

Metallized Polypropylene Film Capacitor Box Type - Class X2

Features

- Interference suppression capacitors
- Withstanding overvoltage stressing
- Excellent active and passive flame resistant abilities
- Widely used in across-the-line, interference suppression circuit, etc.
- RoHS compliant.



Specification

Description		Symbol	Value	Conditions
Reference Standard			GB/T 14472 (IEC 60384-14)	
Climatic Category/Passive Flammability Class		T _{CL} /T _{CU} /Day/ Flammability Class	40/110/56/B	
Class			X2	
Operation Temperature Range		T _{OP}	-40 ~ +110 °C	
Capacitance Range		C _R	0.001μF ~ 25.0μF	
Capacitance Tolerance			±10%(K), ±20%(M)	
Rated Voltage		U _R	305/275V _{AC}	50/60Hz
Mains Voltage Applied to		Mains voltage can't be higher than 250Vac 50/60Hz		
Max. Continuous DC Voltage		U _{DC}	630V _{DC}	
Withstanding Test Voltage	Between Terminals	U _{OL}	2000V _{DC}	2s, C _R ≤1.0μF,
			1800V _{DC}	2s, C _R >1.0μF
	Between Terminals To Case			2120 V _{AC}
Max Dissipation Factor	0.0010μF≤C _R <0.010μF	tan δ	0.2%	1KHz, 20°C
	0.010μF≤C _R <0.47μF		0.1%	
	0.47μF≤C _R ≤1.0μF		0.2%	
	1.0μF<C _R ≤10.0μF		0.3%	
	10.0μF<C _R ≤50.0μF		0.4%	10KHz, 20°C
	0.0010μF≤C _R <0.010μF		0.2%	
	0.010μF≤C _R <0.47μF		0.2%	
	0.47μF≤C _R ≤1.0μF		0.4%	
Insulation Resistance	C _R ≤0.33μF	R _{INS}	≥15,000MΩ	20°C, 100V, 60s
	C _R >0.33μF		≥5,000s	
Rated Voltage Pulse Slope U _R =275/305V _{AC} If working voltage(U) is lower than U _R dv/dt(Max) =dv/dt(Rated) * U _R / U		dv/dt	500 (V/us)	P=7.5mm
			500 (V/us)	P=10.0mm
			400 (V/us)	P=1.0mm
			200 (V/us)	P=22.5mm
			150 (V/us)	P=27.5mm
			100 (V/us)	P=37.5mm

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Performance

No.	Item	Performance	Test Method (IEC 60384-14)
1	Solderability	Good quality of tinning	Solder temperature: 245°C ±5°C Immersion time: 2.0s±0.5s
2	Terminal strength	There shall be no visible damage	Tense: 0.50<d≤0.80, 10N 0.80<d≤1.25, 20N Bend: 0.50<d≤0.80, 5N 0.80<d≤1.25, 10N The terminals shall be bent 2 times in each direction
3	Resistance to solder heat	There shall be no visible damage $\Delta C/C \leq \pm 5\%$ (relative to the initial value)	Solder temperature: 260°C ±5°C Immersion time: 10s±1s
4	Solvent resistance of the marking	The marking shall be legible	Solvent: Industrial isopropanol. Solvent temperature: 23°C ±5°C Dipping time: 5min±0.5min Condition: scrub Scrub material: absorbent cotton Reverting time: No
5	Rapid change of temperature	There shall be no evidence of deterioration.	$\theta_A = -40^\circ\text{C}$, $\theta_B = +110^\circ\text{C}$ 5 cycles Duration: t=30min
	Vibration	There shall be no evidence of deterioration.	Amplitude 0.75mm or acceleration 100m/s ² (whichever is the smaller severity), f: 10Hz to 500Hz. Three directions, 2h for each direction, total 6h.
	Bump	There shall be no evidence of deterioration.	4 000 times, Acceleration: 400m/s ² , Pulse duration, 6ms
	Final measurement	There shall be no visible damage $\Delta C/C \leq \pm 5\%$ (relative to the initial value)	
6	Climate sequence	There shall be no visible damage, legible marking $\Delta C/C \leq \pm 5\%$ (relative to the initial value) Dissipation Factor: $\tan \delta \leq 0.008$ (10kHz, $C_R \leq 1\mu\text{F}$) $\tan \delta \leq 0.005$ (1kHz, $C_R > 1\mu\text{F}$) Dielectric strength : there shall be no permanent breakdown or flashover I.R.: $\geq 50\%$ of the rated value	+110°C, 16h Test Db, Severity: b, the first cycle -40°C, 2h Test Db, Severity b, the other cycles,

