

Surface Mount Metallized PPS Film Capacitor  
 LDB, Unencapsulated Stacked Chip,  
 Size 1206 – 1812, 16 and 50 VDC



## Overview

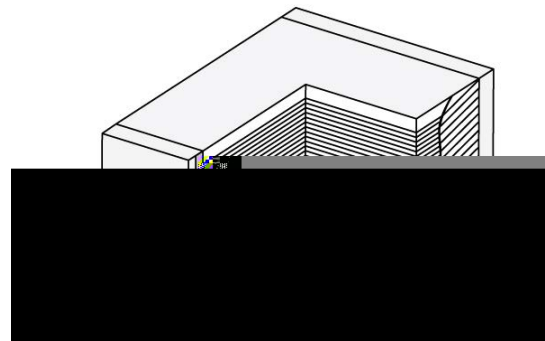
mounting.

## Applications

a memory capacitor. The LDB Series is designed for high stability, accuracy and temperature.

## Benefits

- Rated voltage: 16VDC – 50VDC
- Capacitance range: 0.0033 $\mu$ F – 0.1 $\mu$ F
- EIA Size 1206 – 1812
- Capacitance tolerance:  $\pm$ 2%,  $\pm$ 5%
- Climatic category: 55/125/56
- RoHS compliance and lead-free terminations



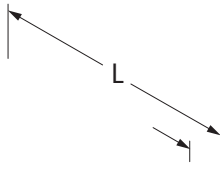
## Part Number System

LDB	A	A	2120	G	C	5	N	0
Series	Rated Voltage (VDC)	Size Code	Capacitance Code (pF)	Capacitance Tolerance	Dielectric	Version	Packaging	Internal Use
Metallized PPS	A = 16 C = 50	See Dimension Table	Digits two – four indicate digits of the capacitance value. First digit indicates the number of zeros to be added.	G = $\pm$ 2% J = $\pm$ 5%	C = PPS	5 = Standard	See Ordering Options Table	0 (Standard)

## Ordering Options Table

Packaging Type	Packaging Code
Standard Packaging Options	
Tape & Reel (Standard Reel)	N

## Dimensions – Millimeters



## Performance Characteristics

Rated Voltage (VDC)	16	50
	0.012 – 0.1	0.0033 – 0.1
Chip Size (EIA)	1206 – 1812	
Capacitance Values	E12 series	
Capacitance Tolerance	±2%, ±5%	
Category Temperature Range		
Rated Temperature		
Voltage Derating	$V_C$ (category voltage) = $V_R$	
Climatic Category	55/125/56	
Capacitance Drift		
Reliability (Reference MIL-HDBK-217)	R	
	1 FIT = $10^{-9}$ failures / (components * hours)	
	Failure criteria: open or short circuit, cap. change > 10%, DF 2 times the catalog limits, IR < 0.005 x initial limit	
Insulation Resistance	Minimum Value Between Terminals	
	Charging time: 1 minute Charging voltage: 10 $V_{DC}$ for $V_R = 16 V_{DC}$ 50 $V_{DC}$ for $V_R = 50 V_{DC}$	
Dissipation Factor		
	1 kHz	0.6%
Surge Voltage Test	$1.75 \times V_R$	

## PPS Dielectric Typical Temperature Graphs

## Environmental Test Data

Damp Heat, Steady State	
Test Conditions	
Temperature	
Relative Humidity (RH)	93% ±2%
Test Duration	56 days
Performance	
	at 1 kHz
Insulation Resistance	
Endurance	
Test Conditions	
Temperature	
Test Duration	2,000 hours
Voltage Applied	1.25 x V <sub>C</sub>
Performance	
	at 1 kHz
Insulation Resistance	
Rapid Change of Temperature	
Test Conditions	
Temperature	
Number of Cycles	1,000
Performance	
	at 1 kHz
Insulation Resistance	
No Mechanical Damage	

Re flow	
Test Conditions	See Solder Process
Performance	
	at 1 kHz
Insulation Resistance	
No Mechanical Damage	
Bending	
Test Conditions	
	1 to 6 mm
Performance	
No visible damage on the terminations (peeling) neither on the body (cracking)	

## Environmental Compliance

All KEMET surface mount capacitors are RoHS Compliant.

