



# Aluminium Electrolytic Capacitor

# Material Data Sheet

Product Class:	Axial-lead capacitors	
Date	06.10.2011	
IMDS ID if available		
Version:	05	

Product Part (IMDS: semi component)	Material Class (IMDS: Material)	Material (Classification) VDA 231	Substance	TMPS**) [wt%]	CAS if applicable	typical mass of material [wt-%]	Traces see 1)
Active Part	Light Metals	1B1	Aluminium	100	7429-90-5	35	
	Paper, Cardboard	5C	Cellulose	100	9004-34-6	7	
	Acids, Bases, Salts	6F	Ethylene glycol Gamma-butyrolactone	57 or 81 (without NMP)	107-21-1 96-48-0	27	
	Acids, Bases, Salts	6F	NMP (depending on specific type***)	24	872-50-4		
	Acids, Bases, Salts	6F	Others*)	19	-		
Encapsulation	Light Metals	1B1	Aluminium	100	7429-90-5	22	
	Paper, Cardboard	5C	Cellulose	100	9004-34-6	0,7	
	Duromer	2D	Epoxy Based Polymer	100	25928-94-3	2,3	
	Elastomer	2B	EPDM rubber	100	25038-36-2	1	
	Thermoplastics	2A	Polyethylene terephthalate	100	25038-59-9	2	
Termination	Heavy Metals	1C12	Copper	100	7440-50-8	2	Carbon, Tin, Lead
	Iron and Steel	1A	Iron	100	7439-89-6	1	

Sum in total: 100

sizes D x L [mm]	weight [g]	sizes D x L [mm]	weight [g]	sizes D x L [mm]	weight [g]	Part numbers:	
12 x 30	5,1	16 x 30	8,9	20 x 29	13,5	B41690	B41694
14 x 25	5,7	16 x 39	11,7	21 x 39	20,0	B41691	B41695
14 x 30	6,8	18 x 30	11,1	21 x 49	25,0	B41692	B41696
16 x 25	7,4	18 x 39	14,7			B41693	B43693

