

# TYPE MXT, X2, EMI/RFI Suppression Capacitors, Harsh Environment

THB 1,000 Hr @ 85 °C, 85% RH, and Vr



The MXT series is constructed of Metallized Polypropylene Film encapsulated with self-extinguishing resin in plastic box of material meeting the UL 94V-0 requirements. The series is suitable for harsh environment conditions. Applications include “across the line” class X2 and EMI/RFI suppression.

## Highlights

- THB 1,000 Hr @ 85 °C, 85% RH, and Vr
- High stability of capacitance
- High operating temperature: 110 °C
- Self-healing property
- Flame-retardant plastic case and resin
- Suitable for harsh environmental conditions

## Specifications

Capacitance Range	0.1 µF to 40 µF
Capacitance Tolerance	±10 % (±20% optional)
Rated Voltage	305 Vac, 630 Vdc
Operating Temperature Range	-40 °C to +110 °C (+85 °C to 110 °C, voltage derating factor of 1.35% per Deg. C)
Life Expectancy	100,000h at rated voltage and hot spot temperature <85 °C
Voltage Between Terminals UTT	DC Voltage: 4.3Ur for 60s or $\sqrt{2}(2UR + 1000 \text{ Vac})$ VDC for 2s, charge current must be 1A max. Withstanding DC voltage (cut-off current 10 mA) Rise time 100V/s
Voltage Between Terminals and Case UTC	2UR + 1500 Vac, 60s at 20 °C
Dissipation Factor	.001 @ 1 kHz @ 20 °C
Insulation Resistance	C ≤ 0.33 µF at 100V; 1 min. > 15000 MΩ C > 0.33 µF at 100V; 1 min. > 5000 MΩ x µF
IEC Climatic Category	40/110/56 IEC60068-1
Damp Heat, Steady State	+40 °C / 93% RH @ rated voltage for 1,344 hrs +24/-0 Capacitance Change Rate: (ΔC/C): ≤±5% DF Change (Δtgδ): ≤80*10 <sup>-4</sup> at 10 kHz (C ≤ 1µF) DF Change (Δtgδ): ≤50*10 <sup>-4</sup> at 1 kHz (C > 1µF) IR: ≥ 50% of initial limit
THB Rating	+85°C / 85% RH @ rated voltage for 1,000 hrs +24/-0 Capacitance Change Rate: (ΔC/C): ≤±10% DF Change (Δtgδ): ≤240*10 <sup>-4</sup> at 10 kHz (C ≤ 1 µF) DF Change (Δtgδ): ≤150*10 <sup>-4</sup> at 1 kHz (C > 1 µF) IR: ≥ 50% of initial limit
Storage Conditions	-40 °C to +85 °C ≤24 months from date code, Average RH ≤70%

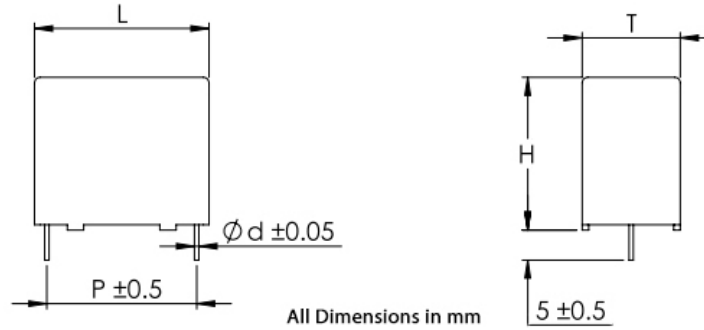
RoHS Compliant

Safety Agency	Standard	File Number
UL	UL 60384-14 CSA-E60384-14	E171988
VDE	IEC 60384-14:2013 IEC 60384-14:2013/ AMD1:2016	40055249
CQC	IEC 60384-14 GB/T6346.14-2015	CQC23001381667

Construction Details	
Case Material	Plastic UL 94V-0
Resin Material	Epoxy Resin UL 94V-0
Terminal Material	Pitch ≤27.5mm = Copper Clad Steel Pitch ≥37.5mm = Tinned Copper Wire

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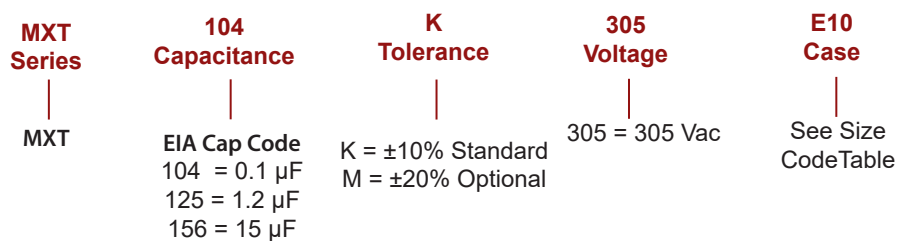
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**Dimensions**