Table 1 – Ratings & Part Number Reference

VDC	Capacitance Value (µF)	Size Code	Dimensions in mm			Chip Size	New KEMET Part Number	Legacy Part Number
			W	H (max)	L			
16	0.012	A	1.7	1.1	3.3	1206	DBAA2120(1)C5N0	LDBAA2120(1)C5N0
16	0.015	A	1.7	1.1	3.3	1206	DBAA2150(1)C5N0	LDBAA2150(1)C5N0
16	0.018	A	1.7	1.1	3.3	1206	DBAA2180(1)C5N0	LDBAA2180(1)C5N0
16	0.022	A	1.7	1.1	3.3	1206	DBAA2220(1)C5N0	LDBAA2220(1)C5N0
16	0.027	A	1.7	1.1	3.3	1206	DBAA2270(1)C5N0	LDBAA2270(1)C5N0
16	0.033	A	1.7	1.1	3.3	1206	DBAA2330(1)C5N0	LDBAA2330(1)C5N0
16	0.039	A	1.7	1.2	3.3	1206	DBAA2390(1)C5N0	LDBAA2390(1)C5N0
16	0.047	A	1.7	1.3	3.3	1206	DBAA2470(1)C5N0	LDBAA2470(1)C5N0
16	0.056	B	2.5	1.7	3.3	1210	DBAB2560(1)C5N0	LDBAB2560(1)C5N0
16	0.068	B	2.5	1.7	3.3	1210	DBAB2680(1)C5N0	LDBAB2680(1)C5N0
16	0.082	B	2.5	1.7	3.3	1210	DBAB2824(1)C5N0	LDBAB2824(1)C5N0
16	0.10	B	2.5	2.0	3.3	1210	DBAB3100(1)C5N0	LDBAB3100(1)C5N0
50	0.0033	A	1.7	1.1	3.3	1206	DBCA1330(1)C5N0	LDBCA1330(1)C5N0
50	0.0039	A	1.7	1.1	3.3	1206	DBCA1390(1)C5N0	LDBCA1390(1)C5N0
50	0.0047	A	1.7	1.1	3.3	1206	DBCA1470(1)C5N0	LDBCA1470(1)C5N0
50	0.0056	A	1.7	1.1	3.3	1206	DBCA1560(1)C5N0	LDBCA1560(1)C5N0
50	0.0068	A	1.7	1.1	3.3	1206	DBCA1680(1)C5N0	LDBCA1680(1)C5N0
50	0.0082	A	1.7	1.1	3.3	1206	DBCA1820(1)C5N0	LDBCA1820(1)C5N0
50	0.010	A	1.7	1.1	3.3	1206	DBCA2100(1)C5N0	LDBCA2100(1)C5N0
50	0.012	A	1.7	1.1	3.3	1206	DBCA2120(1)C5N0	LDBCA2120(1)C5N0
50	0.015	B	2.5	1.4	3.3	1210	DBCB2150(1)C5N0	LDBCB2150(1)C5N0
50	0.018	B	2.5	1.5	3.3	1210	DBCB2180(1)C5N0	LDBCB2180(1)C5N0
50	0.022	B	2.5	1.5	3.3	1210	DBCB2220(1)C5N0	LDBCB2220(1)C5N0
50	0.027	B	2.5	1.5	3.3	1210	DBCB2270(1)C5N0	LDBCB2270(1)C5N0
50	0.033	B	2.5	1.7	3.3	1210	DBCB2330(1)C5N0	LDBCB2330(1)C5N0
50	0.039	B	2.5	1.9	3.3	1210	DBCB2390(1)C5N0	LDBCB2390(1)C5N0
50	0.047	B	2.5	2.3	3.3	1210	DBCB2470(1)C5N0	LDBCB2470(1)C5N0
50	0.056	C	3.3	1.7	4.7	1812	DBCC2560(1)C5N0	LDBCC2560(1)C5N0
50	0.068	C	3.3	1.7	4.7	1812	DBCC2680(1)C5N0	LDBCC2680(1)C5N0
50	0.082	C	3.3	1.7	4.7	1812	DBCC2824(1)C5N0	LDBCC2824(1)C5N0
50	0.10	C	3.3	2.0	4.7	1812	DBCC3100(1)C5N0	LDBCC3100(1)C5N0
VDC	Capacitance Value (µF)	Size Code	W (mm)	H (mm)	L (mm)	Chip Size	New KEMET Part Number	Legacy Part Number