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No.	Item	Performance	Test Method (IEC 60384-14)
7	Damp heat steady state	There shall be no visible damage, legible marking $\Delta C/C \leq \pm 5\%$ (relative to the initial value) Dissipation Factor: $\tan \delta \leq 0.008$ (10kHz, $C_R \leq 1\mu F$) $\tan \delta \leq 0.005$ (1kHz, $C_R > 1\mu F$) Dielectric strength : there shall be no permanent breakdown or flashover I.R.: $\geq 50\%$ of the rated value	Temperature: $40^\circ C \pm 2^\circ C$ Humidity: $93 \pm 3\%$ RH Duration: 56 days
8	Impulse voltage	There are three or more waveforms which indicate that no self-heating breakdown have occurred when it is monitored by the monitor	Each individual capacitor shall be subjected to 24 impulses of the same polarity (when any three successive impulses are shown by the monitor to have a wave form indicating that no self-healing breakdown have taken place the impulses can be stopped), the time between impulses shall not be less than 10S, and the peak value of the voltage impulse: 2.5kV(suitable for $C_R \leq 1\mu F$; When $C_R > 1\mu F$, the capacitor can endure pulse voltage value is $2.5/\sqrt{C_R}$ kV)
9	Endurance	There shall be no visible damage, legible marking $\Delta C/C \leq \pm 10\%$ (relative to the initial value) Dissipation Factor: $\tan \delta \leq 0.008$ (10kHz, $C_R \leq 1\mu F$) $\tan \delta \leq 0.005$ (1kHz, $C_R > 1\mu F$) Dielectric strength : There shall be no breakdown or flashover I.R. : $\geq 50\%$ of the rated value	$+110^\circ C$, 1.25URVa.c., 1 000h The voltage shall be subjected to 1000Vrms for 0.1s every one hour during test.

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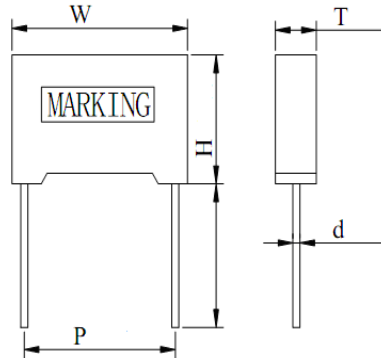
MP2X Series

No.	Item	Performance	Test Method (IEC 60384-14)
10	Charging and discharging	$\Delta C/C \leq \pm 10\%$ (relative to the initial value) Dissipation Factor: $\tan \delta \leq 0.008$ (10kHz, $C_R \leq 1\mu F$) $\tan \delta \leq 0.005$ (1kHz, $C_R > 1\mu F$) I.R.: $\geq 50\%$ of the rated value	Times: 10 000 Duration of charging: 0.5s Duration of discharging: 0.5s Charging voltage: $\sqrt{2}U_R$ Vd.c. Charging resistance: $220/C_R(\Omega)$ or the current $\leq 1.0A$ (whichever is the minor) Discharging resistance: $R = \frac{\sqrt{2}U_R}{C_R \times \frac{dU}{dt}} (\Omega)$ CR: Capacitance (μF) dU/dt(V/us) : 100V/ μs
11	Passive flammability	The flaming time of each capacitor shall not go beyond 10s after it is taken apart from the flame. Drop of each capacitor caused by flame shall not fire the tissue below.	Ref.item 4.17 Needle flame test The category of flammability: B Expose time: 1 time Capacitor Volume Exposing time $250 < V(mm^3) \leq 500$ 20s $500 < V(mm^3) \leq 1750$ 30s $V(mm^3) > 1750$ 60s
12	Active flammability	The cheese cloth around the capacitor shall not burn with a flame.	The specimens shall be individually wrapped in at least 1, but not more than 2, complete layers of cheesecloth, the cheesecloth shall be untreated pure cotton cloth. Each sample shall be subjected to 20 discharges, the interval between successive discharges shall be 5s. $U_i = 2.5kV_0^{+7}\%$ U_R be applied and be maintained for 120_0^{+10} s after the last discharge.