## Size Code Table

Size	Dimensions (mm)						Pitch (mm)	Lead Wire (mm)
Code	L	Tol. ±	H	Tol. ±	T	Tol. ±	P	Ød
E10	18	0.5	11	0.5	5	0.5	15	0.6
E11	18	0.5	12	0.5	6	0.5	15	0.6
E13	18	0.5	13.5	0.5	7.5	0.5	15	0.8
E14	18	0.5	14.5	0.5	8.5	0.5	15	0.8
E20	18	0.5	16	0.5	10	0.5	15	0.8
E21	18	0.5	19	0.5	11	0.5	15	0.8
G11	26	0.5	16.5	0.5	7	0.5	22.5	0.8
G20	26	0.5	19	0.5	10	0.5	22.5	0.8
G22	26	0.5	22	0.5	12	0.5	22.5	0.8
G23	26	0.5	23	0.5	13	0.5	22.5	0.8
G24	26	0.5	29.5	0.5	14.5	0.5	22.5	0.8
H11	32	0.8	18	0.8	9	0.8	27.5	0.8
H20	32	0.8	20	0.8	11	0.8	27.5	0.8
H22	32	0.8	24.5	0.8	13	0.8	27.5	0.8
H23	32	0.8	24	0.8	14	0.8	27.5	0.8
H27	32	0.8	28	0.8	18	0.8	27.5	0.8
H28	32	0.8	33	0.8	18	0.8	27.5	0.8
H30	32	0.8	37	0.8	22	0.8	27.5	0.8
N31	42	1.0	37	1.0	22	1.0	37.5	1.0
N30	42	1.0	40	1.0	20	1.0	37.5	1.0
N32	42	1.0	44	1.0	24	1.0	37.5	1.0
N40	42	1.0	45	1.0	30	1.0	37.5	1.0
R40	57.5	1.0	45	1.0	30	1.0	52.5	1.2
R52	57.5	1.0	60	1.0	45	1.0	52.5	1.2

## Part Numbering System



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## Ratings

Part Number	Cap ( $\mu$ F)	Dimensions				P (mm)	dv/dt (V/ $\mu$ s)	$\varnothing$ d (mm)
		L (mm)	H (mm)	T (mm)				
<b>305 VAC</b>								
MXT104K305E10	0.10	18	11	5	15	400	0.6	
MXT154K305E11	0.15	18	12	6	15	400	0.6	
MXT224K305E13	0.22	18	13.5	7.5	15	400	0.8	
MXT224K305G11	0.22	26	16.5	7	22.5	200	0.8	
MXT274K305E14	0.27	18	14.5	8.5	15	400	0.8	
MXT334K305E14	0.33	18	14.5	8.5	15	400	0.8	
MXT334K305G11	0.33	26	16.5	7	22.5	200	0.8	
MXT474K305E20	0.47	18	16	10	15	400	0.8	
MXT474K305G11	0.47	26	16.5	7	22.5	200	0.8	
MXT564K305E21	0.56	18	19	11	15	400	0.8	
MXT564K305G20	0.56	26	19	10	22.5	200	0.8	
MXT684K305G20	0.68	18	19	11	15	400	0.8	
MXT684K305E21	0.68	26	19	10	22.5	200	0.8	
MXT684K305H11	0.68	32	18	9	27.5	150	0.8	
MXT824K305H11	0.82	32	18	9	27.5	150	0.8	
MXT105K305G20	1.0	26	19	10	22.5	200	0.8	
MXT105K305H20	1.0	32	20	11	27.5	150	0.8	
MXT125K305G22	1.2	26	22	12	22.5	200	0.8	
MXT155K305G23	1.5	26	23	13	22.5	200	0.8	
MXT155K305H22	1.5	32	24.5	13	27.5	150	0.8	
MXT185K305G24	1.8	26	29.5	14.5	22.5	200	0.8	
MXT185K305H22	1.8	32	24.5	13	27.5	150	0.8	
MXT225M305G24	2.2	26	29.5	14.5	22.5	200	0.8	
MXT225K305G24	2.2	26	29.5	14.5	22.5	200	0.8	
MXT225K305H23	2.2	32	24	14	27.5	150	0.8	
MXT275K305H27	2.7	32	28	18	27.5	150	0.8	
MXT335K305H28	3.3	32	33	18	27.5	150	0.8	
MXT395K305H28	3.9	32	33	18	27.5	150	0.8	
MXT475K305H30	4.7	32	37	22	27.5	150	0.8	
MXT685K305N30	6.8	42	37	22	37.5	100	1.0	
MXT685K305N31	6.8	42	40	20	37.5	100	1.0	
MXT106K305N32	10	42	44	24	37.5	100	1.0	
MXT126K305N40	12	42	45	30	37.5	100	1.0	
MXT156K305N40	15	42	45	30	37.5	100	1.0	
MXT186K305R40	18	57.5	45	30	52.5	80	1.2	
MXT206K305R40	20	57.5	45	30	52.5	80	1.2	
MXT406K305R52	40	57.5	60	45	52.5	80	1.2	

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