

KVD Series

RoHS
CompliantAEC-
Q200

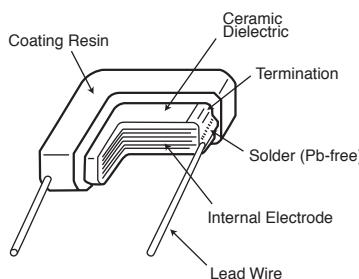
◆ FEATURES

1. Temperature range : -55 to +150°C
2. Temperature characteristic : X8L
3. Small in size and wide capacitance range.
Max. 15 μ F is available.
4. Epoxy resin(UL94 V-0)used for coating.
5. Automotive grade(AEC-Q200)

◆ APPLICATIONS

1. Noise filter for automotive equipment(ECU etc.)
2. Equipment used in a high temperature environment

◆ CONSTRUCTION



◆ RATINGS

1. Category Temperature Range	-55~+150°C
2. Rated Voltage Range	25, 50, 100 Vdc
3. Rated Capacitance Range	0.1~15 μ F
4. Rated Capacitance Tolerance	M(\pm 20%)
5. Temperature Characteristics	X8L
6. Rated Ripple Current	See No.5 on the following table

◆ SPECIFICATIONS

No.	Items		Specification	Test Condition														
1	Withstand Voltage	Between Terminals	No abnormality.	250% of rated voltage shall be applied for 5 seconds. (Only 250Vdc products : 475V)														
		Terminals to Coating Resin																
2	Insulation Resistance		100/C _R (M Ω) or 4000(M Ω) whichever is less.	Rated voltage shall be applied for 60±5 seconds at temperature 25±2°C.														
3	Rated Capacitance		Within specified tolerance.	<table border="1"> <tr> <td></td> <td>C_R≤10μF</td> <td>C_R>10μF</td> </tr> <tr> <td>Temperature</td> <td colspan="2">25±2°C</td></tr> <tr> <td>Frequency</td> <td>1±0.1kHz</td> <td>120±12Hz</td> </tr> <tr> <td>Voltage</td> <td>1±0.2Vrms</td> <td>0.5±0.2Vrms</td> </tr> </table>				C _R ≤10 μ F	C _R >10 μ F	Temperature	25±2°C		Frequency	1±0.1kHz	120±12Hz	Voltage	1±0.2Vrms	0.5±0.2Vrms
	C _R ≤10 μ F	C _R >10 μ F																
Temperature	25±2°C																	
Frequency	1±0.1kHz	120±12Hz																
Voltage	1±0.2Vrms	0.5±0.2Vrms																
4	Dissipation Factor		5.0% maximum.															

As customer requirement, Chemi-Con has submits the test results according to AEC-Q200 for Multilayer ceramic capacitors. Please contact us for more information.



