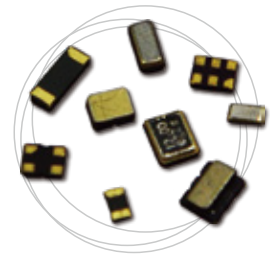
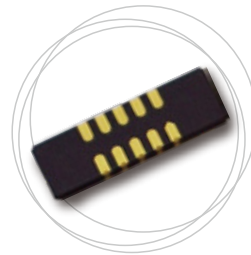
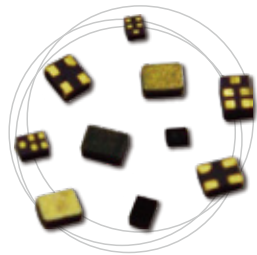




TAI-SAW TECHNOLOGY CO., LTD.



Products Lineup

SAW filter / DR filter / Crystal / TCXO / RF module

Your Best Partner for Frequency Devices

P/N	Frequency (MHz)	Insertion Loss (dB)	Band Width (MHz)	Size (mm)	Note
TA1804A(GPS+GLONASS+COMPASS)	1582.469	1.1	46.834	1.1X0.9	*AEC-Q200
TA1954A(GPS+GLONASS+COMPASS)	1582.47	1.2	46.84	1.1X0.9	*AEC-Q200
TA2154A(GPS+GLONASS)	1588.655	1	34.47	1.1X0.9	
TA2250A(GPS+GLONASS+COMPASS)	1585.655	1	40.47	1.1X0.9	
TA2309A (L2)	1223	2.4	52	1.1X0.9	
TA2448A(GPS+GLONASS)	1889	1.5	50	1.1X0.9	
TA2471A (L5)	1176.45	1.8	25	1.1X0.9	
TA2542A(GPS+GLONASS+COMPASS)	1582.47	1.2	46.84	1.1X0.9	
TA2543A(GPS band)	1176.45	1.4	20	1.1X0.9	
TA2600A(GPS+GLONASS)	1221.5	1.8	65	1.1X0.9	
TA2637A (L2+L5)	1207.5	1.9	83	1.1X0.9	
TA2695AA1221(GPS+GLONASS+COMPASS)	1238	3	82	1.1X0.9	
TA2695BA1234(GPS+GLONASS+COMPASS)	1238	3	82	1.1X0.9	*AEC-Q200
TA2749AA1234(GPS+GLONASS+COMPASS)	1582.47	1	46.84	1.1X0.9	*AEC-Q200
TA2796AABH20(GPS+GALILEO+COMPASS)	1575.42	1.2	30.69	1.1X0.9	
TA2797AABH20(GPS L2)	1228	2	20	1.1X0.9	
TA2799AAAE24(GPS+GLONASS)	1223	1.8	52	1.1X0.9	
TA2812AA1325(GNSS L5+L2)	1203	2.6	74	1.1X0.9	
TA0757B(GPS band)	1575.42	0.9	2	1.4x1.1	
TA1267E (GPS+GLONASS)	1588.655	1.25	34.47	1.4x1.1	*AEC-Q200
TA1343B(GPS+GLONASS+GALILEO+BEIDOU)	1583	1.2	46.79	1.4x1.1	*AEC-Q200
TA1661A(GPS+GLONASS+GALILEO+BEIDOU)	1583	1.8	46.79	1.4x1.1	*AEC-Q200
TA2156A (L5)	1176.45	3.6	20	1.4x1.1	
TA2298A (L2)	1225	2.2	60	1.4x1.1	
TA2549A(GPS+GLONASS L2)	1234.4	2.6	45	1.4x1.1	
TA2550A(GPS+GLONASS+COMPASS)	1191.8	2	55	1.4x1.1	
TA2551A(GPS+GLONASS+GALILEO+BEIDOU)	1587.1	2.3	55	1.4x1.1	
TA2552A(GLONASS E6)	1278.5	2	55	1.4x1.1	
TA2662A(GLONASS+COMPASS)	1260	1.9	48	1.4x1.1	
TA2663A(L2+L5)	1202	2.4	73	1.4x1.1	
TA2707AA1322(GPS Band)	1575.42	1.7	2	1.4x1.1	
TA2714AA1334(L2+L5)	1202	2.6	72	1.4x1.1	*AEC-Q200
TA2724AA1325(GPS+GLONASS+COMPASS)	1238	2.6	82	1.4x1.1	
TA2750AA1320(GPS+GLONASS+COMPASS)	1582.47	0.9	46.84	1.4x1.1	
TA2775AA13AD(GPS L5)	1176.45	1.4	20	1.4x1.1	*AEC-Q200
TA2780AA1310(GPS+GLONASS+COMPASS)	1252.5	2.5	77	1.4x1.1	
TA2782AA1334(BEIDOU B1)	1583	1.3	46.79	1.4x1.1	*AEC-Q200
TA0440A (Car Antenna)	1575.42	2.9	2	3.0X3.0	*AEC-Q200
TA0676A	1592.5	2.6	43	3.0X3.0	*AEC-Q200
TA1442A (BEIDOU)	2492	1.55	5	3.0X3.0	*AEC-Q200
TA1658A(GNSS)	1582.4	1.7	46.61	3.0X3.0	*AEC-Q200
TA1785A	1583	1.8	46.79	3.0X3.0	*AEC-Q200
TA1925A (GPS+GLONASS L2)	1234.4	3.3	45	3.0X3.0	*AEC-Q200
TA2493A(GPS L5)	1176.5	1.9	20.44	3.0x3.0	
TA2618A(GPS+GLONASS+COMPASS)	1582.4	1.2	46.61	3.0x3.0	
TA2660A(GLONASS+GALILEO+BEIDOU)	1268.5	3	63	3.0x3.0	
TA2670ATCA(GPS+GLONASS+COMPASS)	1575	2.5	70	3.0x3.0	*AEC-Q200

► GPS Front End Module

GPS

GLONASS

GALILEO

BEIDOU

P/N	Frequency (MHz)	Gain (dB)	Size (mm)	Note
TN0081A (GPS+GLONASS)	1575~1606	18.5	2.5X2.5X0.535	*AEC-Q100
TN0089A (GPS+GLONASS+GALILEO+BEIDOU)	"1575 1597-1606 1559-1591"	15.5	1.5x1.1x0.39	*AEC-Q100
TN0125A (L2)	1215~1239.6	16	1.5x1.1x0.39	
TN0126A (L5)	1164~1189	17	1.5x1.1x0.39	
TN0201AO15AA(GPS Galileo L5+G3)	1164~1215	16.5	1.5x1.1x0.39	*AEC-Q100
TN0222AA15AE(L5)	1164~1189	16.5	1.5x1.1x0.39	*AEC-Q100
TN0175A(GPS Galileo L2+ G2+ E5b)	1189~1254	16	1.5x1.1x0.39	
TN0175BA1584(GPS Galileo L2+ G2+ E5b)	1189~1254	16	1.5x1.1x0.39	*AEC-Q100

► GNSS Diplexer and Dual Band

GPS

GLONASS

GALILEO

BEIDOU

P/N	Frequency (MHz)	Band Width (MHz)	Size (mm)	Note
TE0133A (GNSS L1/ L5)	1189/ 1582	50/47	3.0x3.0	*AEC-Q200
TE0137A(GNSS L1/ L2)	1223/1582	52/46	3.0x3.0	*AEC-Q200
TE0149A(GNSS L1/ L5)	1176.45/1585.47	20.46/52.84	1.5x1.1	
TE0149DABZ34(GNSS L1/ L5)	1176.45/1585.47	20.46/52.84	1.5x1.1	*AEC-Q200
TE0150A (GNSS L1/ L2)	1222.5/1582.5	53/47	1.5x1.1	
TE0150CABZ34 (GNSS L1/ L2)	1222.5/1582.5	53/47	1.5x1.1	*AEC-Q200
TE0171AA1523(GNSS L1/ L2+L5)	1197.5/1582.5	63/47	1.5x1.1	
TE0171BABZ34(GNSS L1/ L2+L5)	1197.5/1582.5	63/47	1.5x1.1	*AEC-Q200
TE0191AA1533(GNSS L1/ L5)	1176.45/1582.47	20.46/46.84	1.5x1.1	

► GNSS Diplexer and Dual Band

GPS

GLONASS

GALILEO

BEIDOU

P/N	Frequency (MHz)	Band Width (MHz)	Size (mm)	Note
TE0123A	1575.42	6	3.0x3.0	GPS (Notch)
TE0125A	1582.47	48	3.0X3.0	GPS + GLONASS + Compass (Notch)
TE0142A	1583	48	3.0X3.0	GPS + GLONASS + Compass (Notch)

► GPS Xtal

GPS

GLONASS

GALILEO

BEIDOU

P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)	Note
TZ3120A	32.768KHz	9	±20	1.6x1.0	
TZ3108A	32.768KHz	12.5	±20	1.6x1.0	
TZ2065A	32.768KHz	12.5	±20	2.0x1.2	
TZ1510C	32.768KHz	9	±20	3.2x1.5	*Automotive AEC-Q200
TZ1006AC	32.768KHz	12.5	±20	3.2x1.5	
TZ2754C	32.768KHz	12.5	±20	3.2x1.5	*Automotive AEC-Q200
TZ1628A	26	19	±7	3.2x2.5	

