

## MKP FILM Capacitor

## **Material Data Sheet**

| Product Class           | MKP AC Film Capacitor<br>B32361x/ B32362x/ B32364x | ALA  | AA   | <u> 4.1</u>  |
|-------------------------|--|--|--|--|
| Date                    | 18/11/2019   |  |  |  |
| IMDS ID<br>if available | NA   | Application of the control of the co | THE PROPERTY OF THE PROPERTY O | Action of the control |
| Version                 | 5.02.1a (03/2019)                                  |  |  |  |

| Product Part (IMDS: semi component)  Active Part | Material Class<br>(IMDS: Material)                                       | Material (Classification)         | Substance                  |   | TMPS**)  | CAS                                    | typical mass of      | <b>T</b>         |  |
|--|--|-----------------------------------|----------------------------|---|--|--|----------------------|------------------|--|
| Active Part                                      |  | VDA 231                           |                            |   | [wt%]  | if applicable                          | material<br>[wt-%]   | Traces<br>see 1) |  |
| ŀ  | Thermal plastics   | 2A                                | PP                         |   | 100  | 9003-07-0                              | 36.5                 |                  |  |
|  | Paper,cardboard  | 5C                                | Cellulose                  |   | 100  | 9004-34-6                              | 1                    |                  |  |
|  | Light Metals   | 1B or 1C                          | Al or Zn                   |   | 100  | 7429-90-5<br>7440-66-6                 | 1                    |                  |  |
|  | Light Metals   | 1C                                | Zn                         |   | 100  | 7440-66-+                              | 3.6                  |                  |  |
|  | Heavy Metals   | 1C                                | Sn<br>Cu                   |   | 99   | 7440-31-5<br>7440-50-8                 | 0.3                  | Ag               |  |
| Encapsulation                                    | Light Metals   | 1B                                | Al                         |   | 100  | 7419-90-5                              | 16                   |                  |  |
|  | Thermal plastics   | 2A                                | PP                         |   | 100  | 9003-07-0                              | 2.7                  |                  |  |
| -  | Thermal plastics   | 2A                                | PA or<br>PBT               |   | 100 or<br>60   | 63428-84-2 or<br>26062-94-2            |                      |                  |  |
|  | Mineral Materials  | 3A                                | Glass Fiber                |   | 30   | 65997-17-3                             | 1.7                  |                  |  |
|  |  |                                   | Others*)                   |   | 10   |  |                      |                  |  |
| •  | Thermal plastics   | 2A                                | PBT                        |   | 60   | 26062-94-2                             |                      |                  |  |
|  | Mineral Materials  | 3A                                | Glass Fiber                |   | 30   | 65997-97-2                             | 1.3                  |                  |  |
|  | Duromer  | 2D                                | Others*)                   |   | 100  | 9009-54-5                              | 27.2                 |                  |  |
| Tauminatian                                      |  |                                   | Polyurethane               |   | 100  |  | 21.2                 |                  |  |
| Termination                                      | Iron and steel   | 1A                                | Fe **                      |   | 99   | 65997-19-5                             | 4.3                  |                  |  |
|  |  | -                                 | Others*)                   |   | 1  | 7440.00.0                              |                      |                  |  |
|  | Light Metal  | 1C                                | Zn                         |   | 100  | 7440-66-6                              | 0.2                  |                  |  |
|  | Iron and Steel or<br>Heavy Metal   | 1A or 1C                          | Fe or<br>Brass alloy<br>Pb |   | 100 or<br>97<br>3  | 65997-19-5/<br>86376-49-0<br>7439-92-2 | 4                    |                  |  |
|  | Heavy Metals   | 1C                                | Sn                         |   | 100  | 7439-92-2                              | 0.2                  |                  |  |
|  |  |                                   | I.                         |   |  | Sum in total:                          | 100                  |                  |  |
| sizes D x H [mm]                                 | weight range [kg]  | •                                 | s D x H [mm] weight rang   |   |  | x H [mm] weight r                      | ange [] part numbers |                  |  |
| 63.5x70  | 0.3  | B32361X 75x                       |                            | B32362  |  |  | B32364X              |                  |  |
| 63.5x82  | 0.32   | 75x                               |                            |   | 75x117   | 0.7                                    |                      |                  |  |
| 63.5x107<br>63.5x132                             | 0.4<br>0.5   | 75x<br>75x                        |                            |   |  |  |                      |                  |  |
| 63.5x142   | 0.6  | 85x                               |                            |   |  |  |                      |                  |  |
| 00.0X142   | 0.0  | 85x                               |                            |   |  |  |                      |                  |  |
|  |  | 85x                               |                            |   |  |  |                      |                  |  |
|  |  | 85x                               | 247 1.7                    |   |  |  |                      |                  |  |
|  |  | 85x                               | 267 1.8                    |   |  |  |                      |                  |  |
| Not Part of a Pro                                | oduct Class  |                                   |                            |   |  |  |                      |                  |  |
| Contact  | Dennis Huang  CAP FILM PW PD   |                                   |                            | Important r   | emarks:  |  |                      |                  |  |
|  |  |                                   |                            | The declaration limit is 0.1% as defined by IEC 62474 (IEC PAS 61906). Traces are |  |  |                      |                  |  |
|  | TDK (Zhuhai FTZ) Co.Ltd  |                                   |                            |   | product parts, substances etc. that are below a percentage of 0.1 % by weight, if not otherwise regulated.  This Material Data Sheet contains typical values of the respective products set forth herein. We expressly point out that all values and statements contained herein are |  |                      |                  |  |
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\*\*) typical mass percentage of substance

STATUTORY, WITH REGARD TO THE STATEMENTS AND VALUES CONTAINED HEREIN, INCLUDING BUT NOT LIMITED TO ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR SUITABILITY FOR ANY PURPOSE.

The products set forth herein are "RoHS-compatible". RoHS-compatible means that products are compatible with the requirements according to Art. 4 (substance restrictions) of Directive 2011/65/EU of the European Parliament and of the Council of June 8th, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

## RoHS - Exemptions for the Product Class / Product according to Annex III: ( ☑ valid □ not valid )

| 1  |                            |   |  |  |  |  |
|----|----------------------------|---|--|--|--|--|
|    | no exemptions;             |   |  |  |  |  |
|    | exemption 6 (a):           | Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0,35 % lead by weight;   |  |  |  |  |
|    | exemption 6 (b):           | Lead as an alloying element in aluminum containing up to 0,4 % lead by weight;  |  |  |  |  |
| Ø₽ | exemption 6 (c):           | Copper alloy containing up to 4 % lead by weight;   |  |  |  |  |
| ΠE | xemption 7 (a):            | Lead in high melting temperature type solder (i.e. lead-based alloys containing 85 % by weight or more lead);   |  |  |  |  |
|    | xemption 7 (c)-I:          | Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound; |  |  |  |  |
| ΠE | xemption 7 (c)-II:         | Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher;   |  |  |  |  |
| ПΕ | xemption 7 (c)-III:        | Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC;   |  |  |  |  |
|    | exemption 15:              | Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages;  |  |  |  |  |
|    | Other Exemption than above |   |  |  |  |  |