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Dimensions (in mm)



L=standard lead length (18mm~26mm).

Marking: MKP62 X2 ###* 275~ 40/110/56/B ENCE, CQC, UL

PN	Cap (μF)	W ±0.4	H ±0.4	P ±0.4	T ±0.4	d ±0.05
MP2X102*305AC-10.5P7.5S	0.0010	10.5	9.0	7.5	4.0	0.6
MP2X122*305AC-10.5P7.5S	0.0012	10.5	9.0	7.5	4.0	0.6
MP2X152*305AC-10.5P7.5S	0.0015	10.5	9.0	7.5	4.0	0.6
MP2X182*305AC-10.5P7.5S	0.0018	10.5	9.0	7.5	4.0	0.6
MP2X222*305AC-10.5P7.5S	0.0022	10.5	9.0	7.5	4.0	0.6
MP2X272*305AC-10.5P7.5S	0.0027	10.5	9.0	7.5	4.0	0.6
MP2X332*305AC-10.5P7.5S	0.0033	10.5	9.0	7.5	4.0	0.6
MP2X392*305AC-10.5P7.5S	0.0039	10.5	9.0	7.5	4.0	0.6
MP2X472*305AC-10.5P7.5S	0.0047	10.5	9.0	7.5	4.0	0.6
MP2X562*305AC-10.5P7.5S	0.0056	10.5	9.0	7.5	4.0	0.6
MP2X682*305AC-10.5P7.5S	0.0068	10.5	9.0	7.5	4.0	0.6
MP2X822*305AC-10.5P7.5S	0.0082	10.5	9.0	7.5	4.0	0.6
MP2X103*305AC-10.5P7.5S	0.010	10.5	9.0	7.5	4.0	0.6
MP2X123*305AC-10.5P7.5S	0.012	10.5	9.0	7.5	4.0	0.6
MP2X153*305AC-10.5P7.5S	0.015	10.5	9.0	7.5	4.0	0.6
MP2X183*305AC-10.5P7.5S	0.018	10.5	9.0	7.5	4.0	0.6
MP2X223*305AC-10.5P7.5S	0.022	10.5	9.0	7.5	4.0	0.6
MP2X273*305AC-10.5P7.5S	0.027	10.5	9.0	7.5	4.0	0.6
MP2X333*305AC-10.5P7.5S	0.033	10.5	11.0	7.5	5.0	0.6
MP2X393*305AC-10.5P7.5S	0.039	10.5	11.0	7.5	5.0	0.6
MP2X473*305AC-10.5P7.5S	0.047	10.5	11.0	7.5	5.0	0.6
MP2X473K305AC-18P15S		18.0	11.0	15.0	5.0	0.6
MP2X563*305AC-10.5P7.5S	0.056	10.5	12.0	7.5	6.0	0.6
MP2X563*305AC-13P10S		13.0	11.0	10.0	5.0	0.6
MP2X683*305AC-10.5P7.5S	0.068	10.5	12.0	7.5	6.0	0.6
MP2X683*305AC-13P10S		13.0	11.0	10.0	5.0	0.6
MP2X823*305AC-13P10S	0.082	13.0	11.0	10.0	5.0	0.6
MP2X104K305AC-13P10S		13.0	12.0	10.0	6.0	0.6
MP2X104M305AC-13P10S	0.10	13.0	11.0	10.0	5.0	0.6
MP2X124*305AC-13P10S		13.0	13.0	10.0	7.0	0.6
MP2X154*305AC-13P10S	0.15	13.0	13.0	10.0	7.0	0.6

