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 Oscillator 680.3717MHz SMD 13.7X9.4 mm

TST Part No.: TS0033A

Customer Part No.:_____

Customer signature required

Company:_____

Division:_____

Approved by :_____

Date:_____

Checked by: Mac Hsu

Approved by: Andy Yu

Date: 2015/01/13

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 Oscillator 680.3717MHz SMD 13.7X9.4 mm

MODEL NO.: TS0033A REV. NO.:1.0

RoHS Compliant
Lead free
Lead-free soldering

Electrostatic Sensitive Device (ESD)

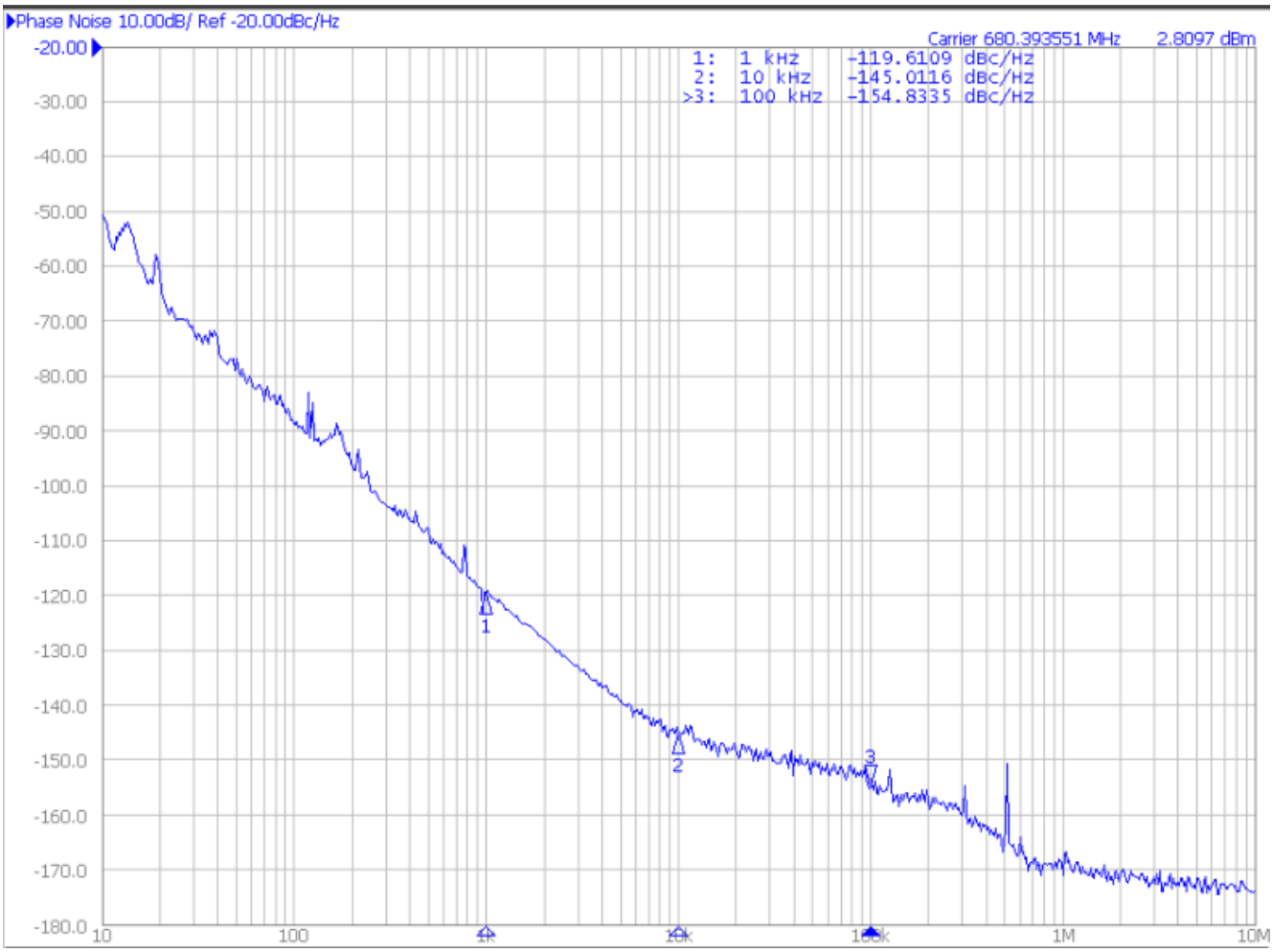
A. Electrical Specifications:

Parameter	Symbol	Limits			Units
		min.	typ.	max.	
Output Frequency	-	-	**680.3717**	-	MHz
Frequency tolerance	-	-250	-	250	ppm
Current Consumption	-	-		40	mA
Output(Disabled) Amplitude into 50Ω	-	-	-	75	mV p-p
Output DC Resistance (between Q and $\overline{Q}$)	-	50	-	-	KΩ
Enable Input HIGH Voltage	V_{IH}	Vcc-0.1	Vcc	Vcc+0.1	V
Input LOW Voltage	V_{IL}	0.0	-	0.2	V
Input HIGH Current	I_{IH}	-	3	5	mA
Input LOW Current	I_{IL}	-	-	-1	mA
Q and $\overline{Q}$ Output Voltage into 50Ω(VSWR≦1.2)	Vo	0.6	1.1	-	Vp-p
Harmonic Spurious	-	-	-25	-20	dBc
Nonharmonic Spurious	-	-	-	-60	dBc
Symmetry	-	48	50	51	%
Q and $\overline{Q}$ Period Jitter No noise on Vcc	-	-	15	30	ps[p-p]
200m Vp-p from 1MHz to 1/2 fo on Vcc	-	-	-	35	ps[p-p]
Oscillation Start Up time	-	-		80	usec.
Supply Voltage	Vcc	3.1	3.3	3.5	V
Frequency Pulling At Vcc = 3.3V±0.1V		-20		20	ppm/V
Frequency Pulling At VEnable = 3.3V±0.1V		-20		20	ppm/V

Phase Noise：

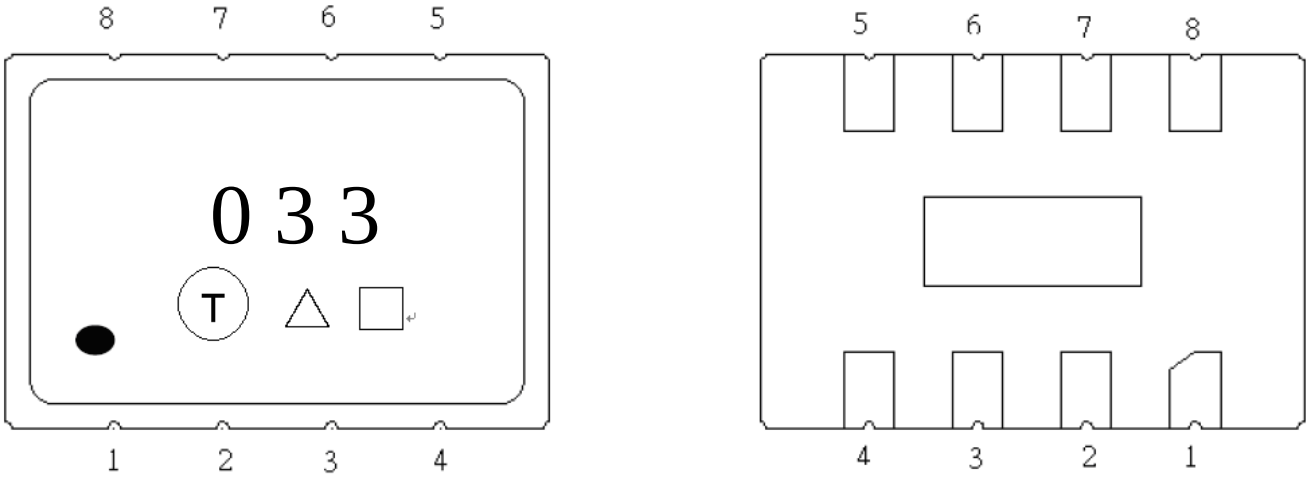
Parameter	Symbol	Limits			Units
		min.	typ.	max.	
Phase Noise @ 1KHz	PN1	-	-116	-113	dBc/Hz
Phase Noise @ 10 KHz	PN2	-	-144	-141	dBc/Hz
Phase Noise @ 100KHz	PN3	-	-154	-151	dBc/Hz