Not part of a Product Class



<b>Contact:</b>	Ribeiro, Gabriela	<b>Important remarks:</b> 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 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>	GTI QM																																																																																																																																																											
<b>Address</b>	Bernardo Joaquim Ferreira, 624 – Gravataí, RS, Brazil																																																																																																																																																											
	Tel: +55 51 3484 7180   mailto: <a href="mailto:gabriela.ribeiro@epcos.com">gabriela.ribeiro@epcos.com</a>																																																																																																																																																											
<p>*) others: (not declarable or prohibited substances acc. GADSL)          **) typical mass percentage of substance          ***) Following products present NMP:</p> <table border="0"> <tr><td>B41693A 227Q 7</td><td></td><td></td><td></td><td></td></tr> <tr><td>B41693A 477Q 7</td><td>B41695X 7Q 20</td><td>B41691X 7Q 68</td><td>B41692X 6Q643</td><td></td></tr> <tr><td>B41693A 477Q 7</td><td>B41695X 7Q302</td><td>B41691X 7Q 79</td><td>B41692X 6Q758</td><td></td></tr> <tr><td>B41693A7687Q 7</td><td>B41695X 7Q333</td><td>B41691X 7Q103</td><td>B41692X 6Q806</td><td></td></tr> <tr><td>B41693A8107Q 7</td><td>B41695X 7Q341</td><td>B41691X 7Q104</td><td>B41692X 7Q 89</td><td></td></tr> <tr><td>B41693A8108Q 7</td><td>B41690X 7Q169</td><td>B41691X 7Q105</td><td>B41692X 7Q 93</td><td></td></tr> <tr><td>B41693A8227Q 7</td><td>B41690Y Q 82</td><td>B41691X 7Q198</td><td>B41692X 7Q106</td><td></td></tr> <tr><td>B41693A8477Q 7</td><td>B41691A5108Q 9</td><td>B41691X 7Q378</td><td>B41692X 7Q207</td><td></td></tr> <tr><td>B41693A8687Q 7</td><td>B41691A5158Q 7</td><td>B41691X 7Q379</td><td>B41692X 7Q283</td><td></td></tr> <tr><td>B41693S7477Q 2</td><td>B41691A5208Q 7</td><td>B41691X 7Q387</td><td>B41692X 7Q304</td><td></td></tr> <tr><td>B41693S8477M 1</td><td>B41691A7278Q 7</td><td>B41691X 7Q388</td><td>B41692X 7Q305</td><td></td></tr> <tr><td>B41693X 6Q727</td><td>B41691A7337Q 7</td><td>B41691X 7Q447</td><td>B41692X 7Q320</td><td></td></tr> <tr><td>B41693X 7Q397</td><td>B41691A7337Q 9</td><td>B41691X 7Q516</td><td>B41692X 7Q332</td><td></td></tr> <tr><td>B41693X 7Q455</td><td>B41691A7337Q 19</td><td>B41691X 7Q519</td><td>B41692X 7Q352</td><td></td></tr> <tr><td>B41693X 7Q641</td><td>B41691A8107Q 7</td><td>B41691X 7Q520</td><td>B41692X 7Q380</td><td></td></tr> <tr><td>B41693X 7Q673</td><td>B41691A8108Q 7</td><td>B41691X 7Q558</td><td>B41692X 7Q381</td><td></td></tr> <tr><td>B41693X 7Q689</td><td>B41691A8227Q 9</td><td>B41691X 7Q593</td><td>B41692X 7Q396</td><td></td></tr> <tr><td>B41695A5228Q 7</td><td>B41691X 3Q468</td><td>B41691X 7Q636</td><td>B41692X 7Q543</td><td></td></tr> <tr><td>B41695A7228Q 7</td><td>B41691X 6Q735</td><td>B41691X 7Q646</td><td>B41692X 7Q588</td><td></td></tr> <tr><td>B41695A7477Q 7</td><td>B41691X 6Q814</td><td>B41692A8228Q 7</td><td>B41692X 7Q600</td><td></td></tr> <tr><td>B41695A8108Q 7</td><td>B41691X 6Q913</td><td>B41692A8477Q 7</td><td>B41692X 7Q615</td><td></td></tr> <tr><td>B41695A8227Q 7</td><td>B41691X 6Q931</td><td>B41692B7158Q 7</td><td>B41692X 7Q645</td><td></td></tr> <tr><td>B41695A8477Q 7</td><td>B41691X 6Q942</td><td>B41692S7158Q 1</td><td>B41692X 7Q656</td><td></td></tr> <tr><td>B41695A8477Q 9</td><td>B41691X 6Q984</td><td>B41692S7188Q 2</td><td>B41695S6228Q 1</td><td></td></tr> <tr><td>B41695X 7M279</td><td>B41691X 7Q 54</td><td>B41692S7228Q 1</td><td>B41695S7228Q 1</td><td></td></tr> </table> <table border="0"> <tr><td>B41693A 227Q 7</td><td></td></tr> <tr><td>B41693A 477Q 7</td><td>B41693X 7Q673</td></tr> <tr><td>B41693A7108Q 7</td><td>B41693X 7Q689</td></tr> <tr><td>B41693A7687Q 7</td><td>B41695A5228Q 7</td></tr> <tr><td>B41693A8107Q 7</td><td>B41695A7228Q 7</td></tr> <tr><td>B41693A8108Q 7</td><td>B41695A7477Q 7</td></tr> <tr><td>B41693A8227Q 7</td><td>B41695A8108Q 7</td></tr> <tr><td>B41693A8477Q 7</td><td>B41695A8227Q 7</td></tr> <tr><td>B41693A8687Q 7</td><td>B41695A8477Q 7</td></tr> <tr><td>B41693S7477Q 2</td><td>B41695A8477Q 9</td></tr> <tr><td>B41693S8477M 1</td><td>B41695X 7M279</td></tr> <tr><td>B41693X 6Q727</td><td>B41695X 7Q 20</td></tr> <tr><td>B41693X 7Q397</td><td>B41695X 7Q302</td></tr> <tr><td>B41693X 7Q455</td><td>B41695X 7Q333</td></tr> <tr><td>B41693X 7Q641</td><td>B41695X 7Q341</td></tr> </table>		B41693A 227Q 7					B41693A 477Q 7	B41695X 7Q 20	B41691X 7Q 68	B41692X 6Q643		B41693A 477Q 7	B41695X 7Q302	B41691X 7Q 79	B41692X 6Q758		B41693A7687Q 7	B41695X 7Q333	B41691X 7Q103	B41692X 6Q806		B41693A8107Q 7	B41695X 7Q341	B41691X 7Q104	B41692X 7Q 89		B41693A8108Q 7	B41690X 7Q169	B41691X 7Q105	B41692X 7Q 93		B41693A8227Q 7	B41690Y Q 82	B41691X 7Q198	B41692X 7Q106		B41693A8477Q 7	B41691A5108Q 9	B41691X 7Q378	B41692X 7Q207		B41693A8687Q 7	B41691A5158Q 7	B41691X 7Q379	B41692X 7Q283		B41693S7477Q 2	B41691A5208Q 7	B41691X 7Q387	B41692X 7Q304		B41693S8477M 1	B41691A7278Q 7	B41691X 7Q388	B41692X 7Q305		B41693X 6Q727	B41691A7337Q 7	B41691X 7Q447	B41692X 7Q320		B41693X 7Q397	B41691A7337Q 9	B41691X 7Q516	B41692X 7Q332		B41693X 7Q455	B41691A7337Q 19	B41691X 7Q519	B41692X 7Q352		B41693X 7Q641	B41691A8107Q 7	B41691X 7Q520	B41692X 7Q380		B41693X 7Q673	B41691A8108Q 7	B41691X 7Q558	B41692X 7Q381		B41693X 7Q689	B41691A8227Q 9	B41691X 7Q593	B41692X 7Q396		B41695A5228Q 7	B41691X 3Q468	B41691X 7Q636	B41692X 7Q543		B41695A7228Q 7	B41691X 6Q735	B41691X 7Q646	B41692X 7Q588		B41695A7477Q 7	B41691X 6Q814	B41692A8228Q 7	B41692X 7Q600		B41695A8108Q 7	B41691X 6Q913	B41692A8477Q 7	B41692X 7Q615		B41695A8227Q 7	B41691X 6Q931	B41692B7158Q 7	B41692X 7Q645		B41695A8477Q 7	B41691X 6Q942	B41692S7158Q 1	B41692X 7Q656		B41695A8477Q 9	B41691X 6Q984	B41692S7188Q 2	B41695S6228Q 1		B41695X 7M279	B41691X 7Q 54	B41692S7228Q 1	B41695S7228Q 1		B41693A 227Q 7		B41693A 477Q 7	B41693X 7Q673	B41693A7108Q 7	B41693X 7Q689	B41693A7687Q 7	B41695A5228Q 7	B41693A8107Q 7	B41695A7228Q 7	B41693A8108Q 7	B41695A7477Q 7	B41693A8227Q 7	B41695A8108Q 7	B41693A8477Q 7	B41695A8227Q 7	B41693A8687Q 7	B41695A8477Q 7	B41693S7477Q 2	B41695A8477Q 9	B41693S8477M 1	B41695X 7M279	B41693X 6Q727	B41695X 7Q 20	B41693X 7Q397	B41695X 7Q302	B41693X 7Q455	B41695X 7Q333	B41693X 7Q641	B41695X 7Q341
B41693A 227Q 7																																																																																																																																																												
B41693A 477Q 7	B41695X 7Q 20	B41691X 7Q 68	B41692X 6Q643																																																																																																																																																									
B41693A 477Q 7	B41695X 7Q302	B41691X 7Q 79	B41692X 6Q758																																																																																																																																																									
B41693A7687Q 7	B41695X 7Q333	B41691X 7Q103	B41692X 6Q806																																																																																																																																																									
B41693A8107Q 7	B41695X 7Q341	B41691X 7Q104	B41692X 7Q 89																																																																																																																																																									
B41693A8108Q 7	B41690X 7Q169	B41691X 7Q105	B41692X 7Q 93																																																																																																																																																									
B41693A8227Q 7	B41690Y Q 82	B41691X 7Q198	B41692X 7Q106																																																																																																																																																									
B41693A8477Q 7	B41691A5108Q 9	B41691X 7Q378	B41692X 7Q207																																																																																																																																																									
B41693A8687Q 7	B41691A5158Q 7	B41691X 7Q379	B41692X 7Q283																																																																																																																																																									
B41693S7477Q 2	B41691A5208Q 7	B41691X 7Q387	B41692X 7Q304																																																																																																																																																									
B41693S8477M 1	B41691A7278Q 7	B41691X 7Q388	B41692X 7Q305																																																																																																																																																									
B41693X 6Q727	B41691A7337Q 7	B41691X 7Q447	B41692X 7Q320																																																																																																																																																									
B41693X 7Q397	B41691A7337Q 9	B41691X 7Q516	B41692X 7Q332																																																																																																																																																									
B41693X 7Q455	B41691A7337Q 19	B41691X 7Q519	B41692X 7Q352																																																																																																																																																									
B41693X 7Q641	B41691A8107Q 7	B41691X 7Q520	B41692X 7Q380																																																																																																																																																									
B41693X 7Q673	B41691A8108Q 7	B41691X 7Q558	B41692X 7Q381																																																																																																																																																									
B41693X 7Q689	B41691A8227Q 9	B41691X 7Q593	B41692X 7Q396																																																																																																																																																									
B41695A5228Q 7	B41691X 3Q468	B41691X 7Q636	B41692X 7Q543																																																																																																																																																									
B41695A7228Q 7	B41691X 6Q735	B41691X 7Q646	B41692X 7Q588																																																																																																																																																									
B41695A7477Q 7	B41691X 6Q814	B41692A8228Q 7	B41692X 7Q600																																																																																																																																																									
B41695A8108Q 7	B41691X 6Q913	B41692A8477Q 7	B41692X 7Q615																																																																																																																																																									
B41695A8227Q 7	B41691X 6Q931	B41692B7158Q 7	B41692X 7Q645																																																																																																																																																									
B41695A8477Q 7	B41691X 6Q942	B41692S7158Q 1	B41692X 7Q656																																																																																																																																																									
B41695A8477Q 9	B41691X 6Q984	B41692S7188Q 2	B41695S6228Q 1																																																																																																																																																									
B41695X 7M279	B41691X 7Q 54	B41692S7228Q 1	B41695S7228Q 1																																																																																																																																																									
B41693A 227Q 7																																																																																																																																																												
B41693A 477Q 7	B41693X 7Q673																																																																																																																																																											
B41693A7108Q 7	B41693X 7Q689																																																																																																																																																											
B41693A7687Q 7	B41695A5228Q 7																																																																																																																																																											
B41693A8107Q 7	B41695A7228Q 7																																																																																																																																																											
B41693A8108Q 7	B41695A7477Q 7																																																																																																																																																											
B41693A8227Q 7	B41695A8108Q 7																																																																																																																																																											
B41693A8477Q 7	B41695A8227Q 7																																																																																																																																																											
B41693A8687Q 7	B41695A8477Q 7																																																																																																																																																											
B41693S7477Q 2	B41695A8477Q 9																																																																																																																																																											
B41693S8477M 1	B41695X 7M279																																																																																																																																																											
B41693X 6Q727	B41695X 7Q 20																																																																																																																																																											
B41693X 7Q397	B41695X 7Q302																																																																																																																																																											
B41693X 7Q455	B41695X 7Q333																																																																																																																																																											
B41693X 7Q641	B41695X 7Q341																																																																																																																																																											
<p>The products set forth herein are <b>NOT RoHS-compatible</b>*. 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 8<sup>th</sup>, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.</p>																																																																																																																																																												