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PN	Cap (μF)	W ±0.4	H ±0.4	P ±0.4	T ±0.4	d ±0.05
MP2X184*305AC-13P10S	0.18	13.0	14.0	10.0	8.0	0.6
MP2X224M305AC-13P10S	0.22	13.0	14.0	10.0	8.0	0.6
MP2X224K305AC-17.5P15S		17.5	13.5	15.0	7.5	0.6
MP2X224K305AC-26.5P22.5S		26.5	16.5	22.5	7.0	0.8
MP2X274*305AC-17.5P15S	0.27	17.5	13.5	15.0	7.5	0.6
MP2X334K305AC-17.5P15S	0.33	17.5	14.0	15.0	8.0	0.6
MP2X334M305AC-17.5P15S		17.5	13.5	15.0	7.5	0.6
MP2X394*305AC-17.5P15S	0.39	17.5	14.5	15.0	8.5	0.6
MP2X474K305AC-17.5P15S	0.47	17.5	16.0	15.0	10.0	0.8
MP2X474M305AC-17.5P15S		17.5	14.5	15.0	8.5	0.6
MP2X474*305AC-32P27.5S		32.0	20.0	27.5	11.0	0.8
MP2X564*305AC-17.5P15S	0.56	17.5	16.0	15.0	10.0	0.8
MP2X604*305AC-17.5P15S	0.60	17.5	19.0	15.0	11.0	0.8
MP2X684*305AC-17.5P15S	0.68	17.5	19.0	15.0	11.0	0.8
MP2X684K305AC-32P27.5S		32.0	20.0	27.5	11.0	0.8
MP2X824M305AC-17.5P15S	0.82	17.5	19.0	15.0	11.0	0.8
MP2X824*305AC-32P27.5S		32.0	18.0	27.5	9.0	0.8
MP2X105*305AC-26.5P22.5S	1.0	26.5	18.5	22.5	10.0	0.8
MP2X125*305AC-26.5P22.5S	1.2	26.5	20.0	22.5	11.0	0.8
MP2X155K305AC-26.5P22.5S	1.5	26.5	22.0	22.5	12.0	0.8
MP2X155M305AC-26.5P22.5S		26.5	20.0	22.5	11.0	0.8
MP2X185*305AC-26.5P22.5S	1.8	26.5	24.5	22.5	15.5	0.8
MP2X225*305AC-26.5P22.5S	2.2	26.5	24.5	22.5	15.5	0.8
MP2X275*305AC-32P27.5S	2.7	32.0	28.0	27.5	14.0	0.8
MP2X335*305AC-32P27.5S	3.3	32.0	30.0	27.5	16.0	0.8
MP2X395*305AC-32P27.5S	3.9	32.0	33.0	27.5	18.0	0.8
MP2X475*305AC-32P27.5S	4.7	32.0	30.0	27.5	21.0	0.8
MP2X565*305AC-32P27.5S	5.6	32.0	37.0	27.5	22.0	0.8
MP2X685M305AC-32P27.5S	6.8	32.0	37.0	27.5	22.0	0.8
MP2X685*305AC-41P37.5S		41.0	33.5	37.5	18.5	1.0
MP2X825*305AC-41P37.5S	8.2	41.0	37.0	37.5	22.0	1.0
MP2X106K305AC-41P37.5S	10.0	41.0	41.0	37.5	26.0	1.0
MP2X106M305AC-41P37.5S		41.0	37.0	37.5	22.0	1.0
MP2X126*305AC-41P37.5S	12.0	41.0	43.0	37.5	28.0	1.0
MP2X156*305AC-42P37.5S	15.0	42.0	45.0	37.5	30.0	1.0
MP2X206*305AC-42P37.5S	20.0	42.0	57.0	37.5	30.0	1.0
MP2X256*305AC-57P52.5S	25.0	57.0	50.0	52.5	35.0	1.2

Note: * = capacitance tolerance code, M=±20%, K=±10%,

= capacitance value code

Not for use in series with the mains.

