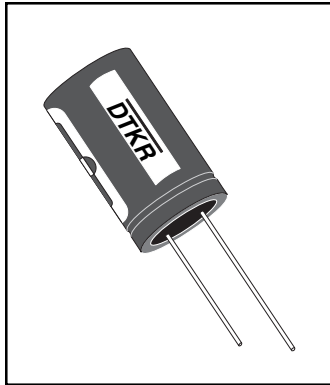


# Type DTKR Radial Leaded Capacitors



- 105°C - Long Life
- High CV Product
- High Reliability
- Ideal for High Density Printed Circuit Boards
- Very High Volumetric Efficiency
- Suitable for General Purpose Applications, Coupling, Decoupling, Bypass and Filtering Circuits

## GENERAL SPECIFICATIONS

Operating Temperature:  
-40°C to +105°C

Voltage Range:  
6.3 WVDC to 450 WVDC

Capacitance Range:  
0.47  $\mu$ F to 15,000  $\mu$ F

Capacitance Tolerance:  
 $\pm$ 20%

DC Leakage Current:  
6.3 - 250VDC  
 $I = .01CV + 3\mu$ A Max  
after 2 minutes application of DC working voltage at 25°C

Over 350VDC  
 $I = .03CV + 10\mu$ A Max  
after 2 minutes application of DC working voltage at 25°C

C = Capacitance in  $\mu$ F

V = Rated Voltage

I = Leakage Current in  $\mu$ A

QA Stability Test:  
Apply WVDC for 1,000 hrs at 105°C

- Capacitance change 20% of initial limits
- DC leakage current meets initial limits
- ESR  $\leq$ 200% of initial measured value

Shelf Life:

- 500 hours; no voltage applied
- Capacitor change within 20% of initial values
- Dissipation factor not exceed 200% of initial requirements
- Leakage current: not exceed 200% of initial requirement

Dissipation Factor @ 120Hz, 25°C

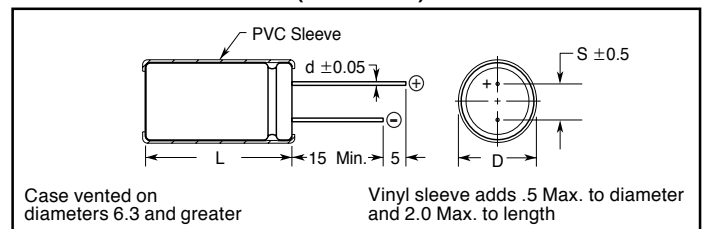
WV (V)	6.3	10	16	25	35	50	63	80	100	160-250	350-400
DF(%)	26	22	18	16	14	12	10	10	10	15	20

For capacitors whose capacitance value exceeds 1000 $\mu$ F, the value of DF(%) is increased 2% for every additional 1000 $\mu$ F:

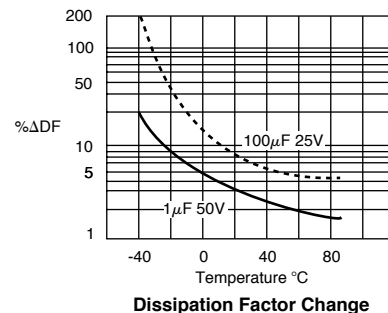
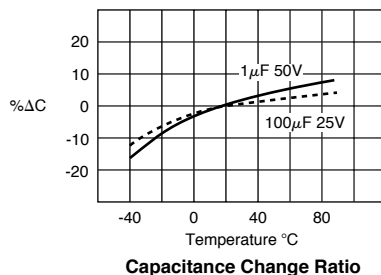
The maximum ripple current at 105°C and 120 Hz for DTKR capacitors is shown in the Standard Rating Table. Maximum ripple current may be adjusted by the multipliers in the following tables.