► GPS Xtal

GPS

GLONASS

GALILEO

BEIDOU

P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)	Note
TZ1628C	26	19	±7	3.2x2.5	*Automotive Grade
TZ2486C	26	8	±10	2.0x1.6	
TZ2654B	24	20	±10	2.5x2.0	
TZ2939B	26	8	±10	1.6x1.2	
TZ2058E	26	7	±15	2.0x1.6	
TZ3230A	26	19	±10	2.0x1.6	
TZ2863C	16	12	±10	2.0x1.6	
TZ3585B	32	10	±10	2.0x1.6	

► GPS TCXO/XO

GPS

GLONASS

GALILEO

BEIDOU

P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)	Note
TX0844A	26	1.9	0.5	1.6x1.2	
TX0831A	50	1.8	±2.5	2.0x1.6	
TX0744A	49.58	1.7~3.3	0.5	2.0x1.6	
TX0661AA1052	16.368	2.85	0.5	2.0x1.6	
TX0723BA13BH	10	1.8	0.5	2.0x1.6	
TX0628C	19.2	3.3	±0.5~±7.5	2.0x1.6	*wide temp range to +105°C
TX0408C	26	2.85	±0.5	2.0x1.6	
TX0544B	38.4	1.8	±0.5	2.0x1.6	
TX0678B	48	1.8~3.3	±0.5~±7.5	2.0x1.6	*wide temp range to +105°C
TX0360A	16.367667	2.85	±0.5	2.5x2.0	
TX0358A	16.368	1.8	±0.5	2.5x2.0	
TX0590B	16.369	1.7~3.3	±2	2.5x2.0	
TX0578C	26	1.8	±0.5	2.5x2.0	
TX0395B	26	2.8	±0.5	2.5x2.0	
TX0486A	26	2.8	±0.5	2.5x2.0	
TX0617B	26	2.8	±0.5	2.5x2.0	
TX0275A	16.368	2.85	±0.5	3.2x2.5	
TX0203A	26	2.775	±0.5	3.2x2.5	
TX0744A	49.58	1.7~3.3	±0.5	2.0x1.6	
TX0687A	40	3.0~3.3	±1.0	2.5x2.0	
TX0309C	16.368	2.8	±0.5	2.5x2.0	

► WIFI SAW filter

WIFI

Bluetooth

Zigbee

Thread

P/N	Frequency (MHz)	Band Width (MHz)	Insertion Loss (dB)	Size (mm)	Note
TA2104A	2441.75	83.5	2.2	1.1X0.9	
TA2104B	2441.75	83.5	1.7	1.1X0.9	TC SAW
TA2105A	2442	79	2.5	1.1X0.9	*WiFi/LTE co-existence
TA2530A	2442	79	1	1.1x0.9	
TA2530B	2442	79	1	1.1x0.9	*AEC-Q200
TA2545ATCA	2441.75	83.5	1.7	1.1x0.9	TC SAW
TA2603A	2442	82	2.3	1.1x0.9	
TA2621A	2442	79	0.9	1.1x0.9	BAW
TA2621B	2442	79	0.9	1.1x0.9	BAW *AEC-Q200
TA2702AA1221	2442	84	3	1.1x0.9	
TA1218A	2436	72	3	1.4x1.1	
TA1834A	2441.75	83.5	3	1.4x1.1	
TA1468A	2441.8	83.5	1.6	1.4x1.1	
TA1869A	2442	79	1.9	1.4x1.1	*WiFi/LTE co-existence
TA1869B	2442	79	1.9	1.4x1.1	*WiFi/LTE co-existence, AEC-Q200
TA1629A	2450	100	1.6	1.4x1.1	
TA2269A	2441.75	83.5	2.2	1.4x1.1	
TA2269B	2441.75	83.5	1.5	1.4x1.1	TC SAW
TA2602A	2442	82	2.1	1411	
TA2604B	2442	84	2.3	1411	
TA0222A	2442	55	1.9	3.0x3.0	*AEC-Q200
TA0223A	2441.8	83.5	2.1	3.0x3.0	*AEC-Q200

► WIFI LTCC filter

WIFI

Bluetooth

Zigbee

Thread

P/N	Frequency (MHz)	Band Width (MHz)	Insertion Loss (dB)	Size (mm)	Note
TL0009A	2450	100	1.7max	2.0X1.25	
TL0010A	2450	100	2.5max	1.6X0.8	
TL0011A	5410	1050	2.0max	2.0X1.25	
TL0017B	2.4/5.5G	100/700	0.6 Max @2400~2500 1.5 Max @5150~5850	1.6x0.8	
TL0019A	5788	125	2.4max	2.5X2.0	
TL0025A	2448	72	1.35max	2.0x1.25	
TL0032A	5887.5	75	2.5max	2.5x2.0	
TL0035A	5778	125	1.2max	2.5x2.0	*AEC-Q200
TL0041AA0094	2450/5425	100/1050	0.9 Max @2400~2500 1.1 Max @4900~5950	1.6x0.8	
TL0043AA2095	2450	100	3.5max	2.0x1.25	
TL0046AA0092	5550	800	1.2max	1.6x0.8	
TL0047AA00BC	2450	100	1.4max	2.0x1.25	
TL0048AA00BC	2450	100	0.45max	1.6x0.8	

► WIFI Dielectric filter

WIFI

Bluetooth

Zigbee

Thread

P/N	Frequency (MHz)	Band Width (MHz)	Insertion Loss (dB)	Size (mm)	Note
TR0008A	5240	200	2.1 Max	3.25x2.58	*AEC-Q200
TR0012A	5670	380	2.1 Max	3.25x2.58	*AEC-Q200
TR0009A	5245	190	2.0 Max	8.05x4.05	*AEC-Q200
TR0011A	5665	370	2.0 Max	8.05X3.45	*AEC-Q200
TR0010A	5250	160	2.5Max	8.05x4.05	*AEC-Q200
TR0013A	5710	445	2.5Max	8.05X3.45	*AEC-Q200
TR0007B	5235	180	"2.5 Max @5150-5320 3.5 Max @5360"	8.6X4.05	*AEC-Q200
TR0014B	5697	360	2.5 Max	8.6X3.45	*AEC-Q200
TR0014B	5697	360	2.5 Max	8.6X3.45	
TR0019A	5962.5	475	2.6max	6.6x3.15	
TR0022A	5825	200	2.0max	4.46x2.75	
TR0025A	5235	180	2.5 Max	8.7x4.27	
TR0026A	5697	360	2.5 Max	8.6x3.35	
TR0041AA0092	5975	80	2.5 Max	8.7x3.22	

► WIFI Xtal

WIFI

P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)	Note
TZ3465A	48	9.9	±4	1.2x1.0	
TZ3525COAI82	32	6	±6	1.2x1.0	
TZ3620A	76.8	9.16	±4	1.2x1.0	
TZ3949AAAO82	76.8	10	±10	1.2x1.0	
TZ3953AAAF82	78.125	8	±10	1.2x1.0	
TZ3954AAAF82	80	8	±10	1.2x1.0	
TZ3788AA2282	40	6	±5	1.2x1.0	
TZ2084EA42BC	40	8	±10	1.6x1.2	
TZ3918BAAA62	80	8	±7	1.6x1.2	
TZ2886D	40	12	±5	1.6x1.2	
TZ3127B	26	8	±7	1.6x1.2	
TZ1845D	26	9	±10	1.6x1.2	
TZ3484B	32	6	±10	1.6x1.2	
TZ3023A	24	7	±10	1.6x1.2	
TZ3126A	26	7	±5	1.6x1.2	
TZ3133A	27.12	10	±10	1.6x1.2	
TZ1987A	37.4	16	±10	1.6x1.2	
TZ2936A	48	9	±15	1.6x1.2	
TZ3088AAAI42	96	9.9	±12	2.0x1.6	
TZ1325D	26	8	±10	2.0x1.6	
TZ2947A	26	10.5	±7	2.0x1.6	
TZ2901B	37.4	8	±10	2.0x1.6	
TZ2205E	38.4	10	±10	2.0X1.6	*wide temp range to +105°C
TZ2323C	48	7	±7	2.0x1.6	
TZ2980A	24	15	±10	2.5x2.0	
TZ2300A	26	11.5	±7	2.5x2.0	
TZ3048B	26	9	±50	2.5x2.0	

► WIFI Xtal

WIFI

P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)	Note
TZ0661E	26	9	±10	2.5x2.0	
TZ0909E	38.4	10	±10	2.5x2.0	*wide temp range to +105°C
TZ2801A	40	15	±10	2.5x2.0	
TZ1478A	40	10.5	±10	2.5x2.0	
TZ0977B	40	15	±10	2.5x2.0	
TZ2650E	40	12	±5	2.5x2.0	
TZ2968C	40	11.5	±7	2.5x2.0	*wide temp range to +105°C
TZ0502D	20	18	±10	3.2x2.5	
TZ2102A	26	13.5	±10	3.2x2.5	
TZ2810A	37.4	16	±10	3.2x2.5	
TZ1421A	40	15	±10	3.2x2.5	
TZ0475B	40	15	±10	3.2x2.5	
TZ2855A	40	10.5	±7	3.2x2.5	
TZ3075A	40	12	±10	3.2x2.5	
TZ2746A	40	11.5	±7	3.2x2.5	
TZ1596E	40	10.5	±10	3.2x2.5	*Automotive Grade
TZ2145C	52	12	±5	3.2x2.5	

