer Part No.:_____

Customer signature required

Company:_____

Division: _____

Approved by : _____

Date: _____

Checked by:_____ Hayley Chou

Approved by:_____ Andy Yu

Date:_____ 2017, 04. 05

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 Tx Filter 782MHz LTE Band 13 SMD 1109 (10MHz BW)

MODEL NO.: TA1813A REV. NO.:2

A. MAXIMUM RATING:

1. Input Power Level: 15 dBm
2. DC Voltage : 3V
3. Operating Temperature: -30℃ to +85℃
4. Storage Temperature: -40℃ to +85℃
5. Moisture Sensitivity Level: Level 1 (MSL 1)
6. ESD 100V(MM) 200V(HBM)

RoHS Compliant
Lead free
Lead-free soldering

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

B. ELECTRICAL CHARACTERISTICS:

Terminating source impedance : Zs = 50 Ω

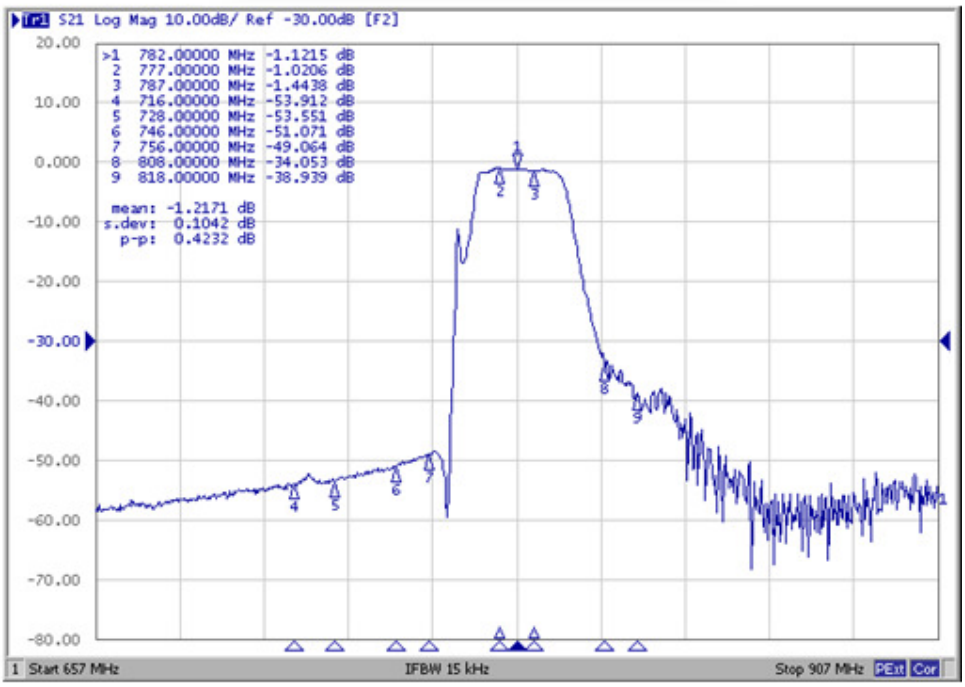
Terminating load impedance : Z_L = 50 Ω

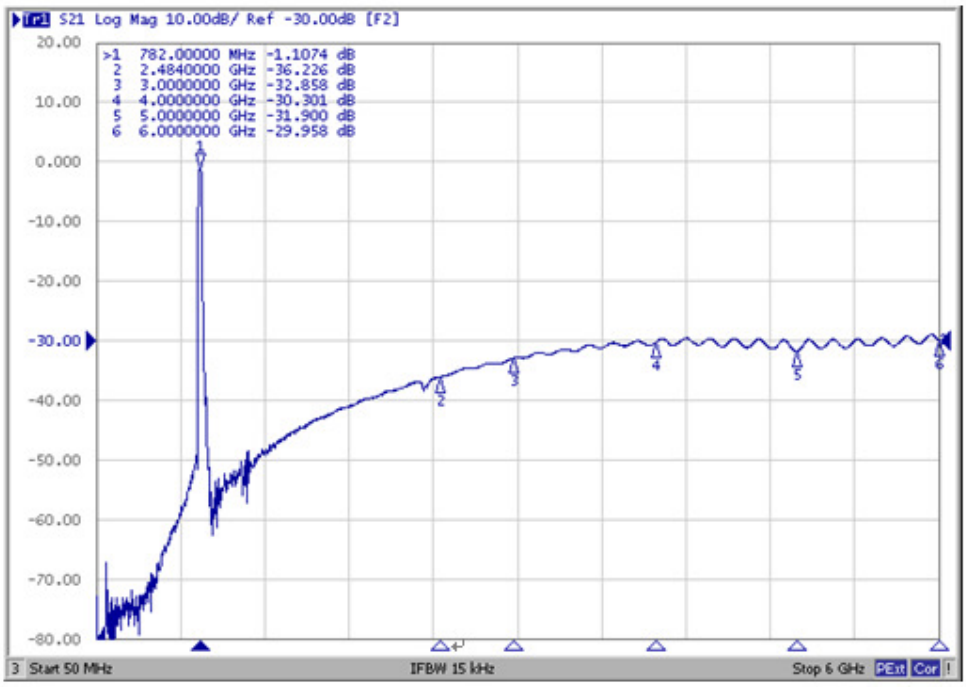
Parameters Description	Unit	Min.	Typ.	Max.	Remark