Rated WVDC	Ripple Multipliers				Ambient Temperature	Ripple Multiplier
	60Hz	120Hz	1kHz	10kHz		
6 to 25	.80	1.0	1.10	1.20	+105°C	1.00
35 to 100	.75	1.0	1.30	1.40	+85°C	1.50
160 to 250	.70	1.0	1.40	1.60	+70°C	1.80
350 to 400	.60	1.0	1.50	1.80		

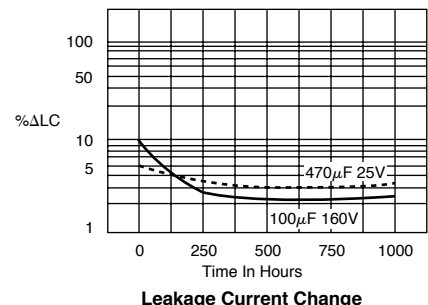
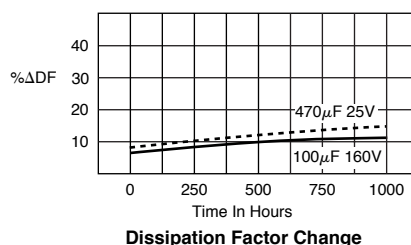
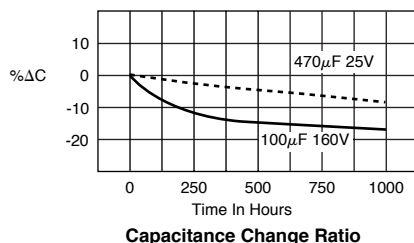
## Outline Dimensions (Millimeters)



## Temperature Characteristics



## Load Life Characteristics



# Types DSKR, DTKR, DVPR

## Part Number Information



DuraCap Catalogue Number      DSKR      231      U      035      D1A

**TYPE:**

Identifies the basic type  
DSKR, DTKR, DVPR

**CAPACITANCE:**

Expressed in microfarads  
The first two digits are significant figures  
The third digit is the number of zeros  
If the microfarads are less than 10, the letter 'R' indicates the decimal point

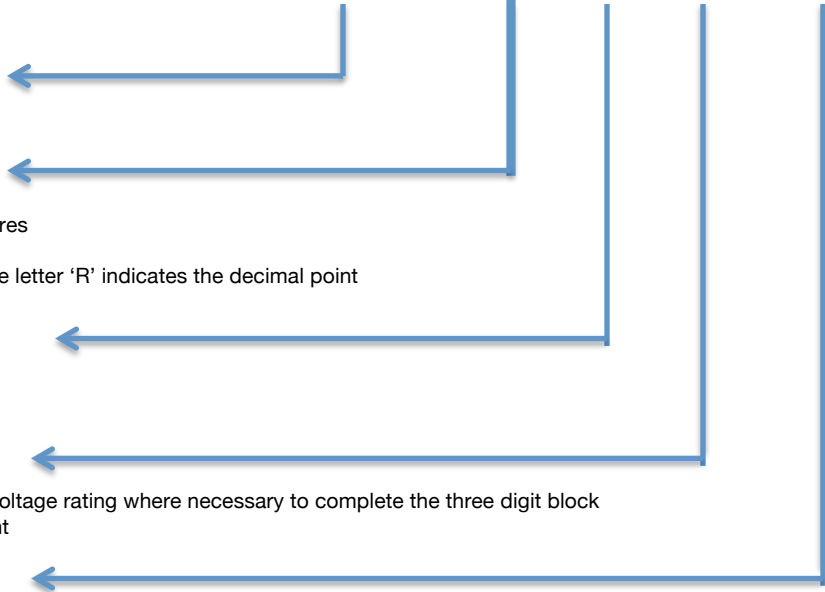
**CAPACITANCE TOLERANCE:**

K =  $\pm 10\%$   
M =  $\pm 20\%$   
T =  $-10\%$  +50%  
U =  $-10%$  +75%

**DC VOLTAGE RATING:**

Zeros are used to prefix the voltage rating where necessary to complete the three digit block  
The letter 'R' indicates a decimal point

**CASE CODES**



Cap ( $\mu$ F)	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 105°C	Size (Inches)				Part Description
			D Diameter	L Length	S Lead Space	d	
<b>6.3 WVDC; 8 VDC Surge</b>							
100	3.45	100	5	11	2	0.5	DTKR101M6R3ST
220	1.57	165	6.3	11	2.5	0.5	DTKR221M6R3ST
330	1.05	200	6.3	11.5	2.5	0.5	DTKR331M6R3ST
470	0.73	280	8	11.5	3.5	0.6	DTKR471M6R3ST
1000	0.35	470	10	13	5	0.6	DTKR102M6R3ST
2200	0.17	930	10	21	5	0.6	DTKR222M6R3ST
3300	0.12	1100	13	21	5	0.6	DTKR332M6R3ST
4700	0.1	1320	16	26	7.5	0.8	DTKR472M6R3ST
6800	0.07	1490	16	25	7.5	0.8	DTKR682M6R3ST
10000	0.06	1830	16	32	7.5	0.8	DTKR103M6R3ST
15000	0.05	2280	18	36	7.5	0.8	DTKR153M6R3ST