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Packing Information (in mm)

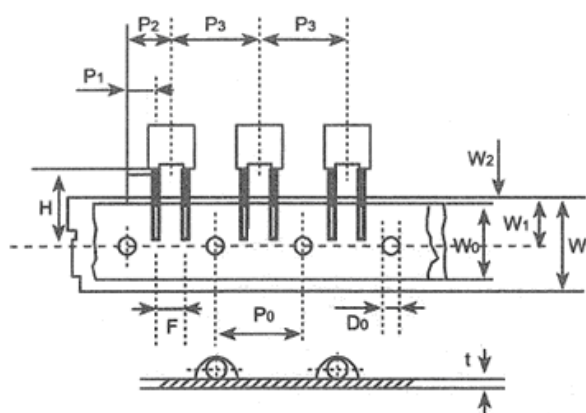


Fig 1

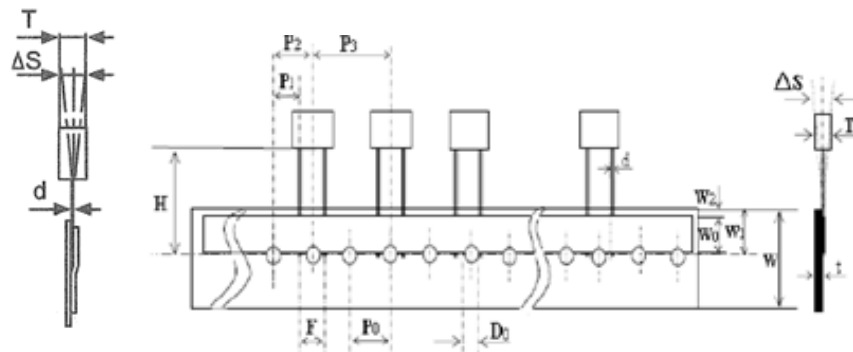


Fig 2

Code	P=7.5	P=10.0	P=15.0	Tolerance
	Fig 1	Fig 2		
P3	12.7	25.4	25.4	±1.0
P0*	12.7	12.7	12.7	±0.2
P1	2.60	7.7	5.2	±0.7
P2	6.35	12.7	12.7	±1.3
F**	7.5	10.0	15.0	+0.6 -0.1
△S	0	0	0	±2.0
H***	18.5	18.5	18.5	±0.5
W	18.0	18.0	18.0	+1.0 -0.5
W0	12min	12min	12min	——
W1	9.0	9.0	9.0	±0.5
W2	1.5max	1.5max	1.5max	——
D0	4.0	4.0	4.0	±0.2
t	0.7	0.7	0.9	±0.2

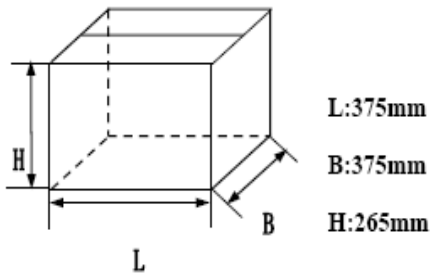
Note: * P0=15mm is also available
 ** F can be other lead spacing
 *** H=16.5mm is available