► WIFI TCXO/XO

WIFI

P/N	Frequency (MHz)	Voltage (V)	Tolerance (ppm)	Size (mm)	Note
TX0691CA13AD	37.4	3.0~3.6	±2.5	2.0x1.6	
TX0884ACAI52	48	1.68~3.6	±2	2.0x1.6	
TX0857EAAO52	26	1.8	±0.5	2.0x1.6	
TX0756A	60	3.3	±5	2.0x1.6	
TX0946AA2342	80	1.8~3.3	±1	2.5x2.0	
TBD(developing)	76.8	1.8~3.3	±1	2.5x2.0	
TBD(developing)	96	1.8~3.3	±1	2.5x2.0	
TW0603A	48	3.3	±50	2.0x1.6	
TW0523A	24	1.8	±25	2.0x1.6	
TX0546C	26	2.8	±2	2.0x1.6	
TW0296D	26	1.8	±10	2.5x2.0	*low phase noise
TX0617D	26	2.3	±0.5	2.5x2.0	
TA0517A	37.4	1.8	±50	2.5x2.0	
TW0511A	80	3.3	±20	2.5x2.0	
TX0439C	24	1.68~3.0	±2	3.2x2.5	
TX0341E	26	2	±2	3.2x2.5	
TX0359B	40	2.5	±8	3.2x2.5	*CMOS
TW0473C	40	2.5	±10	3.2x2.5	*low phase noise
TW0521A	25	3.3	±50	7.0x5.0	*EMI reduction/Spread Spectrum
TX0474B	24	2.66~3.46	±1.5	2.0x1.6	
TX0720E	26	2.8	±2	2.5x2.0	
TX0671E	26	2.8	±0.5	2.5x2.0	
TW0374C	27	3.3	±30	2.5x2.0	
TW0547A	12.288	1.8	±50	2.0x1.6	

▶ Combo chip Xtal

WIFI/BT Combo

P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)	Note
TZ2813B	32	8	±10	1.6x1.2	
TZ1987A	37.4	16	±10	1.6x1.2	
TZ3384D	37.4	16	±7	1.6x1.2	
TZ2593C	26	16	±8	2.0x1.6	
TZ2206B	37.4	10	±10	2.0x1.6	
TZ1188A	38.4	8.3	±10	2.0x1.6	
TZ2323A	48	7	±10	2.0x1.6	
TZ1778B	19.2	7	±10	2.5x2.0	
TZ2300C	26	11.5	±10	2.5x2.0	
TZ2099A	37.4	10	±10	2.5x2.0	
TZ2322A	48	7	±10	2.5x2.0	
TZ1387A	26	11.2	±10	3.2x2.5	
TZ1462E	38.4	10	±10	3.2x2.5	
TZ3139A	48	10	±10	2.0x1.6	
TZ1988B	37.4	16	±5	2.0x1.6	
TZ3261B	24	8	±10	2.0x1.6	
TZ3710A	80	11	±7	3.2x2.5	

▶ Combo chip TCXO/XO

WIFI/BT Combo

P/N	Frequency (MHz)	Voltage (V)	Tolerance (ppm)	Size (mm)	Note
TX0974AA14AD	37.4	3.3	±1	2.0x1.6	
TX0623CN1142	40	1.8~3.6	±2	2.5x2.0	
TX0697C	40	3.3	±2.5	3.2x2.5	
TX0659C	37.4	1.8~3.6	±2	2.0x1.6	*Automotive AEC-Q200 *Wide temp range to +105°C
TX0691A	37.4	3.3	±0.5~±7.5	2.0x1.6	*Automotive AEC-Q200 *Wide temp range to +105°C
TW0324C	48	1.8	±10	2.5x2.0	
TX0359B	40	2.5	±8	3.2x2.5	*CMOS
TX0678E	48	3.0~3.6	±2.5	2.0x1.6	AEC-Q200
TX0691B	37.4	3.0~3.6	±2.5	2.0x1.6	AEC-Q200

► Bluetooth Xtal

Bluetooth BLE

P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)	Note
TZ3610A	40	9	±7	1.2x1.0	
TZ3970AABE83	32	9	±10	1.2x1.0	
TZ3969AAAK83	40	7	±7	1.2x1.0	
TZ3368DABE63	32	9	±10	1.6x1.2	
TZ3220DAAK63	40	7	±7	1.6x1.2	
TZ3484B	32	6	±10	1.6x1.2	
TZ3375C	32	6	±10	2.0x1.6	
TZ3471A	16	9	±10	2.0x1.6	
TZ2995B	40	8	±5	2.0x1.6	
TZ2084C	40	8	±5	1.6x1.2	
TZ3266A	38.4	10	±10	1.6x1.2	
TZ3206A	40	9	±10	1.6x1.2	
TZ3044A	24	10	±10	1.6x1.2	
TZ1845A	26	9	±10	1.6x1.2	
TZ3266A	38.4	10	±10	1.6x1.2	
TZ3206A	40	9	±10	1.6x1.2	
TZ3021A	16	6	±10	2.0x1.6	
TZ2486A	16	8	±10	2.0x1.6	*low profile
TZ1618C	26	9	±10	2.0x1.6	
TZ0661B	26	9	±10	2.0x1.6	
TZ1325D	26	8	±10	2.0x1.6	
TZ1670D	16	8	±10	2.5x2.0	
TZ2779C	26	10	±10	2.5x2.0	
TZ2701A	32	12	±10	2.5x2.0	
TZ2099E	37.4	10	±10	2.5x2.0	*Automotive Grade
TZ1185A	16	7.1	±10	3.2x2.5	
TZ1022B	26	7	±10	3.2x2.5	
TZ1402A	26	10	±10	3.2x2.5	

▶ Smart Meter SAW

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P/N	Frequency (MHz)	Insertion Loss (dB)	Band Width (MHz)	Size (mm)	Note
TA2294A	915	1.9	26	1.1x0.9	
TA1294A	915	2.5	26	1.4x1.1	
TA1423A	915	1.9	26	1.4x1.1	
TA1610A	915	2.3	26	1.4x1.1	
TA1766A	925.2	2.5	5.8	1.4x1.1	
TA1918A	911.5	2	27	1.4x1.1	
TA1946A	869	2.5	2	1.4x1.1	
TA2093A	869	3	2	1.4x1.1	
TA2380A	911.5	2.1	27	1.4x1.1	
TA2381A	869	2.5	6	1.4x1.1	
TA2531A	869	2.4	14	1.4x1.1	
TA1102A	915	2	26	2.0X1.6	*AEC-Q200
TA0222A	2442	1.9	55	3.0x3.0	*AEC-Q200
TA0223A	2441.8	2.1	83.5	3.0x3.0	*AEC-Q200
TA0281A	915	2.2	26	3.0x3.0	*AEC-Q200
TA0547A	867.5	1.8	6	3.0x3.0	
TA0581B	2345	2.8	90	3.0x3.0	
TA0657A	315	1.5	0.6	3.0X3.0	*AEC-Q200
TA0659A	868.3	2.9	1.5	3.0x3.0	*AEC-Q200
TA0801A	866.5	2.3	7	3.0x3.0	*AEC-Q200
TA0944A	433.92	1.6	1.6	3.0X3.0	*AEC-Q200
TA1404A	869	2.3	2	3.0x3.0	*AEC-Q200
TA1457A	869.6	2.4	1	3.0x3.0	*AEC-Q200
TA1561A	915	1.9	26	3.0x3.0	
TA1564A	315	2.1	0.36	3.0X3.0	*TPMS
TA1565A	433.92	2.4	0.3	3.0X3.0	*TPMS
TA1720A	925.2	2.5	5.8	3.0x3.0	*AEC-Q200
TA1900A	868.3	3	1.5	3.0x3.0	
TA1957A	1278.75	2	55	3.0x3.0	*AEC-Q200
TA2435A	925.8	2.2	4.6	3.0x3.0	
TA2522ATCA	870.5	3.6	11	3.0x3.0	
TA2532A	869	1.9	8	3.0x3.0	
TA2590A	840.8	2.3	1.5	3.0x3.0	
TA2638A	915	2.7	30	3.0x3.0	
TA2646A	868	2	30	3.0x3.0	
TA2556A	457.5	1.9	15	3.8x3.8	
TA0437A	169	2	6	5.0X5.0	*AEC-Q200