<b>10 WVDC; 13 VDC Surge</b>							
47	6.21	75	5	11	2	0.5	DTKR470M010ST
100	2.92	110	5	11	2	0.5	DTKR101M010ST
220	1.33	180	6.3	11	2.5	0.5	DTKR221M010ST
330	0.88	255	8	11.5	3.5	0.6	DTKR331M010ST
470	0.62	305	8	11.5	3.5	0.6	DTKR471M010ST
1000	0.29	570	10	16	5	0.6	DTKR102M010ST
2200	0.14	1010	13	21	5	0.6	DTKR222M010ST
3300	0.1	1220	13	25	5	0.6	DTKR332M010ST
4700	0.08	1410	16	25	7.5	0.8	DTKR472M010ST
6800	0.07	1610	16	32	7.5	0.8	DTKR682M010ST
10000	0.05	1980	18	36	7.5	0.8	DTKR103M010ST
15000	0.04	3330	18	42	7.5	0.8	DTKR153M010ST

<b>16 WVDC; 20 VDC Surge</b>							
33	7.24	70	5	11	2	0.5	DTKR330M016ST
47	5.08	85	5	11	2	0.5	DTKR470M016ST
100	2.39	135	6.3	11	2.5	0.5	DTKR101M016ST
220	1.09	235	8	11.5	3.5	0.6	DTKR221M016ST
330	0.72	285	8	11	3.5	0.6	DTKR331M016ST
470	0.51	395	10	13	5	0.6	DTKR471M016ST
1000	0.24	700	10	21	5	0.6	DTKR102M016ST
2200	0.12	1150	13	21	5	0.6	DTKR222M016ST

**DuraCap International Inc.**  
 P.O. Box 1579 Woodstock, Ontario  
 N4S 0A7 Canada

**Phone:** (519) 539-4891  
**Fax:** (519) 539-6684  
<http://www.duracap.com/>

Cap ( $\mu$ F)	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 105°C	Size (Inches)				Part Description
			D Diameter	L Length	S Lead Space	d	
3300	0.09	1350	13	26	5	0.6	DTKR332M016ST
4700	0.07	1560	16	32	7.5	0.8	DTKR472M016ST
6800	0.06	1790	18	36	7.5	0.8	DTKR682M016ST
10000	0.05	2884	18	42	7.5	0.8	DTKR103M016ST

<b>25 WVDC; 32 VDC Surge</b>							
10	21.23	50	5	11	2	0.5	DTKR100M025ST
22	9.65	60	5	11	2	0.5	DTKR220M025ST
33	6.43	75	5	11	2	0.5	DTKR330M025ST
47	4.52	90	5	11	2	0.5	DTKR470M025ST
100	2.12	145	6.3	11	2.5	0.5	DTKR101M025ST
220	0.97	250	8	11	3.5	0.6	DTKR221M025ST
330	0.64	355	10	13	5	0.6	DTKR331M025ST
470	0.45	470	10	16	5	0.6	DTKR471M025ST
1000	0.21	855	13	21	5	0.6	DTKR102M025ST
2200	0.11	1230	13	26	5	0.6	DTKR222M025ST
3300	0.08	1450	16	32	7.5	0.8	DTKR332M025ST
4700	0.07	1690	18	36	7.5	0.8	DTKR472M025ST
6800	0.05	2856	18	42	7.5	0.8	DTKR682M025ST

<b>35 WVDC; 44 VDC Surge</b>							
22	8.44	65	5	11	2	0.5	DTKR220M035ST
33	5.63	85	5	11	2	0.5	DTKR330M035ST
47	3.95	115	6.3	11	2.5	0.5	DTKR470M035ST
100	1.86	190	8	11.5	3.5	0.6	DTKR101M035ST
220	0.84	315	10	13	5	0.6	DTKR221M035ST
330	0.56	440	10	16	5	0.6	DTKR331M035ST
470	0.4	580	13	20	5	0.6	DTKR471M035ST
1000	0.19	995	13	21	5	0.6	DTKR102M035ST
2200	0.1	1450	16	32	7.5	0.8	DTKR222M035ST
3300	0.07	1660	18	36	7.5	0.8	DTKR332M035ST
4700	0.06	2674	18	42	7.5	0.8	DTKR472M035ST