## Soldering Process

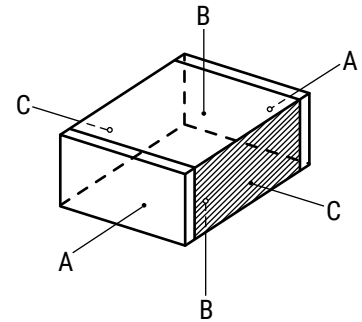
Re flow Recommendations	
Preheating	

## Flux/Cleaning/Storage and Moisture cont'd

### Manual assembly recommendations

If PCBs are assembled manually, care must be taken to avoid any mechanical damage to the components. Our recommendations are the following (see Fig. 1):

1. When using tweezers, the components should be gripped across the two terminations (A);
2. Avoid any contact with the two cutting surfaces (C);
3. A vacuum pen is recommended on the top and bottom surfaces (B).



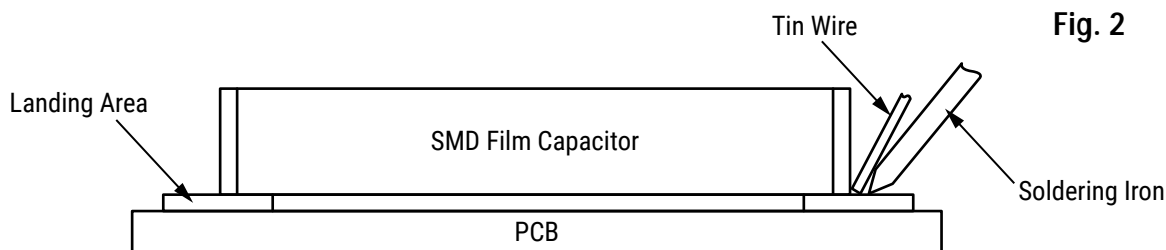
### Manual soldering recommendations

systems. Using a manual soldering iron, issues may occur because the typical temperature for manual soldering is around

- Never touch the capacitor body with the soldering iron but rather touch the soldering iron and the end termination with the tin wire edge (see Fig. 2);
- If the soldering iron is equipped with a temperature controller device:  
seconds);
- If the soldering iron is NOT equipped with a temperature controller device:

extremely important:

1. Proceed as per Fig. 2;
  2. As soon as the tin wire starts melting, move the soldering iron away as quickly as possible;
  3. Wait a few seconds and check that the soldering joint has been properly created;
- In any case, avoid mass-mounting SMD Film Capacitors manually.

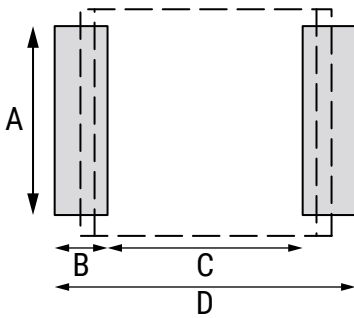




## Packaging Quantities

Chip Size (EIA)	Height (mm)	Reel
1206	1.1	3,000
1206	1.2	3,000
1206	1.3	3,000
1210	1.4	2,250
1210	1.5	2,250
1210	1.7	2,250
1210	1.9	2,250
1210	2.0	2,250
1210	2.3	2,250
1812	1.7	4,000
1812	2.0	3,000

## Landing

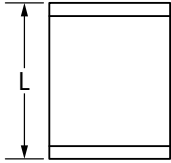


Size	Dimensions in mm			
	A	B	C	D
1206	1.5	1.1	2.3	4.5
1210	2.3	1.1	2.3	4.5
1812	3	1.7	3.1	6.5

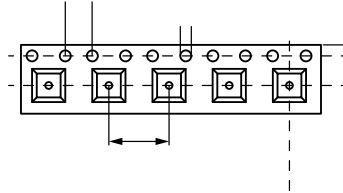


## Carrier Taping & Packaging (IEC 60286–2)

### Horizontal Taping Orientation



SMD Film Capacitor (Top View)



Tape

Reel

## KEMET Electronics Corporation Sales Offices

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