Center Frequency (Fo)	MHz	-	782.0	-	
Insertion Loss within 770.0~780.0MHz	dB	-	1.5	2.2	
Amplitude Ripple within 770.0~780.0MHz	dB_{p-p}	-	0.5	1.0	
VSWR within 770.0~780.0MHz	-	-	1.7	2.0	
Attenuation:					
DC~716.0 MHz	dB	45	59	-	
716.0 ~ 728.0 MHz	dB	45	57	-	
728.0 ~ 746.0 MHz	dB	45	57	-	
746.0 ~ 756.0 MHz	dB	45	56	-	
808.0 ~ 818.0 MHz	dB	25	31	-	
869.0 ~ 894.0 MHz	dB	40	55	-	
1554.0 ~ 1565.0 MHz	dB	35	48	-	
1565.0 ~ 1585.0 MHz	dB	35	48	-	
1597.0 ~ 1607.0 MHz	dB	35	47	-	
1805.0 ~ 1880.0 MHz	dB	30	45	-	
1930.0 ~ 1990.0 MHz	dB	30	44	-	
2110.0 ~ 2170.0 MHz	dB	30	43	-	
2331.0 ~ 2361.0 MHz	dB	29	42	-	
2400.0 ~ 2484.0 MHz	dB	27	42	-	
2484.0 ~ 3000.0 MH	dB	25	39	-	
3000.0 ~ 4000.0 MHz	dB	21	39	-	
4000.0 ~ 5000.0 MHz	dB	15	36	-	
5000.0 ~ 6000.0 MHz	dB	15	36	-	

Notes : (1) No Matching Network .

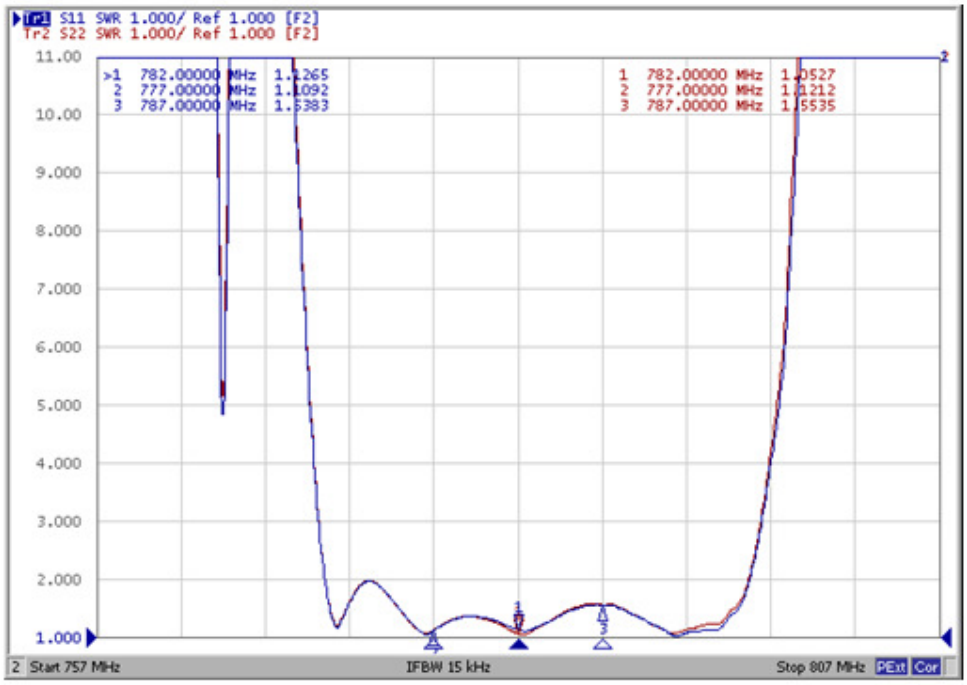
C. FREQUENCY CHARACTERISTICS:

Frequency Response

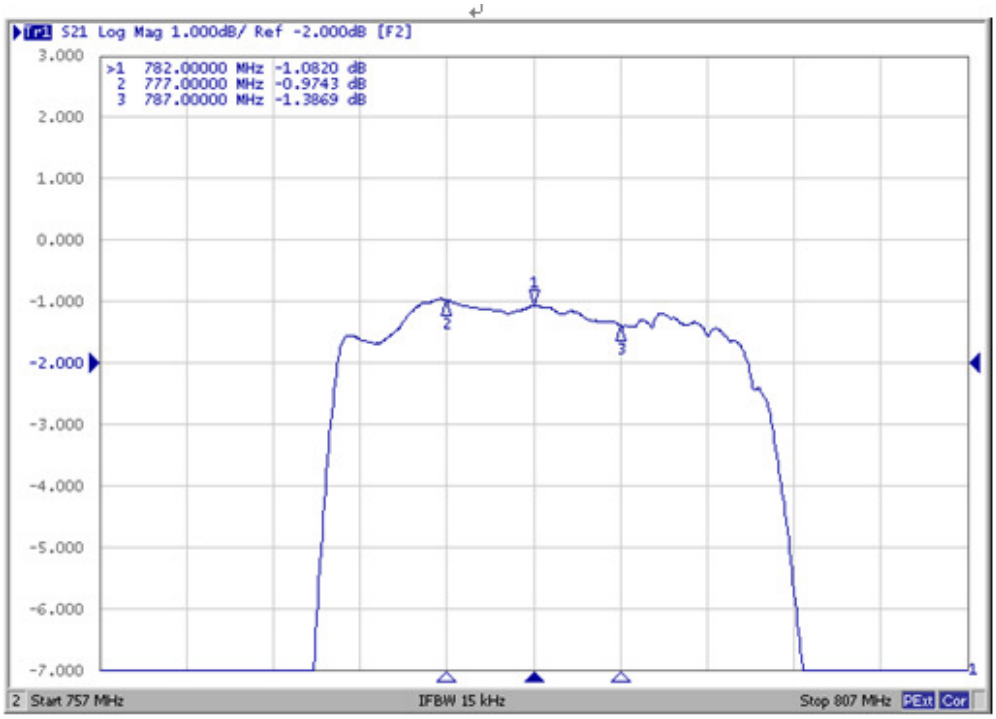




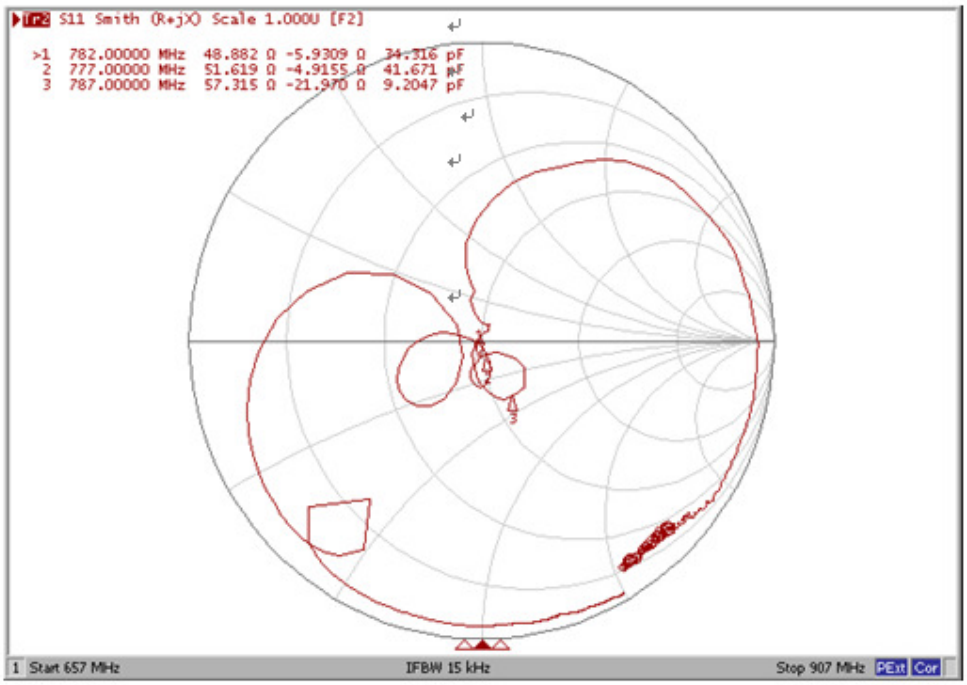
VSWR

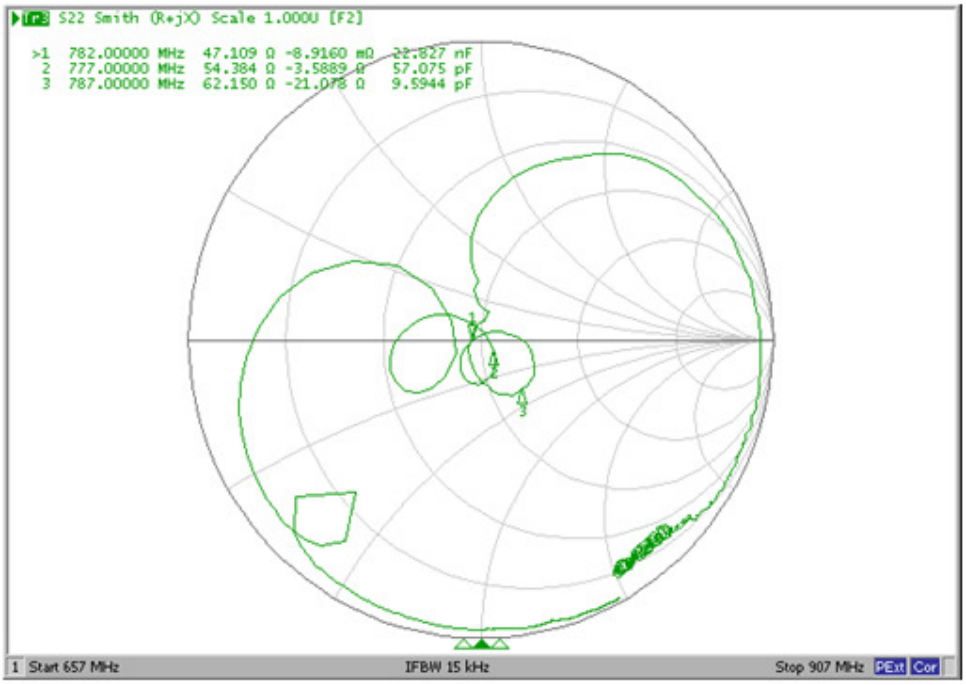

Tr1 S11 SWR 1.000/ Ref 1.000 [F2]
Tr2 S22 SWR 1.000/ Ref 1.000 [F2]
>1 782.00000 MHz 1.1265
2 777.00000 MHz 1.1092
3 787.00000 MHz 1.1383
1 782.00000 MHz 1.0527
2 777.00000 MHz 1.1212
3 787.00000 MHz 1.1535
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
2 Start 757 MHz
IFBW 15 kHz
Stop 807 MHz
PExt
Cor