<b>50 WVDC; 63 VDC Surge</b>							
0.47	338.8	7	5	11	2	0.5	DTKRR47M050ST
1	159.24	12	5	11	2	0.5	DTKR010M050ST

Cap ( $\mu$ F)	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 105°C	Size (Inches)				Part Description
			D Diameter	L Length	S Lead Space	d	
2.2	72.38	18	5	11	2	0.5	DTKR2R2M050ST
3.3	48.25	25	5	11	2	0.5	DTKR3R3M050ST
4.7	33.88	30	5	11	2	0.5	DTKR4R7M050ST
10	15.92	50	5	11	2	0.5	DTKR100M050ST
22	7.24	75	5	11	2	0.5	DTKR220M050ST
33	4.83	105	6.3	11	2.5	0.5	DTKR330M050ST
47	3.39	125	6.3	11.5	2.5	0.5	DTKR470M050ST
100	1.59	210	8	11	3.5	0.6	DTKR101M050ST
220	0.72	400	10	16	5	0.6	DTKR221M050ST
330	0.48	535	10	21	5	0.6	DTKR331M050ST
470	0.34	730	13	21	5	0.6	DTKR471M050ST
1000	0.16	1110	16	25	7.5	0.8	DTKR102M050ST
2200	0.08	1530	18	36	7.5	0.8	DTKR222M050ST
3300	0.47	2478	18	42	7.5	0.8	DTKR332M050ST

### 63 WVDC; 79 VDC Surge

4.7	28.23	34	5	11	2	0.5	DTKR4R7M063ST
10	13.27	55	5	11	2	0.5	DTKR100M063ST
22	6.03	90	6.3	11	2.5	0.5	DTKR220M063ST
33	4.02	110	6.3	11	2.5	0.5	DTKR330M063ST
47	2.82	155	8	11	3.5	0.6	DTKR470M063ST
100	1.33	260	10	13	5	0.6	DTKR101M063ST
220	0.6	460	10	21	5	0.6	DTKR221M063ST
330	0.4	650	13	21	5	0.6	DTKR331M063ST
470	0.28	800	13	26	5	0.6	DTKR471M063ST
1000	0.13	1200	16	32	7.5	0.8	DTKR102M063ST

### 100 WVDC; 125 VDC Surge

0.47	282.33	10	5	11	2	0.5	DTKRR47M100ST
1	132.7	15	5	11	2	0.5	DTKR010M100ST
2.2	60.32	22	5	11	2	0.5	DTKR2R2M100ST
3.3	40.21	29	5	11	2	0.5	DTKR3R3M100ST
4.7	28.23	37	5	11	2	0.5	DTKR4R7M100ST
10	13.27	65	6.3	11	2.5	0.5	DTKR100M100ST
22	6.03	115	8	11	3.5	0.6	DTKR220M100ST
33	4.02	160	10	13	5	0.6	DTKR330M100ST

Cap ( $\mu$ F)	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 105°C	Size (Inches)				Part Description
			D Diameter	L Length	S Lead Space	d	
47	2.82	210	10	16	5	0.6	DTKR470M100ST
100	1.33	385	13	20	5	0.6	DTKR101M100ST
220	0.6	590	16	25	7.5	0.8	DTKR221M100ST
330	0.4	720	16	25	7.5	0.8	DTKR331M100ST
470	0.28	875	16	32	7.5	0.8	DTKR471M100ST

### 160 WVDC; 200 VDC Surge

0.47	423.5	12	6.3	11	2.5	0.5	DTKRR47M160ST
1	199.04	17	6.3	11	2.5	0.5	DTKR010M160ST
2.2	90.47	25	6.3	11	2.5	0.5	DTKR2R2M160ST
3.3	60.32	36	6.3	11	2.5	0.5	DTKR3R3M160ST
4.7	42.35	43	6.3	11	2.5	0.5	DTKR4R7M160ST
10	19.9	70	8	11	3.5	0.6	DTKR100M160ST
22	9.05	130	10	16	5	0.6	DTKR220M160ST
33	6.03	180	10	21	5	0.6	DTKR330M160ST
47	4.23	270	13	21	5	0.6	DTKR470M160ST
100	1.99	330	13	26	5	0.6	DTKR101M160ST
220	0.9	500	16	36	7.5	0.8	DTKR221M160ST
330	0.6	850	18	42	7.5	0.8	DTKR331M160ST

### 200 WVDC; 250 VDC Surge

0.47	423.5	12	6.3	11	2.5	0.5	DTKRR47M200ST
1	199.04	17	6.3	11	2.5	0.5	DTKR010M200ST
2.2	90.47	25	6.3	11.5	2.5	0.5	DTKR2R2M200ST
3.3	60.32	36	6.3	11.5	2.5	0.5	DTKR3R3M200ST
4.7	42.35	50	8	11	3.5	0.6	DTKR4R7M200ST
10	19.9	80	10	13	5	0.6	DTKR100M200ST
22	9.05	140	10	21	5	0.6	DTKR220M200ST
33	6.03	190	13	21	5	0.6	DTKR330M200ST
47	4.23	220	13	21	5	0.6	DTKR470M200ST
100	1.99	335	16	25	7.5	0.8	DTKR101M200ST
220	0.9	515	18	42	7.5	0.8	DTKR221M200ST

### 250 WVDC; 300 VDC Surge

0.47	423.5	12	6.3	11	2.5	0.5	DTKRR47M250ST
1	199.04	17	6.3	11	2.5	0.5	DTKR010M250ST

Cap ( $\mu$ F)	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 105°C	Size (Inches)				Part Description
			D Diameter	L Length	S Lead Space	d	
2.2	90.47	29	6.3	11.5	2.5	0.5	DTKR2R2M250ST
3.3	60.32	42	8	11	3.5	0.6	DTKR3R3M250ST
4.7	42.35	50	8	11	3.5	0.6	DTKR4R7M250ST
10	19.9	88	10	16	5	0.6	DTKR100M250ST
22	9.05	155	13	21	5	0.6	DTKR220M250ST
33	6.03	190	13	21	5	0.6	DTKR330M250ST
47	4.23	230	13	26	5	0.6	DTKR470M250ST
100	1.99	340	16	32	7.5	0.8	DTKR101M250ST

<b>350 WVDC; 400 VDC Surge</b>							
0.47	564.67	14	8	11	3.5	0.6	DTKRR47M350ST
1	265.39	20	8	11	3.5	0.6	DTKR010M350ST
2.2	120.63	35	8	11.5	3.5	0.6	DTKR2R2M350ST
3.3	80.42	47	10	13	5	0.6	DTKR3R3M350ST
4.7	56.47	55	10	13	5	0.6	DTKR4R7M350ST
10	26.54	95	10	21	5	0.6	DTKR100M350ST
22	12.06	165	13	26	5	0.6	DTKR220M350ST
33	8.04	195	13	25	5	0.6	DTKR330M350ST
47	5.65	240	16	36	7.5	0.8	DTKR470M350ST
100	2.65	360	18	42	7.5	0.8	DTKR101M350ST

<b>400 WVDC; 450 VDC Surge</b>							
0.47	564.67	14	8	11	3.5	0.6	DTKRR47M400ST
1	265.39	20	8	11	3.5	0.6	DTKR010M400ST
2.2	120.63	35	10	13	5	0.6	DTKR2R2M400ST
3.3	80.42	50	10	13	5	0.6	DTKR3R3M400ST
4.7	56.47	58	10	16	5	0.6	DTKR4R7M400ST
10	26.54	100	13	20	5	0.6	DTKR100M400ST
22	12.06	170	13	26	5	0.6	DTKR220M400ST
33	8.04	205	16	32	7.5	0.8	DTKR330M400ST
47	5.65	255	18	36	7.5	0.8	DTKR470M400ST

<b>450 WVDC; 500 VDC Surge</b>							
0.47	564.67	14	8	11	3.5	0.6	DTKRR47M450ST
1	265.39	20	8	11	3.5	0.6	DTKR010M450ST
2.2	120.63	35	10	13	5	0.6	DTKR2R2M450ST

Cap ( $\mu$ F)	Max ESR Ohms 120Hz 25°C	Max Ripple mA 120Hz 105°C	Size (Inches)				Part Description
			D Diameter	L Length	S Lead Space	d	
3.3	80.42	50	10	13	5	0.6	DTKR3R3M450ST
4.7	56.47	58	10	16	5	0.6	DTKR4R7M450ST
10	26.54	100	13	21	5	0.6	DTKR100M450ST
22	12.06	170	13	26	5	0.6	DTKR220M450ST
33	8.04	205	16	32	7.5	0.8	DTKR330M450ST
47	5.65	255	18	36	7.5	0.8	DTKR470M450ST