B. Phase Noise Response :



C. Mechanical Dimensions (mm):

- PACKAGE DIM.:



Terminal Number	Connection
1	V_{CC}
2	Ground
3	NC or Ground
4	Q Output
5	$\overline{Q}$ Output
6	Ground
7	
8	ENABLE
LID	Ground

Product Code Table:

Year	2009 2013	2010 2014	2011 2015	2012 2016
Product Code	S	s	S	s

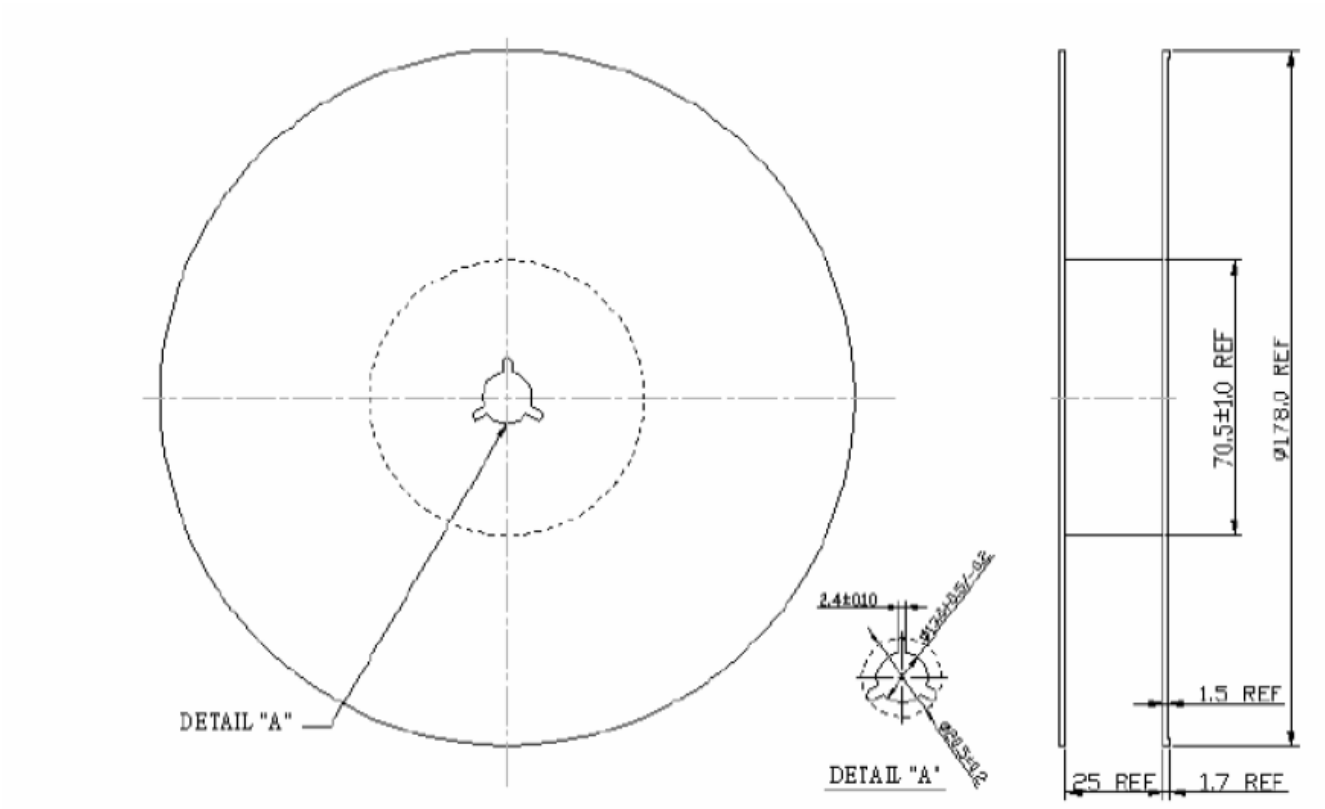
Date Code Table:

WK01	WK02	WK03	WK04	WK05	WK06	WK07	WK08	WK09	WK10	WK11	WK12	WK13
A	B	C	D	E	F	G	H	I	J	K	L	M
WK14	**WK15**	**WK16**	**WK17**	**WK18**	**WK19**	**WK20**	**WK21**	**WK22**	**WK23**	**WK24**	**WK25**	**WK26**
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
WK27	**WK28**	**WK29**	**WK30**	**WK31**	**WK32**	**WK33**	**WK34**	**WK35**	**WK36**	**WK37**	**WK38**	**WK39**
a	b	c	d	e	f	g	h	i	j	k	l	m
WK40	**WK41**	**WK42**	**WK43**	**WK44**	**WK45**	**WK46**	**WK47**	**WK48**	**WK49**	**WK50**	**WK51**	**WK52**
n	o	p	q	r	s	t	u	v	w	x	y	z

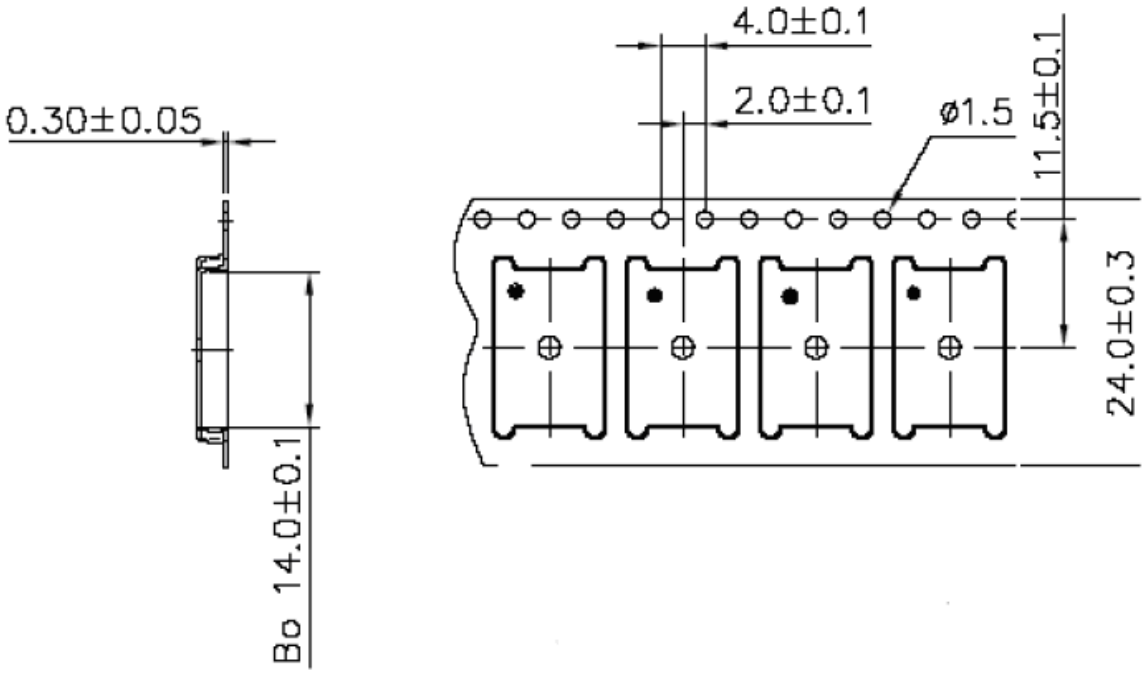
D. Packing:

1. Reel Dimension

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



2. Tape Dimension



[NOTE]

1. UNIT : MM.
2. UNLESS OTHERWISE SPECIFIED TOLERANCE ON DIM. +/-0.1MM.
3. MATERIAL : CONDUCTIVE POLYSTYRENE.
4. COLOR : BLACK.
5. 10 PITCH CUMULATIVE TOLERANCE +/-0.2MM.

D. Recommended Reflow profile:

