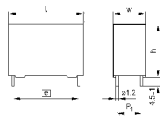
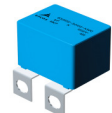
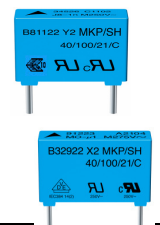


## MKP Film Capacitors (Boxed)

## Material Data Sheet

|                              |   |  |
|------------------------------|---|--|
| <b>Product Class:</b>        | <b>Film Capacitors</b><br>B3265x / B3262x / B3267x / B3277x/ B3292x / B3202x/B3291x / B81xxx/B3279x(*1) |    |
| <b>Date:</b>                 | 10/05/2010  |  |
| <b>IMDS ID if available:</b> | -----   |  |
| <b>Version:</b>              | 3.02 (04/2010)  |  |

| Product part<br>(IMDS: semi component)                   | Material Class<br>(IMDS: Material)         | Material<br>(Classification)<br>VDA 231 | Substance                                | TMPS**<br>[wt%] | CAS<br>if applicable             | typical mass of<br>material<br>[wt-%] | Traces<br>see 1) |
|--|--|---|--|-----------------|----------------------------------|---------------------------------------|------------------|
| <b>Active Part</b>                                       | Light metal or Heavy metal                 | 1b                                      | Al or Zn (depending on specific type)    | 100             | 7429-90-5 (Al)<br>7440-66-6 (Zn) | 6 (if Al)<br>10 (if Zn)               |                  |
|  | Heavy metal                                | 1c                                      | Sn                                       | 97              | 7440-31-5                        | 11 (if Al)<br>7 (if Zn)               |                  |
|  | Heavy metal                                | 1c                                      | Cu                                       | 3               | 7440-50-8                        | 1                                     |                  |
|  | Thermoplastic                              | 2a                                      | PP                                       | 100             | 9003-07-00                       | 20                                    |                  |
| <b>Encapsulation</b>                                     | Organic, solid                             | 5b                                      | Epoxy                                    | 30              |                                  | 9                                     |                  |
|  | Inorganic, solid                           | 5a                                      | Al (OH) <sub>3</sub>                     | 50              | 21645-51-2                       | 11                                    |                  |
|  | Plasticizer                                | Not available                           | DBP ***)                                 | 20              | 84-74-2                          | 2                                     |                  |
|  | Thermoplastic                              | 2a                                      | PBT                                      | 84              | 26062-94-2                       | 26                                    |                  |
|  | Flame retardant                            | Not available                           | N,N Ethylene-bis(tetrabromophthalimide)  | 12              | 32588-76-4                       | 5                                     |                  |
|  | Inorganic, solid                           | 5a                                      | Sb <sub>2</sub> O <sub>3</sub>           | 4               | 1309-64-4                        | 1                                     |                  |
| <b>Termination</b>                                       | Heavy metal or Iron and Steel incl. Alloys | 1c or 1a                                | Cu or Fe/Cu (depending on specific type) | 92 or 90/2      |                                  | 7.5 or 7/0.5                          |                  |
|  | Heavy metal                                | 1c                                      | Sn                                       | 8               | 7440-31-5                        | 0.5                                   |                  |
| (*) Substitute the x by number indicated in part numbers |  |   |  |                 | <b>Sum in total:</b>             | 100                                   |                  |

| sizes   | L x D x H [mm]     | weight [g] | part numbers | Sizes          | L x D x H [mm]     | weight [g] | Part numbers |
|---------|--------------------|------------|--------------|----------------|--------------------|------------|--------------|
| LS 7,5  | 10,0 x 3,0 x 8,0   | 0,4        | x=0          | <b>LS 27,5</b> | 31,5 x 14,0 x 24,5 | 16,0       | x=4          |
| LS 10   | 13,0 x 4,0 x 9,0   | 0,7        | x=1          | <b>LS 37,5</b> | 41,5 x 18,0 x 32,0 | 29,0       | x=6          |
| LS 15   | 18,0 x 9,0 x 17,5  | 4,5        | x=2          | <b>LS 52,5</b> | 57,5 x 35,0 x 50,0 | 90,0       | x=8          |
| LS 22,5 | 26,5 x 11,0 x 20,5 | 9,0        | x=3          |                |                    |            |              |

|   |  |  |
|---|--|--|
| <b>Contact</b>  | Adrian Kewell  | <b>Important remarks:</b><br>1) The declaration limit is 0.1% as defined by IEC PAS 61906. Traces are product parts, substances etc. that are below a percentage of 0.1 % by weight, if not otherwise regulated<br>2) 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 based on our best present knowledge and cannot be regarded as binding statements or binding product specifications, unless otherwise explicitly agreed in writing. EPCOS AG AND ITS AFFILIATES HEREBY EXPRESSLY DISCLAIM ANY REPRESENTATION OR WARRANTY, WHETHER EXPRESS, IMPLIED OR 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. |
| <b>Division</b>   | Film   |  |
| <b>Address</b>  | P.O. 321- 29006 Málaga Spain                           |  |
|   | Tel: +952 049 223      mailto: adrian.kewell@epcos.com |  |
| *) others: (not declarable or prohibited substances acc. GADSL) |  |  |
| **) typical mass percentage of substance                        |  |  |
| ***) EPCOS is working on elimination of DBP usage. Please check |  |  |

**The products set forth herein are "RoHS-compatible".** RoHS-compatible means that the products are in compatible e with the requirements of Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("Directive 2002/95/EC"), as amended by the Commission Decisions e.g. 2005/618/EC, 2005/717/EC; 2005/747/EC, 2006/310/EC, 2006/690/EC, 2006/691/EC and 2006/692/EC ("RoHS-Regulations"), and are compatible with the requirements of the provisions which will result from transformation of the RoHS-Regulations into national law to the extent such pro-visions reflect the RoHS-Regulations.

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| <b>RoHS - Exemptions for the product class / product according Annex and Commissions Decisions (status 03/2008):</b> ( <input checked="" type="checkbox"/> valid <input type="checkbox"/> not valid )<br><input checked="" type="checkbox"/> no exemptions<br><input type="checkbox"/> Exemption 5: Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.<br><input type="checkbox"/> Exemption 6: Lead as an alloying element in steel containing up to 0,35 % lead by weight, aluminum containing up to 0,4 % lead by weight and as a copper alloy containing up to 4 % lead by weight.<br><input type="checkbox"/> Exemption 7 (a): Lead in high melting temperature type solder (i.e. lead-based alloys containing 85 % by weight or more lead),<br><input type="checkbox"/> Exemption 7 (c): lead in electronic ceramic parts (e.g. piezo electronic devices);<br><input type="checkbox"/> Exemption 15: Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages |
|--|