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P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)	Note
TZ3525FA4185	32	6	±10	1.2x1.0	
TZ3991AAAI83	38.4	6	±7	1.2x1.0	
TZ3470BAAI63	38.4	6	±7	1.6x1.2	
TZ3126DAAV63	26	7	±10	1.6x1.2	
TZ3541DAAM43	39	10	±8	2.0x1.6	
TZ3908AAAO43	48	12	±10	2.0x1.6	
TM0012B	26	9	±10	2.5x2.0	
TM0016A	26	7	±10	2.5x2.0	
TZ2208B	38.4	10	±10	1.6x1.2	

P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)	Note
TZ2486D	16	8	±10	2.0x1.6	
TZ3016C	32	10	±10	2.0x1.6	
TZ3124B	32	12	±10	1.6x1.2	
TZ1269D	40	9	±5	2.0x1.6	
TZ3243A	24.305	7	±10	2.0x1.6	
TZ3108A	32.768kHz	12.5	±20	1.6x1.0	
TZ2065A	32.768kHz	12.5	±20	2.0x1.2	
TZ1006A	32.768kHz	12.5	±20	3.2x1.5	
TZ2935A	24	15	±9	1.6x1.2	
TZ3023A	24	7	±10	1.6x1.2	
TZ3072A	25.228125	6	±10	1.6x1.2	
TZ3126A	26	7	±5	1.6x1.2	
TZ3127A	26	8	±7	1.6x1.2	
TZ3003A	37.4	7	±20	1.6x1.2	
TZ3206A	40	9	±10	1.6x1.2	
TZ2936A	48	15	±9	1.6x1.2	
TZ3020A	20	7	±20	2.0x1.6	
TZ2490A	25.228125	10	±6	2.0x1.6	
TZ2155B	32	10	±10	2.0x1.6	
TZ2205D	38.4	10	±10	2.0x1.6	
TZ2205E	38.4	10	±10	2.0x1.6	*wide temp range to +125°C
TZ1269C	40	9	±10	2.0x1.6	
TZ1452D	40	15	±10	2.0x1.6	
TZ2762D	40	12	±30	2.0x1.6	
TZ1670B	16	8	±10	2.5x2.0	*wide temp range to +125°C
TZ2981E	16	9	±10	2.5x2.0	
TZ2998A	20	7	±20	2.5x2.0	
TZ2277B	24.305	7	±10	2.5x2.0	
TZ0631C	26	10	±10	2.5x2.0	
TZ0661E	26	10	±10	2.5x2.0	
TZ2944A	26	10.5	±7	2.5x2.0	
TZ1430A	30	10	±10	2.5x2.0	
TZ1430D	30	30	±10	2.5x2.0	*wide temp range to +125°C
TZ0909D	38.4	10	±10	2.5x2.0	
TZ0909E	38.4	10	±10	2.5x2.0	*wide temp range to +125°C
TZ0733D	40	9	±10	2.5x2.0	
TZ2650A	40	12	±10	2.5x2.0	
TZ3101A	40	9.6	±7	2.5x2.0	
TZ3141A	40	12	±5	2.5x2.0	
TZ1410A	12.288	9	±20	3.2x2.5	
TZ1917B	12.8	10	±20	3.2x2.5	
TZ2293A	12.8	10	±10	3.2x2.5	
TZ0384C	16	20	±18	3.2x2.5	
TZ1054D	16	8	±10	3.2x2.5	
TZ1275A	16	9	±20	3.2x2.5	
TZ1203B	24	10	±10	3.2x2.5	
TZ2189C	24.305	7	±10	3.2x2.5	
TZ2892B	25	13	±7	3.2x2.5	
TZ0381E	26	9	±10	3.2x2.5	
TZ1387A	26	11.2	±10	3.2x2.5	

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P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)	Note
TZ0757B	30	10	±10	3.2x2.5	
TZ1615B	32	10	±8	3.2x2.5	
TZ1880D	32	10	±10	3.2x2.5	
TZ0308D	40	9	±10	3.2x2.5	
TZ0475B	40	15	±10	3.2x2.5	
TZ1421A	40	15	±10	3.2x2.5	
TZ2746A	40	11.5	±7	3.2x2.5	
TZ2771D	40	12	±10	3.2x2.5	
TZ0614D	10	10	±10	5.0x3.2	
TZ2061A	11.998618	15	±14	5.0x3.2	
TZ2059A	13.573256	15	±16	5.0x3.2	
TZ2594A	13.56	15	±16	HC49-SMD	
TZ1983A	32	10	±10	HC49-SMD	
TZ2095A	11.998618	15	±14	HC49-SMD	
TZ2516A	11.998618	15	±14	HC49-SMD	
TZ2234A	16	20	±18	HC49-US	
TZ2791A	25	13	±7	HC49-US	
TZ1958A	32	10	±10	HC49-US	

▶ IOT TCXO/XO

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P/N	Frequency (MHz)	Voltage (V)	Tolerance (ppm)	Size (mm)	Note
TX0953AAAU63	48	1.8	±1	1.6x1.2	
TX0844CAAU63	26	1.8	±1	1.6x1.2	
TX0763DA11BU	52	1.8	±1	2.0x1.6	
TX0661BABI53	16.368	2.8	±0.5	2.0x1.6	
TX0802EABA53	32	3.3	±1	2.0x1.6	
TX0857CA1053	26	1.8	±0.5	2.0x1.6	
TW0635AAAA22	40	1.2	±30	5.0x3.2	
TW0638AAAA32	40	1.2	±30	3.2x2.5	
TX0659A	40	1.8	±0.5	2.0x1.6	
TX0534C	32	1.8	±2	2.5x2.0	
TX0605A	12	3.3	±1.5	3.2x2.5	*CMOS
TX0604A	39			3.2x2.5	*CMOS
TX0341E	26	2.85	±2	3.2x2.5	
TX0338E	30	2.85	±2	3.2x2.5	
TX0665B	36	3.3	±2.5	3.2x2.5	**CMOS *Wide temp range to +105°C
TX0618A	32.768kHz	1.8/2.5/3.0/3.3	±1.5	3.2x2.5	
TX0357A	32.768kHz	3.3	±25	3.2x2.5	
TX0601A	32.768kHz	1.8/2.5/3.0/3.3	±1.5	7.0x5.0	
TW0459B	32.768kHz	1.8	±25	2.5x2.0	
TW0459E	32.768kHz	3.3	±20	2.5x2.0	
TX0740A	31.2	3	±5	2.5x2.0	
TX0546E	26	2.8	±2	2.0x1.6	
TX0501D	31.25	3.3	±2.5	3.2x2.5	
TX0684C	32	3.3	±1.0	2.0x1.6	
TX0694B	30.92	3.3	±1.0	2.5x2.0	
TX0554E	26	1.8	±0.5	3.2x2.5	
TX0659A	40	1.8	±0.5	2.0x1.6	

► IOT MCF

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P/N	Frequency (MHz)	No. of Poles	Insertion Loss (dB)	Rippl	Pass Bands	Stop Bands	Perminal Impedance		
							Ω	pF	cc : pF
TY0160A	21.4	2	3	1	3±3.75	18±15	870	6	
TY0195A	21.4	2	2	1	3±7.5	18±25	1500	2.5	
TY0148A	21.4	3	3	1	3±7.5	23±25	1500	2.5	
TY0190A	21.4	3	3	1	3±10	15±25	850	2	
TY0255A	21.4	4	3	1	3±10	40±25	1800	0.35	5
TY0136A	21.7	2	3	1	3±3.75	20±20	850	6	
TY0150A	21.7	2	1.5	1	3±7.5	15±25	1500	1	
TY0153A	30.72	2	2	1	3±4	40±60	650	4.5	
TY0133A	45	3	3	1	3±7.5	15±25	651	3.5	
TY0187A	45	3	3	1	3±15	20±60	1200	1	
TY0257A	45	4	3	1	3±7.5	30±25	600	2.3	7.5
TY0191F	45.2	4	3	1	3±6	25±22	650	3	9
TY0168A	73.35	3	2	1	3±6.5	8±12.5	1800	-1.6	
TY0147A	76.8	2	3	1	3±4	35±60	1500	-1.4	
TY0184A	109.65	3	2.5	0.7	3±6.5	5.5±12.5	950	-1.4	
TY0261A	149.9725	4	6	1	3±8.68	15±30	550	-0.3	0.7
TY0260A	21.4	4	3	1	3±7.5	40±25	1800	0.35	5
TY0257C	45	4	3	1	3±7.5	30±25	800	1.7	8

► NFC Xtal

NFC

P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)	Note
TZ2852A	27.12	12	±10	1.6x1.2	
TZ3137A	27.12	8	±10	1.6x1.2	
TZ1897B	27.12	10	±10	2.0x1.6	
TZ2959A	27.12	10	±30	2.0x1.6	
TZ2959A	27.12	10	±30	2.0x1.6	*metal cap structure
TZ1261C	27.12	10	±10	2.5x2.0	
TZ0633A	27.12	10	±10	3.2x2.5	
TZ3329A	27.12	12	±30	2.0x1.6	

