



TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,
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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 *Mac Hsu*

Approved by: _____ Andy Yu *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

A. Electrical Specifications:

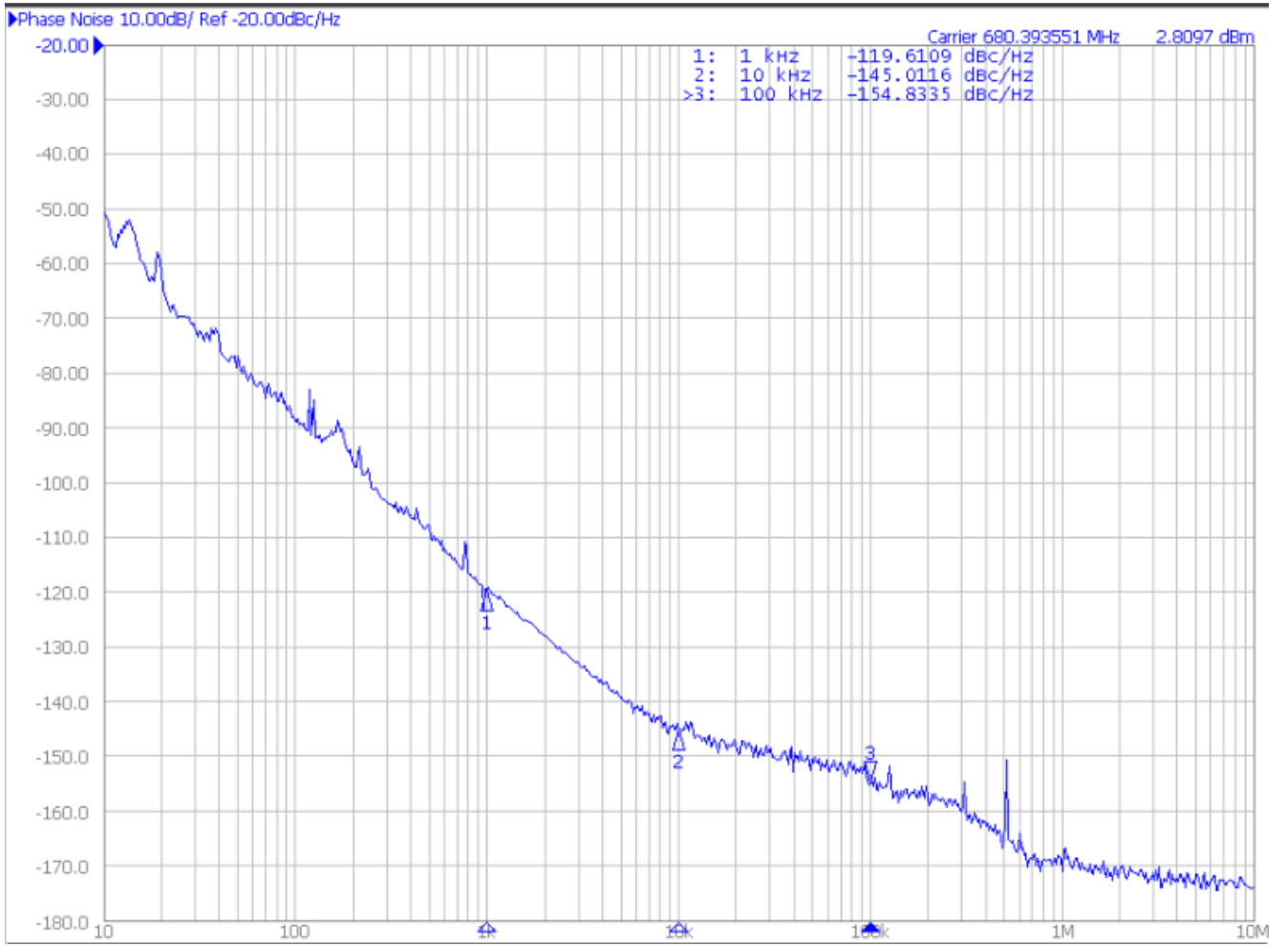
Electrostatic Sensitive Device (ESD)

