

SMD Crystal Unit

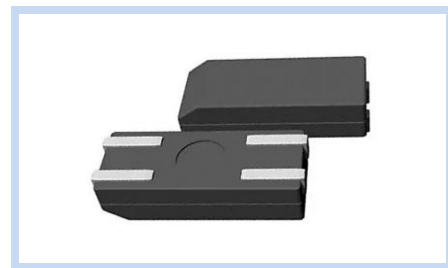
10.4x4.06x3.6mm KHz Crystal

MXTV Series

MERITEK

FEATURE

- Heat Resistant
- Surface Mount Low Profile
- Plastic Molded Construction
- Applications: Measuring Instruments, Clock Source, Communications, A/V Equipment, Bluetooth

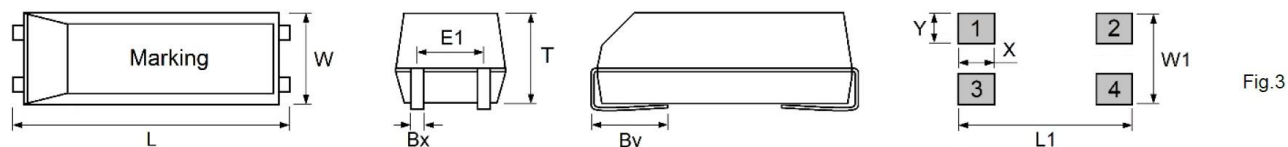


ELECTRICAL CHARACTERISTICS

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	1.9	2.0	
Motional Capacitance, C1	-	2.7	-	fF
Motional Resistance, RM	-	-	50	KΩ
Equivalent Series Resistance, ESR	35	-	50	KΩ
Capacitance Ratio	-	450	-	--
Q Value	-	60000	-	--
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)			--

Note: see the parts number system for other options

DIMENSIONS



Unit: mm

Size	Pin	L	W	T	Bx	By	E1	E2	X	Y	L1	W1	Fig
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

Note: Pad Connections:

1. Standard type: Pin1-3, Pin2-4: In/Out.

2. Option B: Pin1, Pin3: In/Out. Pin2, Pin4 shorted.

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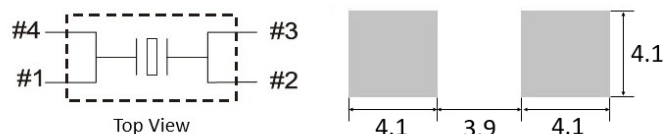
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Internal Connection

(Standard)



(Option B)



Unit: mm

PART NUMBERING SYSTEM

MXTV (1) **B** (2) **F** (3) **I** (4) **32K768** (5) **B** (6)

No.	Item	Code	Description
(1)	Meritek Series	MXTV	Ceramic SMD Crystal, 10.4x4.06x3.6mm Molded Type
(2)	Load Capacitance	B	B: 12.5pF See option table
(3)	Frequency Tolerance	F	F: ± 20 ppm at $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$, See option table
(4)	Operating Temperature	I	I: $-40 \sim +85^{\circ}\text{C}$ See option table
(5)	Frequency	32K768	32K768: 32.768KHz K: denotes decimal point
(6)	Internal Connection	B	B: Option B Blank: Standard, B: Option B (See drawing)