► SSD Xtal

SSD

P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)	Note
TZ3236A	25	6	±10	1.6x1.2	
TZ3206B	40	9	±30	1.6x1.2	
TZ2724D	25	6	±10	2.0x1.6	*metal cap structure
TZ2370B	30	6	±10	2.0x1.6	*metal cap structure
TZ2930B	40	6	±45	2.0x1.6	*metal cap structure
TZ2930C	40	6	±10	2.0x1.6	
TZ3898AA42BK	25	8	±10	2.0x1.6	
TZ3335B	50	8	±10	2.5x2.0	

► Wide Temp Xtal

P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)	Operating Temp (°C)	Application
TZ3953AAAF82	78.125	8	±10	1.2x1.0	-40°C+125°C	Networking
TZ3953AAAF82	80	8	±10	1.2x1.0	-40°C+125°C	Networking
TZ3861AA44BA	32	8	±10	1.6x1.2	-40°C+125°C	BLE Chip Antenna
TZ3908AAAO43	48	7	±5	2.0x1.6	-40°C+125°C	IOT
TZ3586A	60	6	±20	2.0x1.6	-40°C+125°C	radar for automotive
TX0941AAAO52	40	10K//10pF	±1	2.0x1.6	-40°C+125°C	Networking
TZ2205E	38.4	10	±10	2.0x1.6	-40°C+125°C	Lighting Control
TZ3035A	24	10	±10	2.5x2.0	-40°C+125°C	BT
TZ0909E	38.4	10	±10	2.5x2.0	-40°C+125°C	Lighting Control
TZ1054D	16	8	±10	3.2x2.5	-40°C+125°C	Zigbee
TZ0447D	16.384	20	±10	3.2x2.5	-40°C+125°C	2.4G
TZ2941A	18.08	8	±10	3.2x2.5	-40°C+125°C	TPMS
TZ0604P	20	12	±10	3.2x2.5	-40°C+125°C	Wireless Lighting
TZ1203B	24	10	±10	3.2x2.5	-40°C+125°C	IoT
TZ3034A	24.576	20	±10	3.2x2.5	-40°C+125°C	2.4G
TZ2798A	25	15	±10	3.2x2.5	-40°C+125°C	LNB
TZ0659C	26	8	±10	3.2x2.5	-40°C+125°C	TPMS
TZ2591C	32	12	±10	3.2x2.5	-40°C+125°C	Zigbee & WiFi
TZ2756A	40	10	±10	3.2x2.5	-40°C+125°C	Security
TZ2711A	50	15	±10	3.2x2.5	-40°C+125°C	LNB
TZ2966C	20	8	±15	2.0x1.6	-40°C+125°C	DC Converter
TZ3398C	38.4	10	±10	2.0x1.6	-40°C+125°C	Low Power IOT
TZ3483A	25	8	±20	3.2x2.5	-40°C+125°C	Ethernet PHY
TZ3312C	25	16	±10	2.0x1.6	-40°C+125°C	Ethernet PHY

	P/N	Frequency (MHz)	Insertion Loss (dB)	Band Width (MHz)	Size (mm)	
Duplexer	TF0228AA0033(Band 1)	1950/2140	1.6	60	1.6x1.2	
	TF0219AA0031(Band 2)	1880/1960	1.7	59.5	1.6x1.2	
	TF0229AA0033(Band 3)	1747.5/1842.5	1.6	74.7	1.6x1.2	
	TF0226AA0033(Band 5)	836.5/881.	1.3	25	1.6x1.2	
	TF0218AA0031(Band 7)	2535/2655	1.8	70	1.6x1.2	
	TF0227AA0033(Band 8)	897.5/942.5	1.7	34.7	1.6x1.2	
	TF0120A(Band 1)	1950/2140	1.8	60	1.8x1.4	
	TF0121A(Band 2)	1880/1960	1.9	59.04	1.8x1.4	
	TF0135A(Band 3)	1747.5/1842.5	2.1	74.7	1.8x1.4	
	TF0122A(Band 4)	1732.5/2132.5	1.5	45	1.8x1.4	
	TF0123A(Band 5)	836.5/881.5	1.4	25	1.8x1.4	
	TF0124A(Band 7)	2535/2655	2.2	70	1.8x1.4	
	TF0125A(Band 8)	897.5/942.4	2	30.2	1.8x1.4	
	TF0133A(Band 12)	707.5/737.5	1.65	17	1.8x1.4	
	TF0169A(Band 13)	751/782	1.9	51	1.8x1.4	
	TF0168A(Band 20)	806/847	1.8	29.5	1.8x1.4	
	TF0136A(Band 25)	1882.5/1962.5	1.9	65	1.8x1.4	
	TF0137A(Band 26)	831.5/876.5	1.3	34.52	1.8x1.4	
	TF0155A(Band 28A)	718/773	1.7	30	1.8x1.4	
	TF0159A(Band 28B)	733/788	1.7	30	1.8x1.4	
	TF0167A(Band 66)	1745/2155	2	69.04	1.8x1.4	
	TF0126A(Band 1) Bal	1950/2140	1.7	60	1.8x1.4	
	TF0127A(Band 2) Bal	1880/1960	2	59.04	1.8x1.4	
	TF0128A(Band 4) Bal	1732.5/2132.5	1.6	45	1.8x1.4	
	TF0129A(Band 5) Bal	836.5/881.5	1.4	25	1.8x1.4	
	TF0130A(Band 8) Bal	897.5/942.4	1.5	30.2	1.8x1.4	
	Triplexer	TE0190AA1833(B3+B1+B7)	1842.5/2140/2655	1.9	75/60/70	1.8x1.4
	Quadplexer	TE0193AA2620 (B1-Tx + B1-Rx + B3-Tx + B3-Rx)	1747/1842/ 1950/2140	2.5	75/75/ 60/60	2.5x2.0
Single Filter	TA1845A(Band 1 Rx)	2140	1.9	60	1.1X0.9	
	TA1815A(Band 1 Tx)	1950	1.8	60	1.1X0.9	
	TA1870A(Band 2 Rx)	1960	2.3	60	1.1X0.9	
	TA1871A(Band 2 Tx)	1880	1.7	60	1.1X0.9	
	TA1843C(Band 3 Rx)	1842.5	2	75	1.1X0.9	
	TA1885A(Band 3 Tx)	1747.5	2.1	75	1.1X0.9	
	TA1872A(Band 4 Tx)	1732.5	1.7	45	1.1X0.9	
	TA1811A(Band 5 Rx)	881.5	1.3	25	1.1X0.9	
	TA1692A(Band 5 Tx)	836.5	1.9	25	1.1X0.9	
	TA1847A(Band 7 Rx)	2655	2.3	70	1.1X0.9	
	TA1886A(Band 7 Tx)	2535	1.7	70	1.1X0.9	
	TA1839A(Band 8 Rx)	942.5	2	35	1.1X0.9	
	TA1814A(Band 8 Tx)	897.5	2.3	35	1.1X0.9	
	TA2037A(Band 12 Rx)	737.5	1.6	17	1.1X0.9	
	TA2062A(Band 13 Rx)	751	1.9	10	1.1X0.9	
	TA1813A(Band 13 Tx)	782	1.5	10	1.1X0.9	
	TA2037A(Band 17 Rx)	737.5	1.6	17	1.1X0.9	
	TA2439A(Band 17 Tx)	710	1.3	12	1.1X0.9	
	TA1692A(Band 19 Tx)	836.5	1.9	25	1.1X0.9	
	TA2041A(Band 20 Rx)	806	2.7	30	1.1X0.9	
	TA2042A(Band 20 Tx)	847	2	30	1.1X0.9	
TA2016A(Band 26 Rx)	876.5	2.1	3.6	1.1X0.9		

► LTE SAW

4G

LTE

Repeater

Femtocell

Base
Station

	P/N	Frequency (MHz)	Insertion Loss (dB)	Band Width (MHz)	Size (mm)
Single Filter	TA2394A(Band 28 Full Rx)	780.5	2	45	1.1X0.9
	TA1897A(Band 28A Rx)	773	2.1	30	1.1X0.9
	TA1898A(Band 28B Rx)	788	2	30	1.1X0.9
	TA1968A(Band 38 RX)	2595	1.6	50	1.1X0.9
	TA1965A(Band 38 TRX)	2595	1.6	50	1.1X0.9
	TA2018A(Band 39 RX)	1900	1.4	40	1.1X0.9
	TA2018A(Band 39 TRX)	1900	1.4	40	1.1X0.9
	TA1969A(Band 40 RX)	2350	1.9	100	1.1X0.9
	TA1966A(Band 40 TRX)	2350	1.9	100	1.1X0.9
	TA1991A(Band 41 RX)	2605	1.7	100	1.1X0.9
	TA1967A(Band 41 TRX)	2602.5	1.8	105	1.1X0.9
	TA2774AA1222(Band 41 Full TRX)	2593	1.8	194	1.1X0.9
	TA2473A(Band 66 RX)	2155	1.9	69.04	1.1X0.9