Ripple

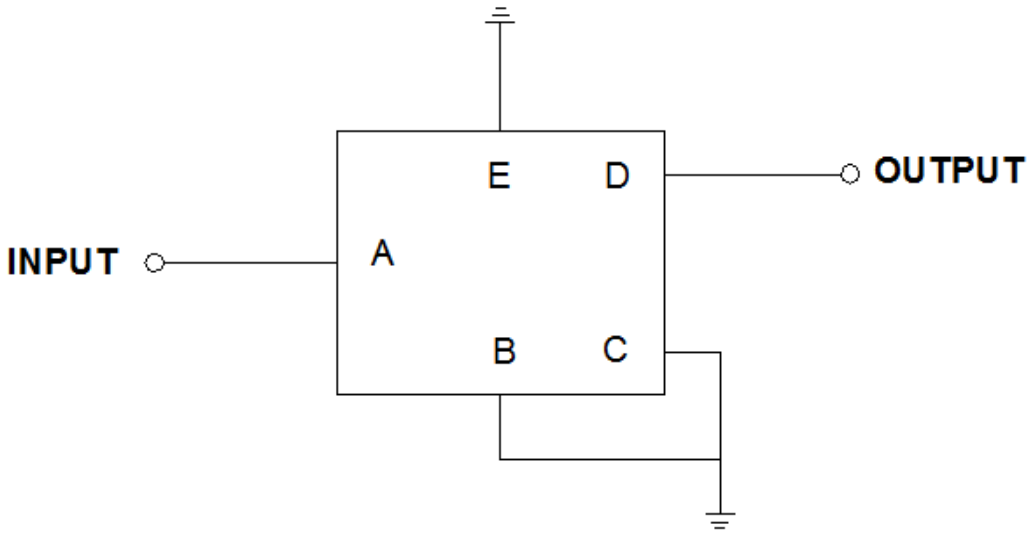

Tr1 S21 Log Mag 1.000dB/ Ref -2.000dB [F2]
>1 782.00000 MHz -1.0820 dB
2 777.00000 MHz -0.9743 dB
3 787.00000 MHz -1.3869 dB
3.000
2.000
1.000
0.000
-1.000
-2.000
-3.000
-4.000
-5.000
-6.000
-7.000
2 Start 757 MHz
IFBW 15 kHz
Stop 807 MHz
PExt
Cor

Smith Chart


S11 Smith (R+jX) Scale 1.000U [F2]
>1 782.00000 MHz 48.882 Ω -5.9309 Ω 34.316 pF
2 777.00000 MHz 51.619 Ω -4.9155 Ω 41.671 pF
3 787.00000 MHz 57.315 Ω -21.970 Ω 9.2047 pF
1 Start 657 MHz
IFBW 15 kHz
Stop 907 MHz
PExt
Cor

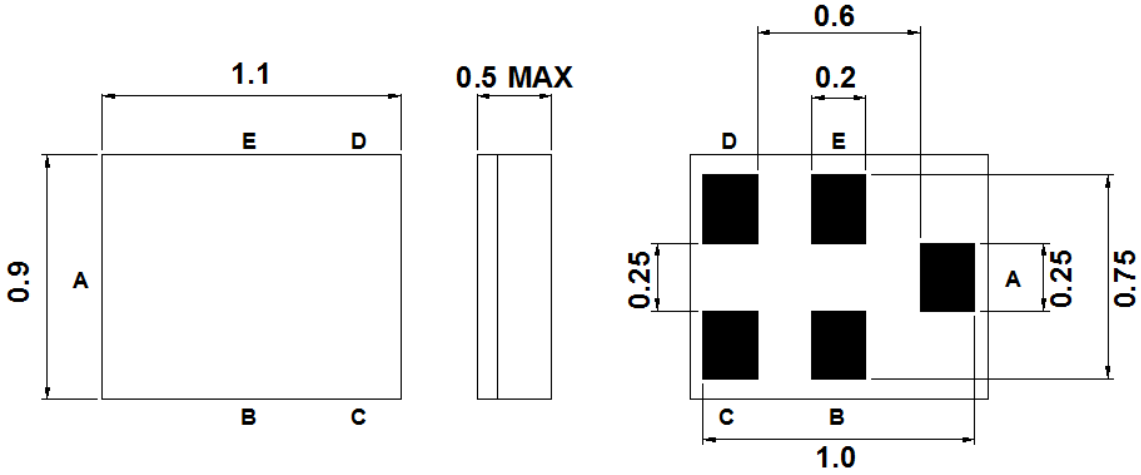

S22 Smith (R+jX) Scale 1.000U [F2]
>1 782.00000 MHz 47.109 Ω -8.9160 mΩ 22.827 nF
2 777.00000 MHz 54.384 Ω -3.5889 Ω 57.075 pF
3 787.00000 MHz 62.150 Ω -21.078 Ω 9.5944 pF
1 Start 657 MHz
IFBW 15 kHz
Stop 907 MHz
PExt
Cor

