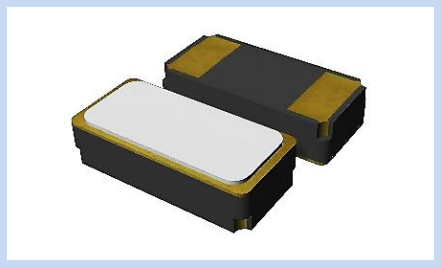
32.768 Crystal Unit
3.2 x 1.5mm KHz Tuning Fork

MXT3 Series

MERITEK

FEATURE

- **Surface Mount Low Profile**
- **Seam Sealed Ceramic Package**
- **Applications: Measuring Instruments, Clock Source, Communications, A/V Equipment, Bluetooth**

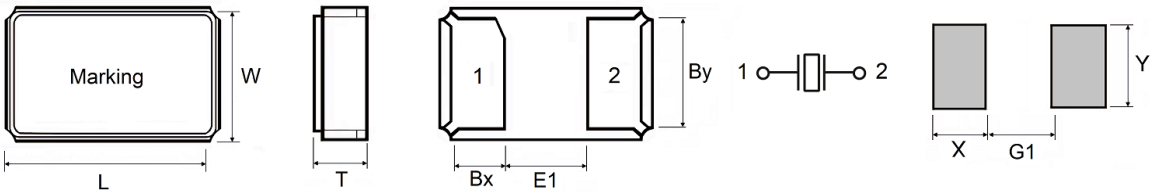


RoHS

ELECTRICAL CHARACTERISTICS

Item	Min	Typ	Max	Units
Nominal Frequency Range	-	32.768	-	**KHz**
Frequency Tolerance at 25°C ± 3°C	±5	±20	±50	**ppm**
Frequency Temperature Curve		(-0.03 ±0.01) x 10^{-6}		**ppm/(°C)²**
Turnover Temperature	20	25	30	**°C**
Operating Temperature Range	-40	-	+85	
Storage Temperature Range	-55	-	+125	
Load Capacitance, CL	6	-	12.5	**pF**
Shunt Capacitance, C0	-	1.3	7.0	
Equivalent Series Resistance	-	70	-	**KΩ**
Capacitance Ratio	-	450	-	**--**
Q Value	-	10000	-	**--**
Drive Level	-	0.1	0.5	**µW**
Insulation Resistance, at 100VDC	500	-	-	**MΩ**
Frequency Aging First Year at 25°C ± 3°C	±3	-	±5	**ppm**
Moisture Sensitivity Level, MSL		Level 1 (J-STD-033)		**--**

DIMENSIONS



Unit: mm

Size	L	W	T	Bx	By	E1	X	Y	G1
3215	3.2 ±0.1	1.5 ±0.1	0.8 max	0.65 ±0.1	1.3 ±0.1	1.7	1.1	1.9	1.4

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PART NUMBERING SYSTEM

MXT3 B F I 32K768
(1) (2) (3) (4) (5)

No.	Item	Code	Description	
(1)	**Meritek Series**	MXT3	Ceramic SMD Crystal, KHz TUNING FORK 3.2 x 1.5mm, 2 Pads	
(2)	**Load Capacitance**	B	B: 12.5pF	6-12pF, See option table
(3)	**Frequency Tolerance**	F	F: ±20ppm	±10~±50ppm, See option table
(4)	**Operating Temperature**	I	I: -40~+85ºC	-40~125ºC, See option table
(5)	**Frequency**	32K768	32K768: 32.768KHz	32K768, K: denotes decimal point

PRODUCTS OPTION CODE

Load Capacitance	**(pF)**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**12**	**15**	**16**	**18**	**20**	**22**	**25**	**30**	**32**	*****
	Code	3	4	5	6	7	8	9	A	B	C	D	E	F	K	G	H	L	Z

Frequency Tolerance	**(ppm)**	**±10**	**±15**	**±20**	**±25**	**±30**	**±50**	**±100**	*****
	Code	A	C	F	G	H	J	K	Z

Frequency Stability	**(ppm)**	**±10**	**±15**	**±20**	**±25**	**±30**	**±50**	**±100**	*****
	Code	A	C	F	G	H	J	K	Z

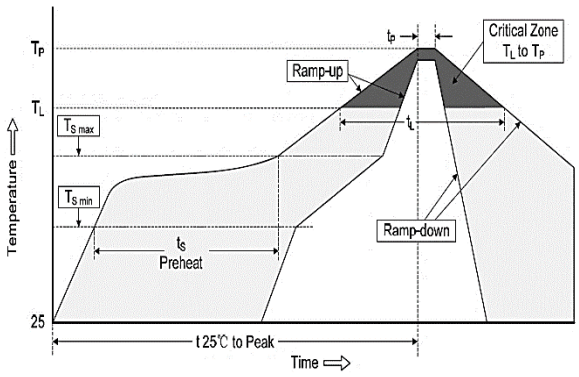
Operating Temperature	**(°C)**	**-40~70**	**-40~85**	**-40~105**	**-40~125**	**-40~150**	**-10~60**	**0~70**	*****
	Code	4	3/I	2/R	1/Y	0	A	B	Z