DIPPED RADIAL LEAD MULTILAYER CERAMIC CAPACITORS

KVD Series

◆SPECIFICATIONS

No.	Items		Specification	Test Condition															
5	Rated Ripple Current		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Size code</td><td>32</td><td>43</td><td>55</td></tr> <tr> <td>Arms</td><td>0.3</td><td>0.8</td><td>1.0</td></tr> </table>	Size code	32	43	55	Arms	0.3	0.8	1.0	10kHz to 1MHz (sine curve) Ripple voltage V_p shall be less than the rated voltage. The surface temperature of MLCC must not exceed the maximum category temperature when the ripple current is applied.							
Size code	32	43	55																
Arms	0.3	0.8	1.0																
6	High Temperature Exposure(Storage)		Appearance : No structural damage such as cracks $\Delta C/C : \pm 20\%$ D.F. : 10% maximum I.R. : $50/C_R(M\Omega)$ or $1000(M\Omega)$ whichever is less.	Temperature : Max. category temperature $\pm 3^\circ C$ Time : 1000 ± 48 hours															
7	Temperature Cycle		Appearance : No visible damage. $\Delta C/C : \pm 15\%$ D.F. : To meet the initial specification. I.R. : To meet the initial specification.	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <th>Step</th><th>Temperature(°C)</th><th>(min)</th></tr> <tr> <td>1</td><td>Min Category temperature ± 3</td><td>30 ± 3</td></tr> <tr> <td>2</td><td>Room temperature</td><td>3 max.</td></tr> <tr> <td>3</td><td>Max. Category temperature ± 3</td><td>30 ± 3</td></tr> <tr> <td>4</td><td>Room temperature</td><td>3 max.</td></tr> </table> For 1000 cycles	Step	Temperature(°C)	(min)	1	Min Category temperature ± 3	30 ± 3	2	Room temperature	3 max.	3	Max. Category temperature ± 3	30 ± 3	4	Room temperature	3 max.
Step	Temperature(°C)	(min)																	
1	Min Category temperature ± 3	30 ± 3																	
2	Room temperature	3 max.																	
3	Max. Category temperature ± 3	30 ± 3																	
4	Room temperature	3 max.																	
8	Biased Humidity		Appearance : No abnormality. $\Delta C/C : \pm 20\%$ D.F. : 10% maximum I.R. : $25/C_R(M\Omega)$ or $1000(M\Omega)$ whichever is less.	Temperature : $85^\circ C \pm 3^\circ C$ Humidity : $80 \sim 85\%RH$ Voltage : Rated voltage Time : 1000 ± 48 hours															
9	Operational Life		Appearance : No structural damage such as cracks $\Delta C/C : \pm 20\%$ D.F. : 10% maximum I.R. : $50/C_R(M\Omega)$ or $1000(M\Omega)$ whichever is less.	Temperature : Max. category temperature $\pm 3^\circ C$ Voltage : Rated voltage Time : 1000 ± 48 hours															
10	Terminal Strength (Leaded)	Tension	No visible damage.	The force applied shall be : <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <th>Lead φ(mm)</th><th>Tensile(N)</th><th>(sec.)</th></tr> <tr> <td>0.5 max.</td><td>5</td><td>10 ± 1</td></tr> </table> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <th>Lead φ(mm)</th><th>Bending(N)</th><th>(kg)</th></tr> <tr> <td>0.5 max.</td><td>2.5</td><td>0.25</td></tr> </table> Time : 2times.	Lead φ(mm)	Tensile(N)	(sec.)	0.5 max.	5	10 ± 1	Lead φ(mm)	Bending(N)	(kg)	0.5 max.	2.5	0.25			
Lead φ(mm)	Tensile(N)	(sec.)																	
0.5 max.	5	10 ± 1																	
Lead φ(mm)	Bending(N)	(kg)																	
0.5 max.	2.5	0.25																	
11	Mechanical Shock			MIL-STD-202 Method 213 Condition C Peak value : 100G Normal duration : 6 ms Velocity change : 12.3 ft/sec(3.8m/s) Direction and time : 3 times each in X, Y, Z axis. Total 18 times															
12	Vibration		Appearance : No abnormality. $\Delta C/C : \pm 15\%$ D.F. : To meet the initial specification.	MIL-STD-202 Method 204 Test condition : 5G peak Amplitude : 1.5mm max. Frequency : 10-2000-10Hz(20 minute) Direction and time : 12 times each in X, Y, Z axis. Total 36 times															
13	Resistance to Soldering Heat		Appearance : No visible damage. $\Delta C/C : \pm 15\%$ D.F. : To meet the initial specification. I.R. : To meet the initial specification.	Solder temp. : $260 \pm 5^\circ C$ Dipping Time : 10 ± 1 s Depth : 1.5 to 2mm															
14	ESD		Appearance : No abnormality. $\Delta C/C : \pm 15\%$ D.F. : To meet the initial specification. I.R. : To meet the initial specification.	AEC-Q200-002 Connection : Between terminals Direct Contact : 8kV(150pF 2000Ω) Times : ± 1 time															
15	Solderability		Min. 75% of surface of the termination shall be covered with new solder.	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Solder</td><td>Pb Free</td></tr> <tr> <td>Solder Temperature</td><td>$245 \pm 5^\circ C$</td></tr> <tr> <td>Dipping Time</td><td>2 ± 0.5s</td></tr> </table>	Solder	Pb Free	Solder Temperature	$245 \pm 5^\circ C$	Dipping Time	2 ± 0.5 s									
Solder	Pb Free																		
Solder Temperature	$245 \pm 5^\circ C$																		
Dipping Time	2 ± 0.5 s																		

*CR : Rated Capacitance(μF)

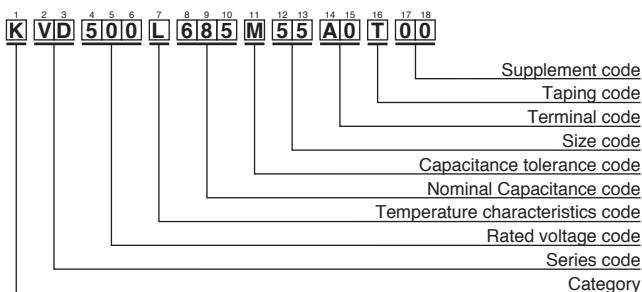
KVD Series

◆STANDARD RATINGS

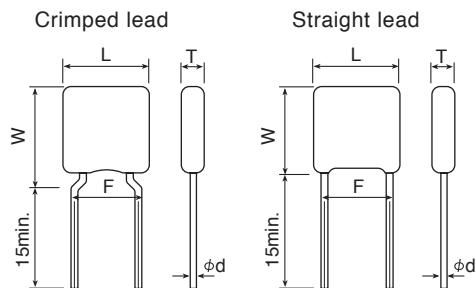
Rated voltage (Vdc)	Rated Capacitance (μF)	Dimensions(mm)					Maximum ripple current (Arms)	Part Number	Taping Quantity per reel (pcs. / box)
		L max.	W max.	T max.	$F \pm 0.8$	$\phi d \pm 0.05$			
25	1.0	5.0	6.0	3.5	5.0	0.5	0.3	KVD250L105M32A0T00	2,000
	1.5							KVD250L155M32A0T00	2,000
	2.2							KVD250L225M32A0T00	2,000
	3.3							KVD250L335M32A0T00	2,000
	4.7	6.5	6.5	4.0	5.0	0.5	0.8	KVD250L475M43A0T00	2,000
	6.8							KVD250L685M43A0T00	2,000
	10	7.5	9.0	4.5	5.0	0.5	1.0	KVD250L106M55A0T00	2,000
	15							KVD250L156M55A0T00	2,000
50	0.33	5.0	6.0	3.5	5.0	0.5	0.3	KVD500L334M32A0T00	2,000
	0.47							KVD500L474M32A0T00	2,000
	0.68							KVD500L684M32A0T00	2,000
	1.0							KVD500L105M32A0T00	2,000
	1.5	6.5	6.5	4.0	5.0	0.5	0.8	KVD500L155M43A0T00	2,000
	2.2							KVD500L225M43A0T00	2,000
	3.3	7.5	9.0	4.5	5.0	0.5	1.0	KVD500L335M55A0T00	2,000
	4.7							KVD500L475M55A0T00	2,000
	6.8							KVD500L685M55A0T00	2,000
100	0.1	5.0	6.0	3.5	5.0	0.5	0.3	KVD101L104M32A0T00	2,000
	0.15							KVD101L154M32A0T00	2,000
	0.22							KVD101L224M32A0T00	2,000
	0.33							KVD101L334M32A0T00	2,000
	0.47	6.5	6.5	4.0	5.0	0.5	0.8	KVD101L474M43A0T00	2,000
	0.68							KVD101L684M43A0T00	2,000
	1.0	7.5	9.0	4.5	5.0	0.5	1.0	KVD101L105M55A0T00	2,000
	1.5							KVD101L155M55A0T00	2,000

※ Please consult with us when you consider the rating other than a standard table.

◆PART NUMBERING SYSTEM



◆DIMENSIONS



Please refer to "Part Numbering System" of the beginning of a catalog for the details.