

SMD Crystal Unit

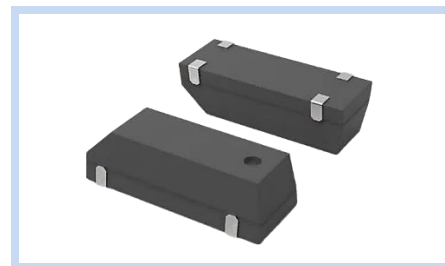
8.0x3.8x2.5mm KHZ Crystal

MXTQ Series

MERITEK

FEATURE

- Industrial Standard Package
- Surface Mount Low Profile
- High Precision and High Frequency Stability
- Applications: Measuring Instruments, Clock Source, Communications, A/V Equipment, Bluetooth



ELECTRICAL CHARACTERISTICS

Item	Min	Typ	Max	Units
Nominal Frequency Range	25.60	32.768	307.20	KHz
Frequency Tolerance at 25°C ± 3°C	±5	±20	±100	ppm
Frequency Temperature Curve	-0.034 ±0.006			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	30	pF
Shunt Capacitance, C0	0.9	1.35	2.0	
Motional Capacitance, C1	-	2.3	-	fF
Equivalent Series Resistance	35	-	50	KΩ
Capacitance Ratio	-	450	-	--
Q Value	-	75000	-	--
Drive Level	-	-	1.0	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

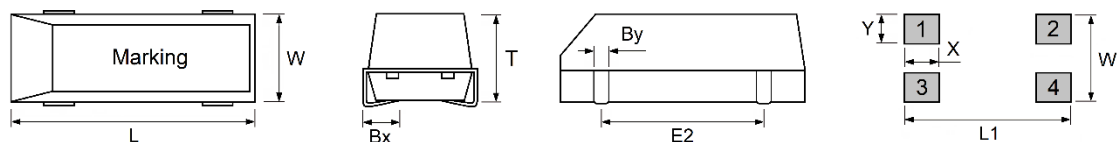


Fig.2

Unit: mm

Size	Pin	L	W	T	Bx	By	E1	E2	X	Y	L1	W1	Fig
8038	4	8.0±0.2	3.8±0.2	2.4±0.1	0.9 Ref	0.5±0.1	-	5.5±0.1	1.3	1.9	6.8	5.1	2

Note: Pad Connections: Pin1, Pin3: In/Out. Pin2, Pin4: N/C

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PART NUMBERING SYSTEM

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

No.	Item	Code	Description
(1)	Meritek Series	MXTQ	Ceramic SMD Crystal 8.0 x 3.8 x 2.5mm Molded Type
(2)	Load Capacitance	B	B: 12.5pF 6~30pF, See option table
(3)	Frequency Tolerance	F	F: ±20ppm ±5~±100ppm, See option table
(4)	Operating Temperature	I	I: -40~+85°C See option table
(5)	Frequency	32K768	32K768: 32.768KHz 25K6~307K2, K: denotes decimal point

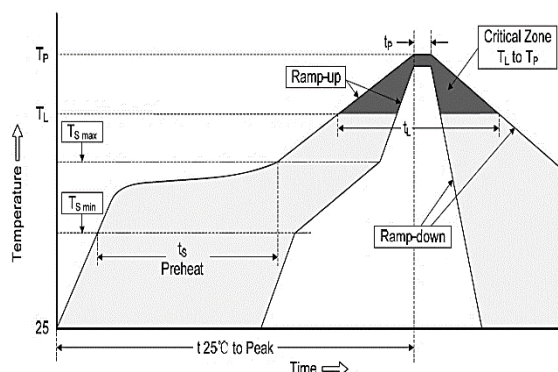
PRODUCTS OPTION CODE

Load Capacitance	(pF)	3	4	5	6	7	8	9	10	12.5	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 $T_{s(min)}$	120°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)		3°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)	55 seconds max.
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.