► Mobile Xtal/TSX

3G

LTE

Repeater

Femtocell

Base
Station

P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)	Note
TM0021AAA161	76.8	7	±16	1.6x1.2	
TM0017A	38.4	8	±10	1.6x1.2	
TM0023AAAA61	52	8	±10	1.6x1.2	
TM0014BA4344	38.4	8	±10	2.0x1.6	
TM0019BAAA41	26	8	±10	2.0x1.6	
TM0022AA4444	55.2	8	±10	2.0x1.6	AEC-Q200
TM0006B	19.2	7	±10	2.0x1.6	
TM0009A	26	7	±10	2.0x1.6	
TM0010F	38.4	10	±10	2.0x1.6	
TM0003C	19.2	7	±10	2.5x2.0	
TZ1432A	26	8	±10	2.5x2.0	
TZ0928A	26	8.4	±10	2.5x2.0	
TM0005A	52	16	±10	2.5x2.0	
TZ1689A	26	7.3	±10	3.2x2.5	
TZ0495C	26	8	30±10	3.2x2.5	
TZ1387A	26	11.2	±10	3.2x2.5	
TM0011A	26	7	±10	2.5x2.0	
TM0012A	26	9	±10	2.5x2.0	
TM0014A	38.4	8	±10	2.0x1.6	

► Mobile TCXO/VCTCXO/XO

3G

LTE

Repeater

Femtocell

Base
Station

P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)	Note
TX0920AABT51	19.2	2.8	±0.5	2.0x1.6	
TX0557B	52	1.8	±1	2.0x1.6	
TX0536C	38.4	1.8	±1	2.0x1.6	
TX0371B (UMTS)	26	2.8	±2	2.5x2.0	
TX0445B (UMTS)	26	2.85	±2	2.5x2.0	
TX0617D	26	2.8	±1	2.5x2.0	
TX0362A	19.2	3.3	±1.5	3.2x2.5	
TX0315B (UNTS)	26	2.8	±2	3.2x2.5	
TX0305A (Femtocell)	26	3.3	±2	3.2x2.5	
TX0472 (Femtocell)	19.2	3.3	±2	5.0x3.2	
TX0462 (Stratum III)	10	3.3	±1	7.0x5.0	
TW0617D	156.25	2.5	±50	7.0x5.0	*LVPECL
TW0508A	312.5	2.5	±50	7.0x5.0	*LVPECL
TX0617B	26	2.8	±0.5	2.5x2.0	

► TPMS Xtal *operating temperature -40°C~125°C, AEC-Q200 compliance

TPMS

P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Stability (ppm)	Size (mm)
TZ3912AA4444	26	8	±10	±50	2.0x1.6
TZ3908CA4244	48	7	±7.2	±50	2.0x1.6
TZ3533EA4444	16	8	±10	±40	2.0x1.6
TZ3992EA4444	40	8	±10	±40	2.0x1.6
TZ3573DA4444	24	8	±10	±50	2.0x1.6
TZ2312CA4444	30	8	±10	±50	2.0x1.6
TZ0825E	32	8	±20	±50	2.5x2.0
TZ2666B	19.6875	12	±10	±60	3.2x2.5
TZ2384B	21.948717	10	±10	±50	3.2x2.5
TZ0659C	26	8	±10	±60	3.2x2.5
TZ1624C	8	10	±10	±50	5.0x3.2
TZ2382A	18.08	12	±30	±80	5.0x3.2
TZ0659E	26	8	±10	±50	3.2x2.5
TZ3122C	26	8	±10	±50	2.0x1.6
TZ2966C	20	8	±15	±50	2.0x1.6
TZ1935C	26	10	±10	±50	2.0x1.6

▶ TUNING FORK TCXO-XO Xtal

GPS

GLONASS

GALILEO

BEIDOU

P/N	Frequency (MHz)	Load Capacitance (pF)	Tolerance (ppm)	Size (mm)		Note
TZ3120A	32.768KHz	9	±20	1.6x1.0		
TZ3108C	32.768KHz	12.5	±20	1.6x1.0		
TZ3359COAO74	32.768KHz	7	±20	1.6x1.0		
TZ3158D	32.768KHz	7	±20	2.0x1.2		
TZ3049C	32.768KHz	9	±20	2.0x1.2		
TZ2058E	32.768KHz	12.5	±20	2.0x1.2		
TZ2754C	32.768KHz	12.5	±20	3.2x1.5		AEC-Q200
TZ3857AA6022	32.768KHz	9	±20	3.2x1.5		
TZ1166E	32.768KHz	7	±20	3.2x1.5		

▶ TUNING FORK TCXO-XO XO

GPS

GLONASS

GALILEO

BEIDOU

P/N	Frequency (MHz)	Voltage (V)	Tolerance (ppm)	Size (mm)	Current Consumption	Note
TW0650AA2250	32.768KHz	1.8	15	2.0x1.6	1.4uA typical	Ultra low current
TW0651AA2250	32.768KHz	1.8	15	2.5x2.0	1.4uA typical	Ultra low current
TW0599CA2230	32.768KHz	1.8	25	3.2x2.5	0.15 mA typical	low current
TW0459E	32.768KHz	3.3	25	2.5x2.0	2mA max.	
TW0513A	32.768KHz	3.3	25	2.0x1.6	2mA max.	

▶ TUNING FORK TCXO

GPS

GLONASS

GALILEO

BEIDOU

P/N	Frequency (MHz)	Voltage (V)	Tolerance (ppm)	Size (mm)	Current Consumption	Note
TXK0001A	32.768KHz	1.6	10	2.1x1.3	1.0uA typical	
TX0851BAAJ03	32.768KHz	1.3~5.5	5	2.1x1.3	1.0uA typical	
TX00618A	32.768KHz	3.3	5	3.2x2.5	1.0uA typical	
TX0777CH6330	32.768KHz	3.3	5	3.2x2.5	1.0uA typical	

▶ OCXO

Instrument

Infrastructure

Base Station

Product Category	Size	Vcc	Freq Range	Output	TC Stab
TFE75	PTH L x W: 50.8*50.8mm Height: 38.88mm / 20mm	5V / 9V / 12V	5MHz~100MHz	Sine HCMOS/TTL	0.1~50ppb
TFE45	PTH L x W: 36*27mm Height: 19mm / 13mm	3.3V / 5V / 12V	5MHz~100MHz	Sine HCMOS/TTL	2~100ppb
TFE17	PTH L x W: 25.4*25.4 mm Height: 13mm / 10mm	3.3V / 5V / 12V	5MHz~100MHz	Sine HCMOS/TTL	5~100ppb
TFE512	PTH L x W: 20*20 mm Height: 13mm / 10mm	3.3V / 5V / 12V	5MHz~130MHz	Sine HCMOS/TTL	5~200ppb
TFE93	PTH L x W: 20*12.8 mm Height: 10.5mm / 8.5mm	3.3V / 5V	2MHz~70MHz	Sine HCMOS/TTL	30~300ppb
TFE942	SMD L x W: 25.4*22 mm Height: 13mm	3.3V / 5V / 12V	5MHz~40MHz	Sine HCMOS/TTL	5~300ppb
TFE149	SMD L x W: 14.3*9.3 mm Height: 6.5mm	3.3V / 5V	10MHz~40MHz	Clipped Sine HCMOS/TTL	30~300ppb
TFE97	SMD L x W: 9.7*7.5 mm Height: 4.1mm	3.3V / 5V	10MHz~40MHz	Clipped Sine HCMOS/TTL	30~300ppb
TFE7000	Dip L X W:20*13 mm	3.3V / Vc=1.4V	16.384MHz	CMOS	10ppb
Low G	PTH L X W: 36.3*27.2mm Height: 16mm	5V / 9V / 12V	100MHz	CMOS	100ppb
Double oven	PTH L X W: 36.3*27.2mm Height: 16mm	5V / 9V / 12V	10MHz	CMOS	0.2ppb