Operating Temperature	**(°C)**	**-55~70**	**-55~85**	**-55~105**	**-55~125**	**-55~150**	**-20~70**	**-30~85**	*****
	Code	9	8	7	6	5	C	K	Z

Note: * Z: None Standard, Custom options available. Contact Meritek for more information

RECOMMENDED SOLDERING PROFILES

Reflow Condition		
Pre Heat	**Temp. Min $T_{s(min)}$**	150°C
	Temp. Max $T_{s(max)}$	180°C
	Time (min. to max.) (t_s)	60~120 seconds
Ramp up rate (T_L to T_P)		1°C/second max.
$T_{s(max)}$ to T_L (Ramp-up rate)		3°C/second max.
Reflow	**Temp. (T_L)**	230°C
	Time (min. to max.) (t_L)	30~40 seconds
Peak Temperature (T_P)		260°C
t_p within 5°C of Peak Temperature (t_P)		10 seconds max
Ramp-down Rate		6°C/second max.



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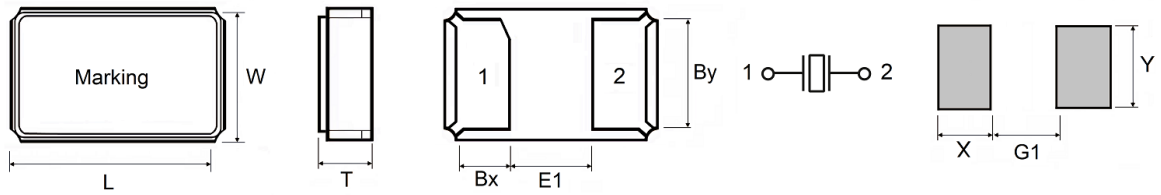
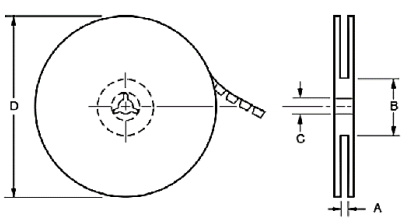
DIMENSIONS – MXTx Series

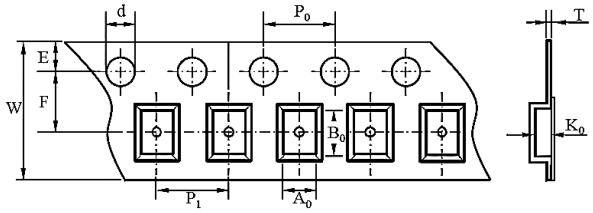


Unit: mm

Series	Size	Pad	L	W	T max	Bx	By	E1	E2	X	Y	G1	G2
MXT1	**1610**	2	1.6 ±0.1	1.0 ±0.1	0.50	0.40	0.86	0.66	-	0.50	1.00	0.60	-
MXT2	**2012**	2	2.0 ±0.1	1.2 ±0.1	0.60	0.50	1.00	0.80	-	0.75	1.40	0.70	-
MXT3	**3215**	2	3.2 ±0.1	1.5 ±0.1	0.80	0.65	1.30	1.70	-	1.10	1.90	1.40	-
MXT4	**4115**	2	4.1 ±0.1	1.5 ±0.1	0.85	0.60	1.30	2.70	-	1.10	1.90	2.30	-
MXT5	**4918**	2	4.9 ±0.15	1.8 ±0.15	1.00	0.75	1.60	3.20	-	1.30	2.20	2.90	-

PACKAGING SPECIFICATION





Series	Size	Reel Dimension (mm)						Tape Dimensions (mm)									
		A	B	C	D	Dia	Pcs/Reel	A0	B0	d	E	F	K0	P0	P1	T	W
MXT1	**1610**	9.0	60	13.0	180	178	3000	1.25	1.85	1.50	1.75	3.5	0.7	4.0	4.0	0.25	8.0
MXT2	**2012**	9.0	60	13.0	180	178	3000	1.40	2.25	1.50	1.75	3.5	0.8	4.0	4.0	0.25	8.0
MXT3	**3215**	12.4	60	13.0	180	178	3000	1.90	3.60	1.50	1.75	5.5	1.0	4.0	4.0	0.30	12.0
MXT4	**4115**	12.4	60	13.0	180	178	3000	1.90	4.60	1.50	1.75	5.5	1.0	4.0	4.0	0.30	12.0
MXT5	**4918**	12.4	60	13.0	180	178	3000	2.20	5.50	1.50	1.75	5.5	1.0	4.0	4.0	0.30	12.0

Note: Specifications subject to change without notice.