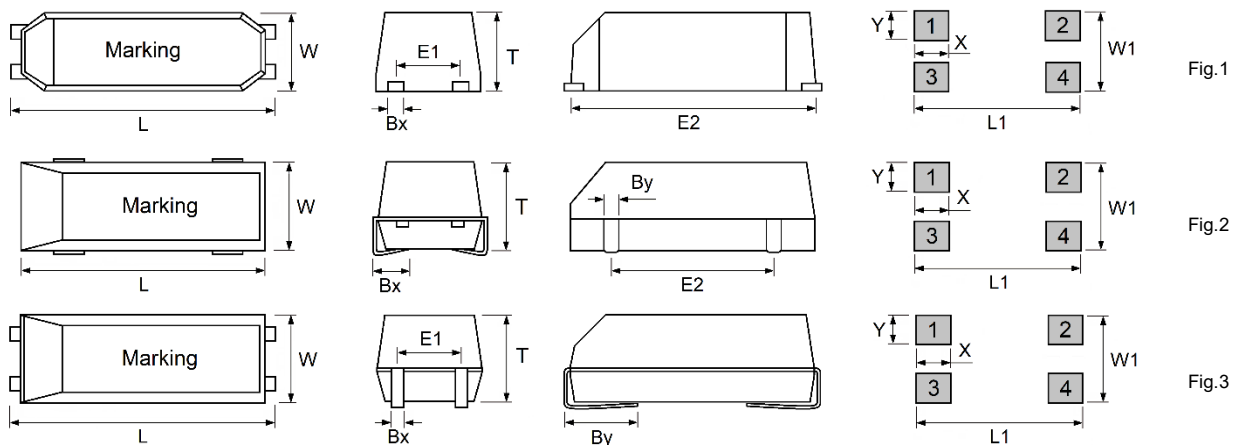
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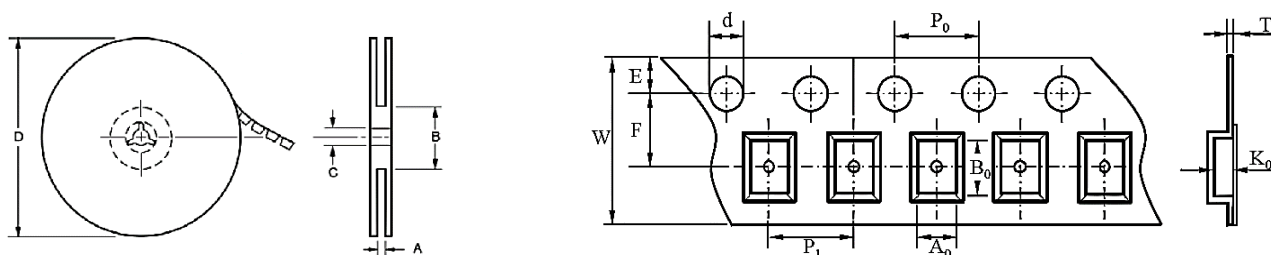
DIMENSIONS – MXTx SERIRES



Unit: mm

Size	Pin	L	W	T	Bx	By	E1	E2	X	Y	L1	W1	Fig
7015	4	7.0 max	1.5 max	1.4 max	0.3	-	0.85	6.7	1.2	0.6	7.5	1.5	1
8038	4	8.0±0.2	3.8±0.2	2.4±0.1	0.9 Ref	0.5±0.1	-	5.5±0.1	1.3	1.9	6.8	5.1	2
1037	4	10.11±0.3	3.76±0.3	3.15±0.1	0.5±0.05	2.5±0.3	2.3±1.0	-	4.1	1.52	12.1	3.84~4.1	3

PACKAGING SPECIFICATION



Unit: mm

Series	Size	Reel Dimension						Tape Dimensions									
		A	B	C	D	Dia	Pcs/Reel	A0	B0	d	E	F	K0	P0	P1	T	W
MXT7	7015	17.5	60	13.0	180	7"	3000	1.65	7.20	1.50	1.75	7.5	1.6	4.0	4.0	0.3	16.0
MXTQ	8038	16.5	100	13.5	330	13"	3000	4.0	8.4	1.5	1.75	7.5	2.8	4.0	8.0	0.3	16.0
MXTV	1037	16.5	100	13.5	330	13"	2000	4.0	10.5	1.5	1.75	7.5	3.7	4.0	8.0	0.3	16.0

Note: Specifications subject to change without notice.