▶ HFHE XO

Fiber

Data Center

Product Category	TST Product Type	Size (mm)	Popular Freq (MHz)	Supply Voltage (V)	Freq. stab. (ppm)	Temp Range	Output
XO	TW-7050-D	7x5x1.45	7 7.76, 106.25, 125, 155.52, 156.25, 187.5, 212.5, 312.5	3.3, 2.5	+/-25,+/-50	-20~+70C, -40~+85C	PECL/LVDS
	TW-5032-D	5x3.2x1.25	25, 106.25, 125, 156.25, 161.1328, 212.5	3.3, 2.5	+/-25,+/-50	-20~+70C, -40~+85C	PECL/LVDS
	TW-3225-PL	3.2x2.5x0.9	25, 106.25, 125, 156.25, 161.1328, 212.5	3.3, 2.5	+/-25,+/-50	-20~+70C, -40~+85C	PECL/LVDS
VCXO	TXV-7050-D	7.0x5.0x1.75	77.76, 106.25, 122.88, 125, 155.52, 156.25, 200	3.3, 2.5	+/-25,+/-50	-20~+70C, -40~+85C	PECL/LVDS
	TXV-7050-C	7.0x5.0x1.75	10, 20, 25, 27, 32.768, 35.328, 38.88, 61.44, 122.88, 153.6	3.3	+/-25,+/-50	-20~+70C, -40~+85C	CMOS
	TXV-5032-D	5.0x3.2x1.25	122.88, 153.6, 155.52, 156.25	3.3	+/-25,+/-50	-20~+70C, -40~+85C	PECL/LVDS
	TXV-5032-C	5.0x3.2x1.25	19.44, 3 8. 4	3.3	+/-25, +/-50	-20~+70C, -40~+85C	CMOS
TCXO	TX-7050-S1	7.0x5.0x1.9	10, 12.8, 16.384, 19.2, 19.44, 20, 25, 26	5.0, 3.3	+/-0.14,+/-0.28	-20~+70C, -40~+85C	CMOS/Clipped Sine
	TX-7050-CSW	7.0x5.0x1.9	10, 12.8, 16.384, 19.2, 19.44, 20, 25, 26	5.0, 3.3	+/-0.37~+/-2	-20~+70C, -40~+85C, -40~+105C	CMOS/Clipped Sine
	TX-7050-S2	7.0x5.0x1.9	8.192, 10, 12.8, 16.384, 19.2, 19.44, 20, 25, 26	5.0, 3.3	+/-0.28	-20~+70C, -40~+85C	CMOS/Clipped Sine
	TX-7050-CS	7.0x5.0x1.9	5, 6.4, 8, 8.192, 10, 12.5, 12.8, 16, 16.384, 19.44, 25	5.0, 3.3	+/-0.37~+/-2	-20~+70C, -40~+85C	CMOS/Clipped Sine
	TX-5032-CS	5.0x3.2x1.55	10, 12.8, 13, 19.2, 20, 25, 26, 30.72	5.0, 3.3	+/-0.1,+/-0.28	-20~+70C, -40~+85C	CMOS/Clipped Sine

▶ QUICK TERM XO/VCXO/TCXO

Fiber

Data Center

Product Category	TST Product Type	Size (mm)	Popular Freq (MHz)	Supply Voltage (V)	Freq. stab. (ppm)	Temp Range	Output
XO	TW	3.2x2.5/ 2.5x2.0.2/ 2.0x1.6	1MHz~200MHz (~125MHz,1.8V)	3.3, 2.5,1.8	+/-20	-40~+85C	CMOS
VCXO	TWQN	7x5/5x3.2/ 3.2x2.5	10MHz~1.5GHz (CMOS 50~250MHz)	3.3, 2.5	+/-25,+/-50	-20~+70C, -40~+85C	CMOS/PECL/LVDS
	TWJF	7x5/5x3.2	50MHz~2.1GHz (CMOS 50~250MHz, HCSL 150~700MHz)	3.3, 2.5,1.8	+/-25,+/-50	-20~+70C, -40~+85C	LVCMS/LVPECL / LVDS/HSCL/CML
TCXO	TXQF	3.2x2.5	10MHz~1.5GHz (CMOS 50~250MHz)	3.3, 2.5	+/-2.5,+/-1.5	-30~+85C, -40~+85C	CMOS/LVPECL/LVDS
	TXQF	5.0x3.2	10MHz~2.1GHz (CMOS 50~250MHz, HCSL 150~700MHz)	3.3, 2.5,1.8	+/-1.5,+/-1.0	-40~+85C	LVCMS/LVPECL / LVDS/HSCL/CML

▶ TIMING MODULE

Fiber

Data Center

Oscillator	TST Product Type	Size (mm)	Freq (MHz)	Supply Voltage (V)	Freq. stab. (ppm)	Temp Range	Feature
TCXO	TST-11	25x25x9.4	10MHz	3.3	1PPS accuracy: <+/-75ns RMS	Yes	Low Poewr/Low cost/Affordable
OCXO	TST-300	48x48x25	10MHz	12	Holdover: 8 us/24hrs	Yes	Pin comppatible to 50x50 OCXO
DOCXO	TST-6565	65x65x23	10MHz	5	Holdover: 1.5 us/24hrs	No	Low-end Rubidium replacement
Atomic Clock	TST-100	50x50x20.5	10MHz	3.3	<+/-5x10 ⁻¹¹ at shipment	No	Low-end Rubidium replacement

▶ LTCC

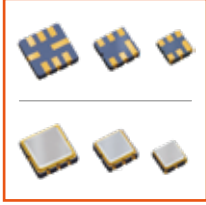
	Center Frequency (MHz)	Pass Band (MHz)	Bandwidth (MHz)	Insertion Loss (dB)	Size (mm)	Application	Note
TL0001A	3550	3300~3800	500	0.9 Max	1.6X0.8	LTE Band 42/43	
TL0009A	2450	2400~2500	100	1.5Max	2.0X1.25	Bluetooth, Wireless LAN	TDK DEA202450BT-1294C1-H ACX BF2012-L2R4DAA
TL0009BA0094	2450	2400~2500	100	2.0Max	2.0X1.25	Automotive	
TL0010A	2450	2400~2500	100	2.5 Max	1.6X0.8	2.4G Wi-Fi	EPCOS DEA2450BT Murata LFB182G45SG9A272
TL0011A	5410	4900~5920	1050	2.0 Max	2.0X1.25	5G Wi-Fi	
TL0015A	829.5	699~960	261	0.7 Max	1.6X0.8	NB-IOT	EPCOS DEA160960LT-5044C1 Murata LFL18829MTF1D897
TL0016A	1850	1710~1990	280	0.6 Max	1.6X0.8	NB-IOT	
TL0017B	2450/5500	2400~2500 5150~5850	100/700	0.6Max@2400~2500MHz 1.5Max@5150~5850MHz	1.6X0.8	WiFi+Combo Modules	
TL0019A	5788	5725~5850	125	2.4 Max	2.5X2.0	5G Wi-Fi (V2X)	
TL0019B	5788	572.5~5850.5	125	2.4 Max	2.5X2.0	V2X	
TL0020A	915	902~928	26	0.7 Max	2.0x1.25	LTE, IOT	Murata LFL21915MTC1A027 Johanson 0915LP15B026
TL0022A	205.5	174~237	63	1.6Max	3.2X2.5	Automotive	
TL0023A	902.5	890~915	25	0.6 Max	2.0x1.25	LTE, IOT	
TL0024A	2450	1870~3030	1160	0.7Max	2.0X1.25	Bluetooth, Wireless LAN	Johanson 2450BP15T0100-1
TL0025A	2448	2412~2484	72	1.35Max	2.0X1.25	Bluetooth, Wireless LAN	Murata LFB212G45SG8A166
TL0026A	869.5	824~915	91	0.7 Max	0.65X0.5	GSM Band RF Application	
TL0027A	869.5	824~915	91	0.85 Max	1.0X0.5	GSM Band RF Application	
TL0028A	869.5	824~915	91	0.45 Max	1.6X0.8		
TL0029A	2200	1700~2700	1000	1.05 Max	1.6X0.8	WiFi	Murata LFL181G35TF1D951
TL0030A	1867.5	1710~2025	315	1.6 Max	1.0X0.5	1.8 GHz DCS/ PCS Band RF Application	
TL0031A	1952.5	1880~2025	145	1.1 Max	1.6X0.8	WiFi	
TL0032A	5887.5	5850~5925	75	1.6 Max	2.5X2.0	V2X	
TL0032B	5887.5	5850~5925	75	2.2Max	2.5x2.0	Wave Module	
TL0033A	3600	3400~3800	400	1.2 Max	2.0x1.25	LTE Band 42/43	
TL0034A	915	902~928	26	0.5 Max	2.0x1.25	LTE, IOT	
TL0035A	5788	5725~5850	125	1.2 Max	2.5X2.0	5G Wi-Fi (V2X)	
TL0035B	5788	5725.5~5850.5	125	1.5Max	2.5x2.0	All Market	
TL0036A	2450	2400~2500	100	1.5Max	1.6x0.8	WiFi	
TL0037A	3750	3300~4200	900	2.25 Max	2.0X1.25	5G N77	
TL0038A	4700	4400~5000	600	2.3 Max	2.0X1.25	5G N79	
TL0040A	5550	5150~5950	800	1.2Max	1.6x0.8	GNSS L5車用智能天線	
TL0041AA0094	2450/5424	2400~2500 4900~5950	100/1050	0.9Max@2400~2500MHz 1.1Max@4900~5950MHz	1.6x0.8	Networking	
TL0042AAAT92	2450/5425	2400~2500 4900~5950	100/1050	0.55Max@2400~2500MHz 0.7Max@4900~5950MHz	1.6x0.8	Networking	
TL0043AA2095	2450	2400~2500	100	4.0Max	2.0x1.25	WiFi	
TL0044AA0090	2450	2400~2500	100	4.0Max	2.0x1.25	WiFi	
TL0045AA0090	2450	2400~2500	100	4.0Max	2.0x1.25	WiFi	
TL0046AA0092	2450	2400~2500	100	4.0Max	2.0x1.25	WiFi	
TL0047AA0092	2450	2400~2500	100	1.4Max	2.0x1.25	IOT	
TL0048AA0092	2450	2400~2500	100	0.45Max	1.6x0.8	IOT	
TL0049AA0092	7240	6240~8240	2000	2.5Max	2.0x1.25	IOT	