D. MEASUREMENT CIRCUIT:



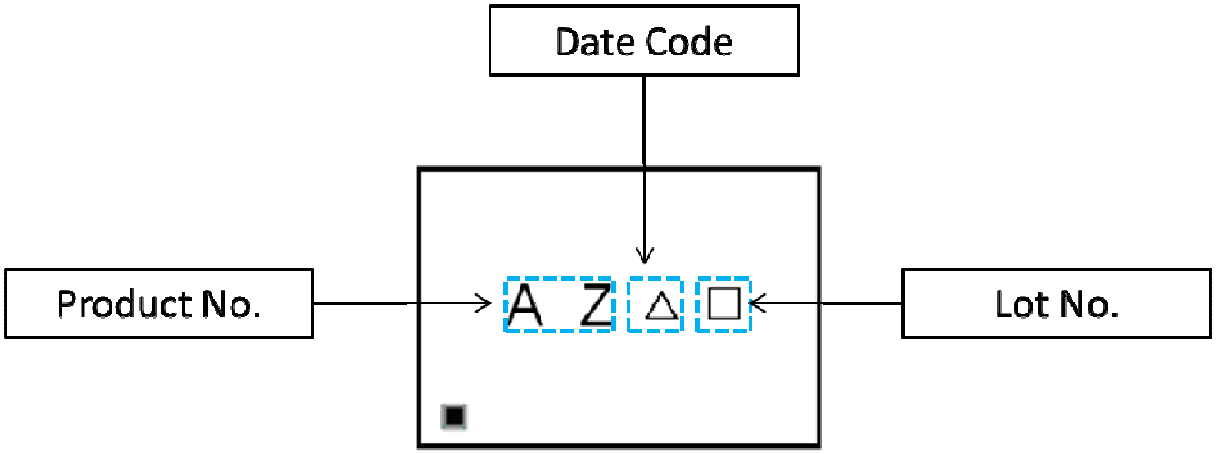
Source & Load Impedance: 50 Ω

E. OUTLINE DRAWING:

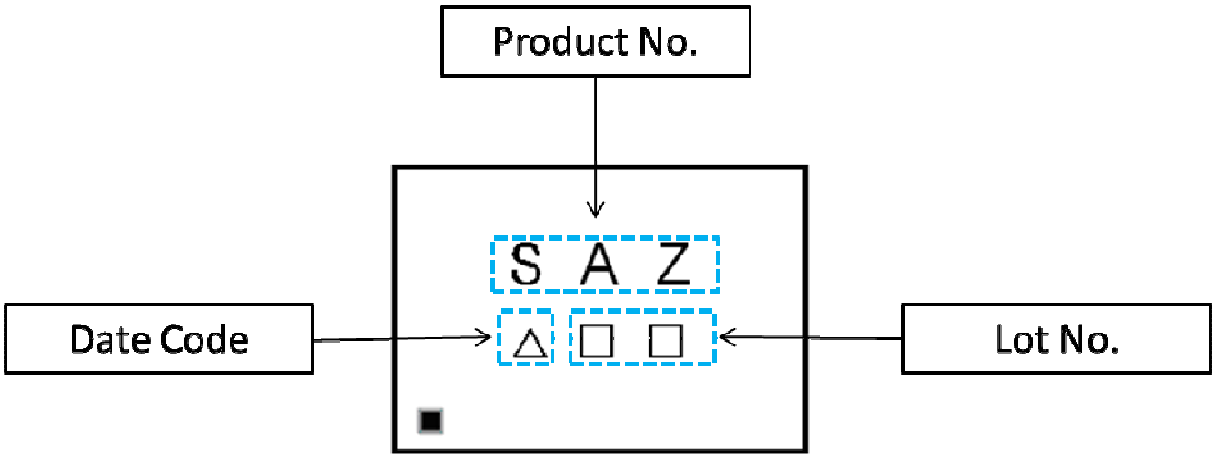


Pin Description	
B, C, E	Ground
A	Input
D	Output

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)**

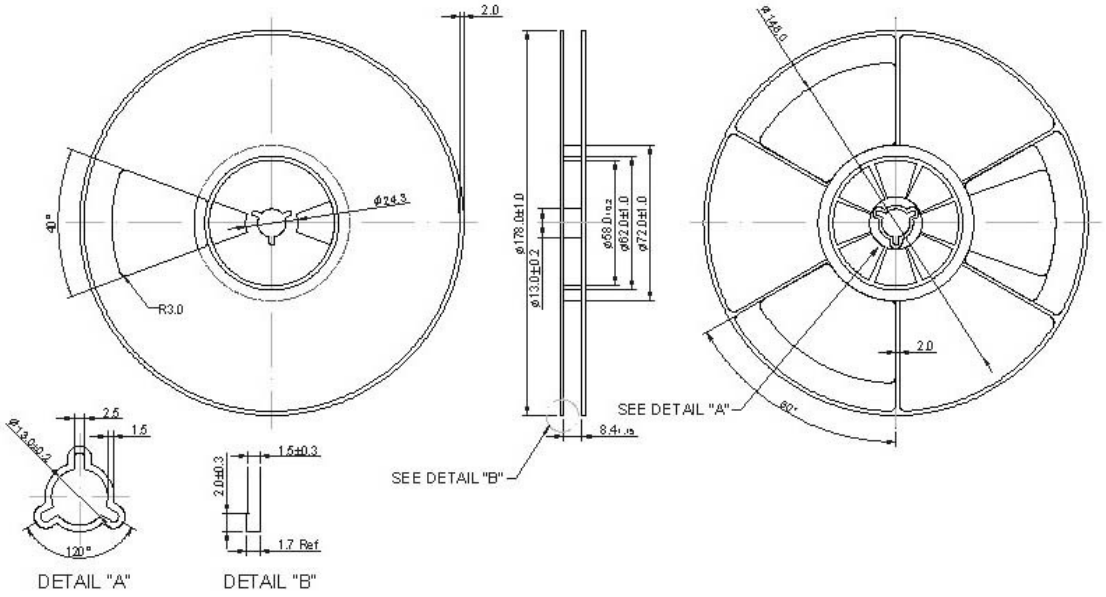