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 \bar{Q})	-	50	-	-	KΩ
Enable Input HIGH Voltage Input LOW Voltage Input HIGH Current Input LOW Current	V _{IH}	V _{CC} -0.1	V _{CC}	V _{CC} +0.1	V
	V _{IL}	0.0	-	0.2	V
	I _{IH}	-	3	5	mA
	I _{IL}	-	-	-1	mA
Q and \bar{Q} Output Voltage into 50Ω (VSWR ≤ 1.2) Harmonic Spurious Nonharmonic Spurious Symmetry	V _o	0.6	1.1	-	Vp-p
	-	-	-25	-20	dBc
	-	-	-	-60	dBc
	-	48	50	51	%
Q and \bar{Q} Period Jitter No noise on V _{CC} 200m Vp-p from 1MHz to 1/2 fo on V _{CC}	-	-	15	30	ps[p-p]
	-	-	-	35	ps[p-p]
Oscillation Start Up time	-	-	-	80	usec.
Supply Voltage	V _{CC}	3.1	3.3	3.5	V
Frequency Pulling At V _{CC} = 3.3V±0.1V		-20		20	ppm/V
Frequency Pulling At V _{Enable} = 3.3V±0.1V		-20		20	ppm/V

Phase Noise :

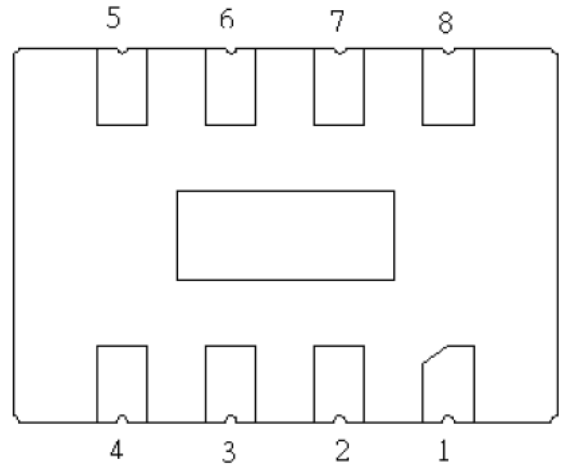
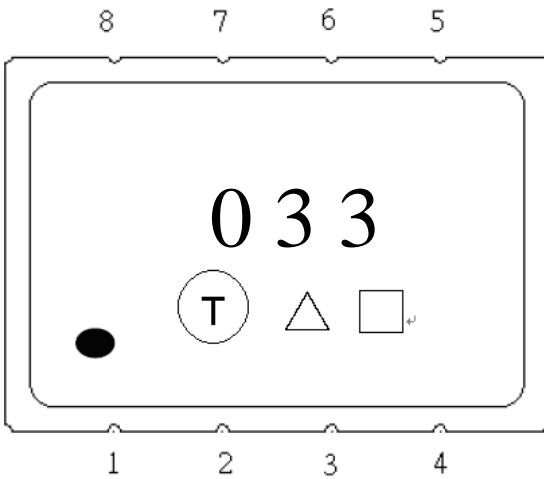
Parameter	Symbol	Limits			Units
		min.	typ.	max.	
Phase Noise @ 1KHz	PN1	-	-116	-113	dBc/Hz
Phase Noise @ 10 KHz	PN2	-	-144	-141	dBc/Hz
Phase Noise @ 100KHz	PN3	-	-154	-151	dBc/Hz

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	\bar{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	<u>S</u>	<u>s</u>