▶ DR

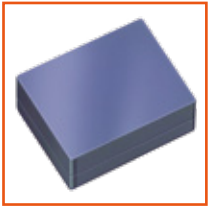
	Center Frequency (MHz)	Pass Band (MHz)	Bandwidth (MHz)	Insertion Loss (dB)	Size (mm)	Application	Note
TR0001A	3625	3550~3700	150	3.0 Max	26X11.5	LTE Band 48	
TR0002A	5825	5725~5925	200	2.0 Max	4.4X3.9	V2X	
TR0003A	3500	3400~3600	200	2.5 Max	4.5X3.8	LTE Band 42	
TR0004A	3500	3400~3600	200	2.0 Max	15.9X6.2	LTE Band 42	
TR0005A	3700	3600~3800	200	2.5 Max	4.5X3.8	LTE Band 43	
TR0007B	5235	5150-5330	180	2.5 Max @5150-5320 3.5 Max @5360	8.6X4.05	5G Wi-Fi	Qualcomm solution
TR0008A	5240	5140~5340	200	2.1 Max	3.25x2.58	5G Wi-Fi	MTK solution
TR0009A	5245	5150~5340	190	2.0 Max	8.05x4.05	5G Wi-Fi	Broadcomm solution
TR0010A	5250	5170~5330	160	2.5Max	8.05x4.05	5G Wi-Fi	Intel solution
TR0011A	5665	5480~5850	370	2.0 Max	8.05X3.45	5G Wi-Fi	Broadcomm solution
TR0012A	5670	5480~5860	380	2.1 Max	3.25x2.58	5G Wi-Fi	MTK solution
TR0013A	5710	5490~5935	445	2.5Max	8.05X3.45	5G Wi-Fi	Intel solution
TR0014B	5697	5490-5850	360	2.5 Max	8.6X3.45	5G Wi-Fi	Qualcomm solution
TR0015A	1975	1840~2110	270	1.0 Max	26X11.5	V-set	
TR0016A	915	902~928	26	2.5 Max	11.4x8.95	ISM	
TR0017A	5825	5725~5925	200	2.5 Max	8.05X3.35	V2X	
TR0019A	5962.5	5725~6200	475	2.0 Max	6.6x3.15	V2X	
TR0020A	1223	1198~1248	50	2.0 Max	6.6x6.05	L2 GPS	
TR0021A	1581	1541~1621	80	1.0 Max	6.6x6.05	L1 GPS	
TR0022A	5825	5725~5925	200	2.0 Max	4.46x2.75	V2X	
TR0023A	1230	1160~1300	140	2.0 Max	9.2x8.1	L2 GPS	
TR0024A	1241	1197~1285	88	2.0 Max	9.2x8.6	L2 GPS	
TR0025A	5235	5150~5330	180	2.5 Max	8.7X4.27	WLAN	
TR0026A	5697	5490-5850	360	2.5 Max	8.6X3.45	WLAN	
TR0027A	3450	3300~3600	300	2.0 Max	7.2x4.35	WiFi	
TR0028A	813	798~828	30	1.5 Max	11.4x8.55	ISM	
TR0029A	637	624~649	25	1.5 Max	11.4x11.15	ISM	
TR0030A	663	650~676	26	1.5 Max	11.4x10.75	ISM	
TR0031AA0090	3080	2960~3200	240	2.0Max	8.4x3.8	others	
TR0032AA0090	2845	2815~2875	60	2.0Max	8.4x3.8	others	
TR0033AA0090	2917	2880~2955	75	2.0Max	8.4x3.8	others	
TR0034AA0095	3450	3300~3600	300	2.0Max	15.9x4.4	Consumer	
TR0035AA0095	2595	2515 ~ 2675	160	1.5Max	15.9x4.4	Consumer	
TR0036AA0095	3750	3700 ~ 3800	100	1.5Max	15.9x4.4	Consumer	
TR0037AA0095	4700	4600 ~ 4800	200	1.5Max	15.9x4.4	Consumer	
TR0038AA0095	3500	3400 ~ 3600	200	1.5Max	15.9x4.4	Consumer	
TR0039AA0095	3450	3400 ~ 3500	100	2.0Max	15.9x4.4	Consumer	
TR0040AA0095	3550	3500 ~ 3600	100	2.0Max	15.9x4.4	Consumer	
TR0041AA0092	5795	5755~5835	80	2.5 Max	8.7x3.22	Networking	
TR0048AA0092	3480	3340~3620	280	2.0 Max	8.7x3.22	Networking	

Product category

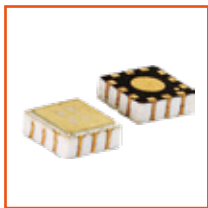
TC-SAW/SAW/BAW



SMD

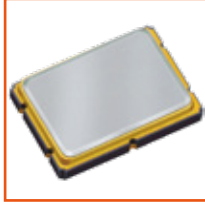


CSP

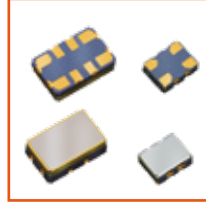


Duplexer

Crystal



SMD



TCXO/XO

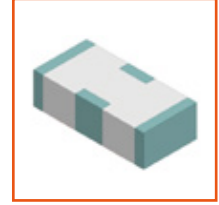


HC49-SMD

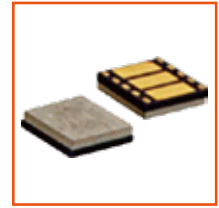


Tuning Fork

Others



LTCC



Module

Antenna



Ceramic Patch



Ceramic Linear



Chip



FPC / PCB

Ceramic Filter



3500Mhz



2.4GHz



5G Tri-Band

Module



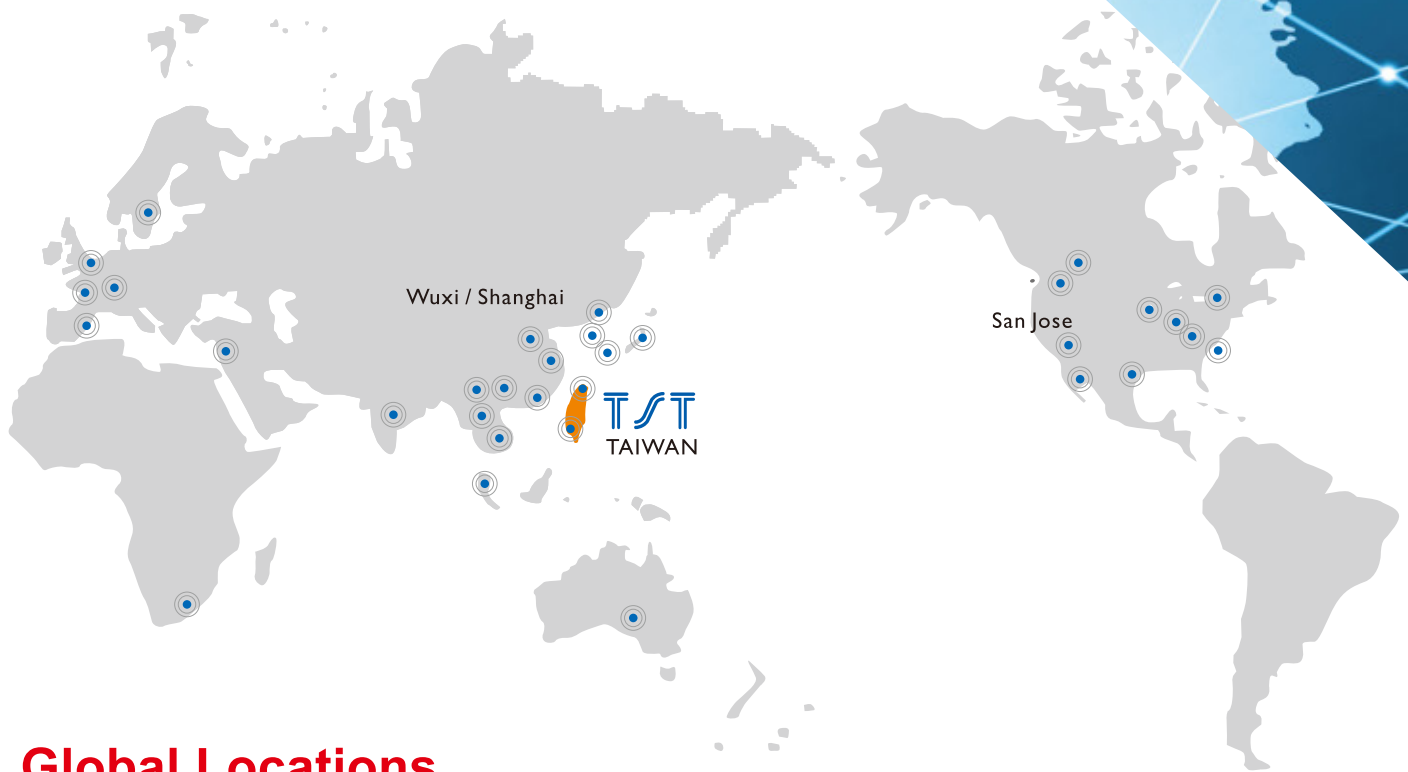
NB-IoT



External GPS



Internal GPS



Global Locations

Reach us all over the world

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