Metallized Polypropylene Film Capacitor Box Type - Class X2

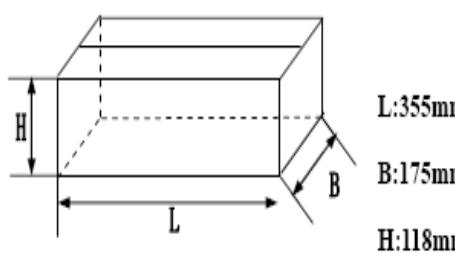
MP2X Series

Packing Specification

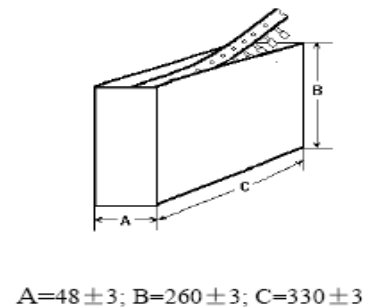
1. Carton for bulk



2. Box for bulk



3. Box for Ammo



How to Order

MP2X 474 K 305AC - 17.5P15 S-XX-BL

Packing

BL: Bulk with RoHS, Standard;
AR: Tape and Ammo; RoHS

Factory Location Code

Lead Style

S: Straight Lead; K: Kink Lead
S45: Lead Length 4.5mm

Dimension (WxP, mm)
17.5P15: 17.5x15

AC Voltage

305AC: 305V_{AC}; 275AC: 275V_{AC};

Capacitance Tolerance
K: ±10%; M: ±20%

Capacitance Code

Example: 474=47x10⁴pF=0.47μF

Taitron Metallized Polypropylene
Film Radial Capacitor – Class X2

Metallized Polypropylene Film Capacitor Box Type - Class X2

MP2X Series

RoHS Test Report

Test Report

Report No.RHS01F004398

Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	IEC 62321:2008 Ed.1 Sec.8	ICP-OES
	IEC 62321:2008 Ed.1 Sec.9	
Cadmium (Cd)	IEC 62321:2008 Ed.1 Sec.8	ICP-OES
	IEC 62321:2008 Ed.1 Sec.9	
Mercury (Hg)	IEC 62321:2008 Ed.1 Sec.7	ICP-OES
Hexavalent Chromium (Cr(VI))	IEC 62321:2008 Ed.1 Annex B	UV-Vis
	IEC 62321:2008 Ed.1 Annex C	
Polybrominated Biphenyls (PBBs)	IEC 62321:2008 Ed.1 Annex A	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321:2008 Ed.1 Annex A	GC-MS
Hexabromocyclododecane (HBCDD)	Refer to US EPA 3540C:1996	GC-MS
Phthalates	Refer to EN 14372:2004(E)	GC-MS

Test Result(s)

Tested Item(s)	Result		MDL
	(1)	(2)	
Lead (Pb)	N.D.	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	2 mg/kg
Mercury (Hg)	N.D.	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	N.D.	2 mg/kg

Tested Item(s)	Result		MDL	
	(3)	(4)		
Lead (Pb)	N.D.	N.D.	2 mg/kg	
Cadmium (Cd)	N.D.	N.D.	2 mg/kg	
Mercury (Hg)	N.D.	N.D.	2 mg/kg	
Hexavalent Chromium (Cr(VI))	N.D.	Negative	2 mg/kg	/

Test Report

Report No.RHS01F004398

Test Result(s)

Tested Item(s)	Result			MDL
	(1)	(2)	(3)	
Polybrominated Biphenyls(PBBs)				
Monobromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Polybrominated Diphenyl Ethers(PBDEs)				
Monobromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg

Test Report

Report No.RHS01F004398

Test Result(s)

Tested Item(s)	Result			MDL
	(1)	(2)	(3)	
Hexabromocyclododecane (HBCDD)	N.D.	N.D.	N.D.	5 mg/kg

Tested Item(s)	Result			MDL
	(1)	(2)	(3)	
Phthalates				
Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	N.D.	N.D.	50 mg/kg
Butylbenzyl phthalate(BBP) CAS#:85-68-7	N.D.	N.D.	N.D.	50 mg/kg
Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	N.D.	N.D.	N.D.	50 mg/kg

Tested Sample/Part Description

- (1) Gray plastic with black printing
- (2) Black resin
- (3) Silvery film
- (4) Silvery metal pin

Note: The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.

-MDL = Method Detection Limit

-N.D. = Not Detected (<MDL)

-mg/kg = ppm = parts per million

-Negative = Absence of Cr(VI) , the detected Cr(VI) concentration in the boiling water extraction solution is less than 0.02 mg/kg with 50cm² sample surface area used.

Metallized Polypropylene Film Capacitor Box Type - Class X2

MP2X Series

How to contact us

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