Product date Code (EIAJ)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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	∇	W	X	Y	Z

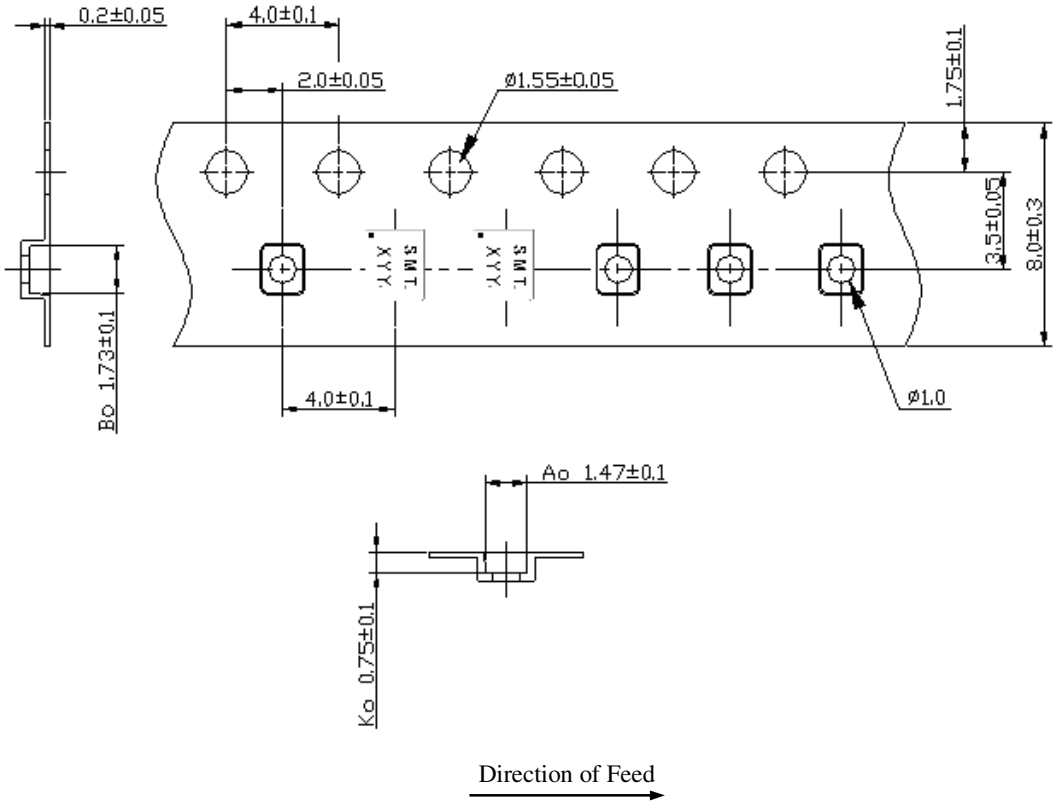
F. PACKING:

1. REEL DIMENSION

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



2.TAPE DIMENSION



G. RECOMMENDED REFLOW PROFILE :

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.