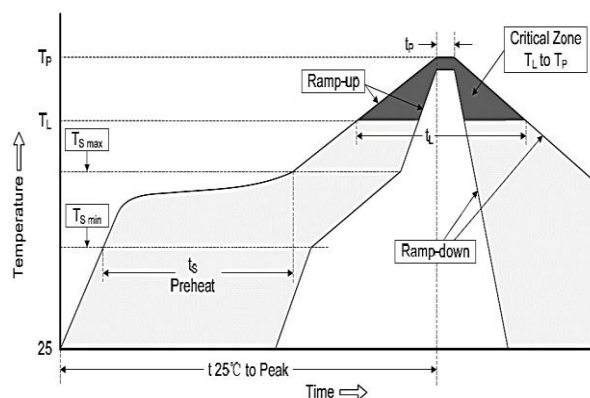
PRODUCTS OPTION CODE

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	($^{\circ}\text{C}$)	$-40 \sim 70$		$-40 \sim 85$		$-40 \sim 105$		$-40 \sim 125$		$-40 \sim 150$		$-10 \sim 60$		$0 \sim 70$		*			
	Code	4		3/I		2/R		1/Y		0		A		B		Z			
Operating Temperature	($^{\circ}\text{C}$)	$-55 \sim 70$		$-55 \sim 85$		$-55 \sim 105$		$-55 \sim 125$		$-55 \sim 150$		$-20 \sim 70$		$-30 \sim 85$		*			
	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)	60~180 seconds
Ramp up rate (T_L to T_P)		$3^{\circ}\text{C}/\text{second max.}$
$T_{s(\max)}$ to T_L (Ramp-up rate)		$3^{\circ}\text{C}/\text{second max.}$
Reflow	Temp. (T_L)	230°C
	Time (min. to max.) (t_L)	55 seconds max.
Peak Temperature (T_P)		260°C
Time within 5°C of Peak Temperature (t_p)		10 seconds max.
Ramp-down Rate		$6^{\circ}\text{C}/\text{second max.}$



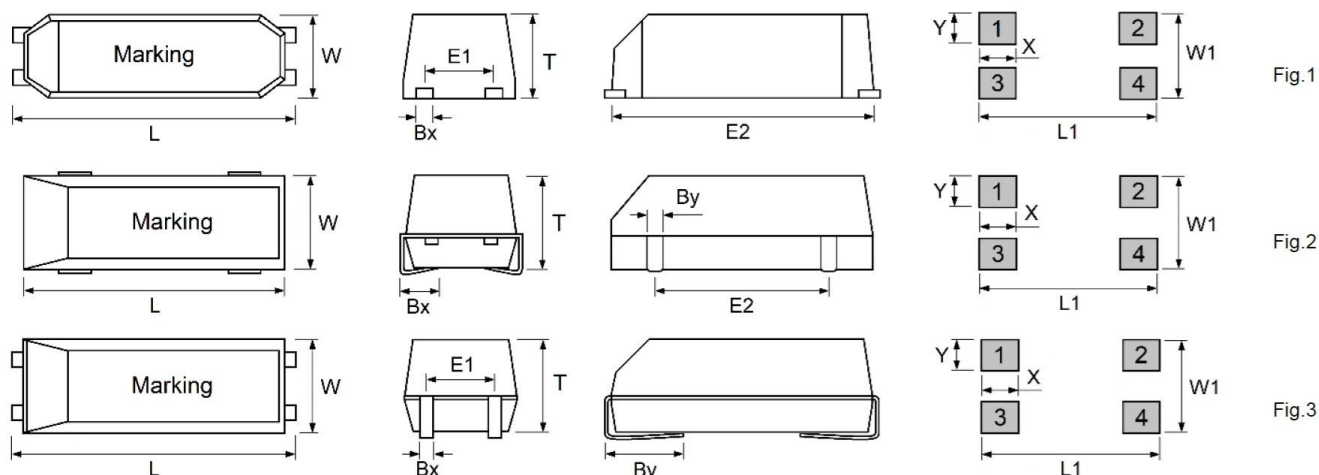
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MXTV Series

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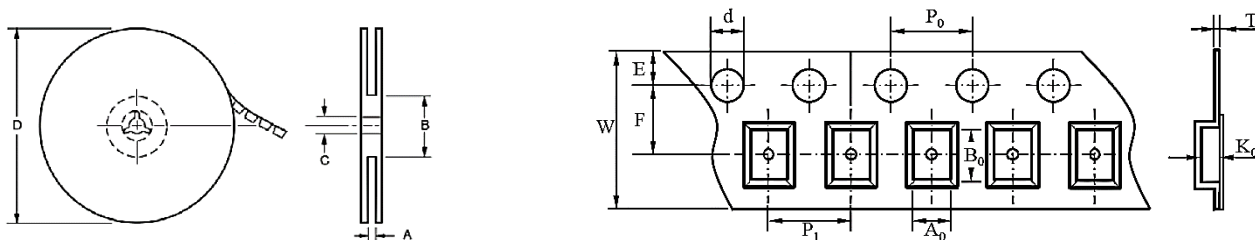
DIMENSIONS – MXTx SERIES



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 (mm)						Tape Dimensions (mm)									
		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.