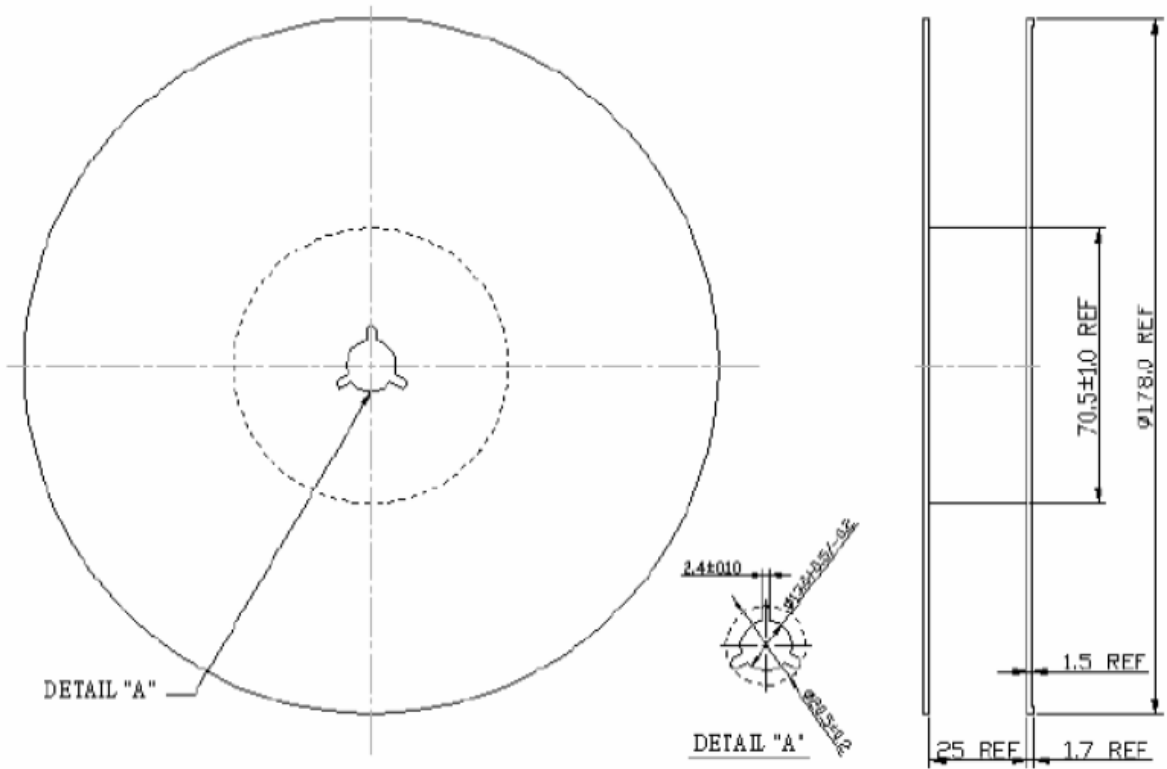
Date Code Table:

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

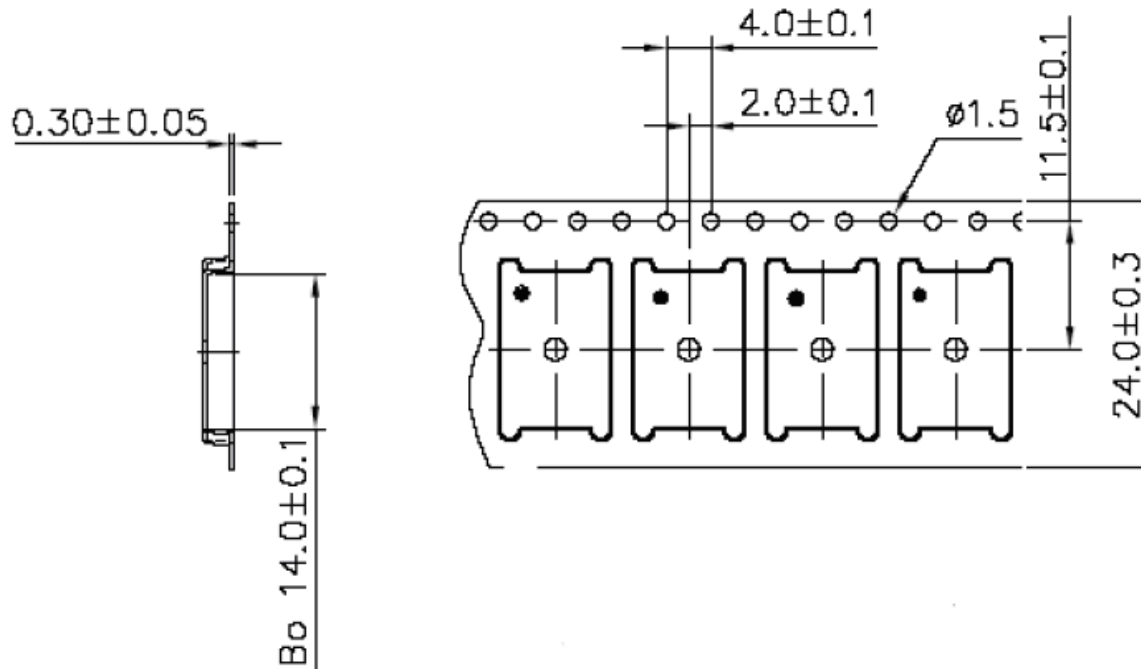
D. Packing:

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. ± 0.1 MM.
3. MATERIAL : CONDUCTIVE POLYSTYRENE.
4. COLOR : BLACK.
5. 10 PITCH CUMULATIVE TOLERANCE ± 0.2 MM.

D. Recommended Reflow profile:

