

### 105°C Standard Capacitors , Series KRM.

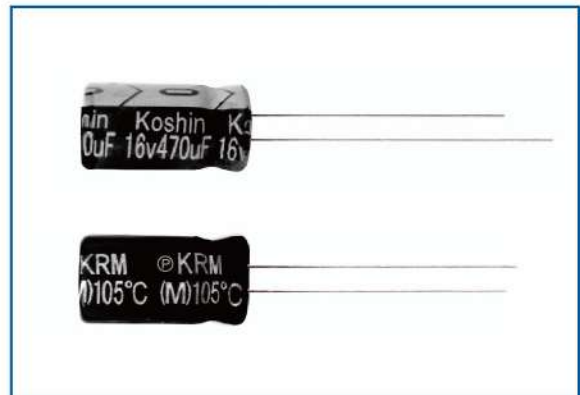
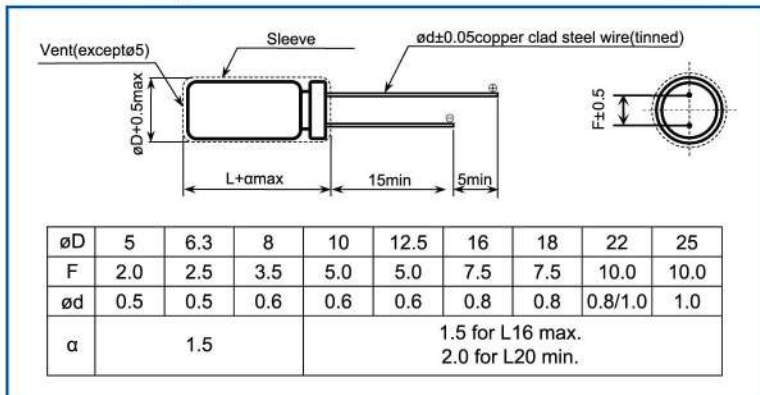
Guaranteed 2000 hours at 105°C

RoHS

Outline Drawing

Unit: mm

Photo



Marking color: white print on black sleeve

### Specifications

No.	Item	Performance											
1	Temperature range (°C)	-55 to +105(6.3V~100V)						-40 to +105(160V~500V)					
2	Leakage current (µA)	Less than 0.01CV or 3 whichever is larger(after one minutes)						Less than 0.03CV or 3 whichever is larger (after one minutes)					
		C: Rated Capacitance (µ F). V: Rated voltage (V) 20°C											
3	Capacitance tolerance (%)	±20 (20°C, 120Hz)											
4	Tangent of the loss angle (Tan δ)	Rated voltage (V)	6.3	10	16	25	35	50	63	100	160-250	350-500	20°C 120Hz
		Tanδ(max)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.15	
0.02 is added to each 1000uF increase over 1000uF.													
5	Low temperature characteristics	Rated voltage (V)	6.3	10	16	25	35	50	63	100	160-250	350-500	120Hz
		Impedance ratio(max)	Z <sub>(-25°C)</sub> /Z <sub>(+20°C)</sub>	4	3	2	2	2	2	2	2	3	
		Z <sub>(-40°C)</sub> /Z <sub>(+20°C)</sub>	8	6	4	3	3	3	3	3	8	6	
6	Endurance (105°C) (Applied ripple current)	Test time	2000hours										
		Leakage current	The initial specified value or less										
		Percentage of capacitance change	Within ±20% of initial value										
		Tangent of the loss angle	200% or less of the initial specified value										
7	Shelf life (105°C)	Test time	1000hours										
		Leakage current	The initial specified value or less										
		Percentage of capacitance change	Within ±20% of initial value										
		Tangent of the loss angle	200% or less of the initial specified value										
8	Applicable standards	JIS-C-5101-4(IEC60384)											

### Coefficient of Frequency for Ripple Current

Rated voltage (V)	Frequency (Hz)					
	Capacitance(µ F)	50-60	120	1K	10K	100K
6.3 to 100	CAP ≤ 10	0.80	1.00	1.30	1.65	1.70
	10 < CAP ≤ 100	0.80	1.00	1.23	1.48	1.53
	100 < CAP ≤ 1000	0.80	1.00	1.16	1.35	1.38
	1000 < CAP	0.80	1.00	1.11	1.25	1.28
160 to 500	0.47 to 330	0.80	1.00	1.30	1.40	1.60

### Coefficient of Temperature for Ripple Current

Rated voltage (V)	Temperature (°C)		
	70 or less	85	105
6.3 to 100	2.00	1.70	1.00
160 to 500	1.80	1.40	1.00

Dimension:  $\Phi$ DXL(mm)

Ripple Current: mA/rms at 120Hz, 105°C

### DIMENSION & PERMISSIBLE RIPPLE CURRENT

V.DC $\mu$ F	Contents	6.3V				10V				16V				25V			
		$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA
4.7														5X11	26		
10										5X11	35			5X11	43		
22						5X11	49			5X11	58			5X11	62		
33		5X11	54			5X11	60			5X11	71			5X11	76		
47		5X11	65			5X11	76			5X11	85			5X11	97		
100		5X11	95			5X11	105			6.3X11	133	5X11	110	6.3X11	142		
220		6.3X11	160	5X11	140	6.3X11	175			8X11.5	215	6.3X11	190	8X11.5	236		
330		8X11.5	195	6.3X11	190	8X11.5	245	6.3X11	200	8X11.5	270			10X12.5	335	8X11.5	310
470		8X11.5	270	6.3X11	230	8X11.5	290			10X12.5	370	8X11.5	310	10X16	440	10X12.5	380
1000		10X12.5	460	8X11.5	380	10X16	550	10X12.5	460	10X20	640	10X16	560	12.5X20	770	10X20	680
2200										10X25	900						
		10X20	810			12.5X20	860	10X20	760	12.5X25	1000	12.5X20	920	16X25	1170	12.5X25	1110
3300		12.5X20	960	10X20	840	12.5X20	1100			16X25	1300	12.5X25	1170	16X31.5	1460	16X25	1440
4700		16X25	1330	12.5X20	1090	16X25	1400	12.5X25	1260	16X31.5	1600	16X25	1480	18X35.5	1780	16X31.5	1710
6800		16X25	1640	12.5X25	1460	16X31.5	1880	16X25	1690	18X35.5	2170	16X31.5	1930	18X40	2280	18X35.5	2160
10000		16X31.5	2200	16X25	1990	18X35.5	2560	16X35.5	2400	18X40	2780	18X35.5	2640				
22000		18X40	3270														

V.DC $\mu$ F	Contents	35V				50V				63V				100V			
		$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA
0.1						5X11	3.2			5X11	3.5			5X11	4		
0.22						5X11	4.9			5X11	5.1			5X11	6		
0.33						5X11	6			5X11	7.5			5X11	8		
0.47						5X11	7.1			5X11	9			5X11	9		
1						5X11	13			5X11	15			5X11	15		
2.2						5X11	20			5X11	30			5X11	30		
3.3						5X11	30			5X11	31			5X11	31		
4.7		5X11	30			5X11	33			5X11	36			6.3X11	40		
10		5X11	46			5X11	50			5X11	54			8X11.5	66	6.3X11	54
22		5X11	71			5X11	78			6.3X11	86			8X11.5	99	6.3X11	93
33		6.3X11	90	5X11	75	6.3X11	96	5X11	90	8X11.5	114	6.3X11	100	10X12.5	148	8X11.5	130
47		6.3X11	110	5X11	90	6.3X11	120			8X11.5	141	6.3X11	130	10X16	180	10X12.5	165
100		8X11.5	180	6.3X11	150	8X11.5	188			10X12.5	235			12.5X20	320	10X20	265
220		10X12.5	300	8X11.5	270	10X12.5	440	10X16	300	10X20	450	10X16	335	16X25	570	12.5X25	440
330		10X16	400	10X12.5	350	10X20	460	10X16	410	12.5X20	540	10X20	510	16X31.5	700	16X25	540
470		10X20	520	10X16	460	12.5X25	610	10X20	530	12.5X25	720	12.5X20	640	18X35.5	880	16X31.5	715
1000		12.5X25	920	12.5X20	810	16X25	1080	12.5X25	950	16X31.5	1210	16X25	930	22X40	1760	18X40	985
2200		16X31.5	1340	16X25	1260	18X35.5	2120	16X35.5	1470	18X40	2340						
3300		18X35.5	1650	16X35.5	1610	22X40	2290	18X35.5	1770	22X40	2510						
4700		18X40	1920	18X35.5	1900	25X40	2610	22X40	2340	25X40	3000						

### DIMENSION & PERMISSIBLE RIPPLE CURRENT

Dimension:  $\Phi$ DXL(mm)  
Ripple Current: mA/rms at 120Hz, 105°C

V.DC $\mu$ F Contents	160V				200V				250V			
	$\Phi$ DXL	Ma	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA
0.47	6.3X11	15	5X11	13	6.3X11	15	5X11	13	5X11	12		
1	6.3X11	24	5X11	20	6.3X11	24	5X11	20	6.3X11	17		
2.2	6.3X11	34	5X11	29	6.3X11	34	5X11	29	6.3X11	20	8X11.5	33
3.3	8X11.5	50	6.3X11	43	8X11.5	50	6.3X11	43	10X12.5	38	8X11.5	43
4.7	8X11.5	60	6.3X11	51	8X11.5	60	6.3X11	51	8X11.5	48	10X12.5	51
6.8	8X11.5	56	6.3X11	44	8X11.5	56			8X11.5	56	10X12.5	60
10	8X11.5	75	10X12.5	83	8X11.5	75	10X12.5	83	10X12.5	90	10X16	105
22	10X16	110	10X20	135	10X16	110	10X20	135	10X20	135	12.5X20	165
33	10X20	205	10X16	165	10X20	205	10X16	165	12.5X20	210	12.5X25	220
47	12.5X20	250	10X20	220	12.5X20	250	10X20	220	12.5X20	240	12.5X25	260
68	12.5X25	370	12.5X20	295	12.5X25	370	12.5X20	295	16X25	390	12.5X25	325
100	16X25	460	12.5X25	395	16X25	460	12.5X25	395	16X31.5	450	16X25	440
120	16X25	550			16X25	550			16X31.5	560	16X25	497
150	16X31.5	580	16X25	555	16X31.5	580	16X25	555	16X31.5	600		
180	16X31.5	660	16X25	608	16X31.5	660			18X31.5	680		
220	18X35.5	750	16X31.5	740	18X35.5	750	16X31.5	740				
330	18X35.5	940			18X35.5	940						
470	18X40	1000			18X40	1000						

V.DC $\mu$ F Contents	350V				400V				450V			
	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA
0.47	6.3X11	12	8X11.5	12	6.3X11	12	8X11.5	12	6.3X11	12	8X11.5	12
1	6.3X11	20	8X11.5	22	6.3X11	20	8X11.5	22	6.3X11	20	8X11.5	22
2.2	6.3X11	63	8X11.5	57	6.3X11	63	8X11.5	57	6.3X11	28	8X11.5	32
3.3	8X11.5	86	10X12.5	78	8X11.5	86	10X12.5	78	10X12.5	42	8X11.5	39
4.7	8X11.5	55	10X12.5	66	8X11.5	55	10X12.5	66	10X12.5	52	8X11.5	46
6.8	10X12.5	80	10X12.5	80	8X11.5	60	10X12.5	80	10X12.5	80		
10	10X16	105	10X20	115	10X16	105	10X20	115	10X20	100	10X16	90
22	12.5X20	190	10X20	148	12.5X20	190	10X20	148	12.5X25	185	12.5X20	168
33	12.5X25	230	16X25	250	12.5X25	230	16X25	250	16X25	260	12.5X25	227
47	16X25	270	16X31.5	290	16X25	270	16X31.5	290	16X25	310	16X31.5	340
68	16X31.5	310	18X25	330	16X31.5	310	18X25	330	18X31.5	440	16X31.5	414
100	18X31.5	440	18X35.5	450	18X31.5	440	18X35.5	450	18X35.5	400	18X40	420
120	18X40	520			18X40	520			18X45	690	18X40	650

V.DC $\mu$ F Contents	500V	
	$\Phi$ DXL	mA
2.2	8X11.5	63
3.3	10X12.5	78
4.7	10X16	103
10	10X20	174
22	12.5X25	282
33	16X25	438
47	18X31.5	500

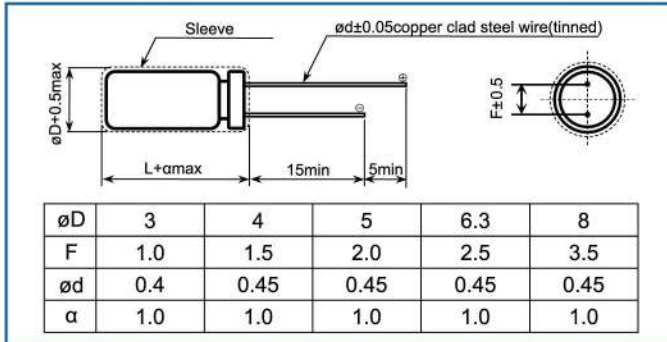
### 5mm L, 105°C Use Capacitors, Series K3S.

Diameters from  $\Phi 3\text{mm}$  to  $\Phi 8\text{mm}$  and a height of 5mm  
Guaranteed 1000 hours at 105°C

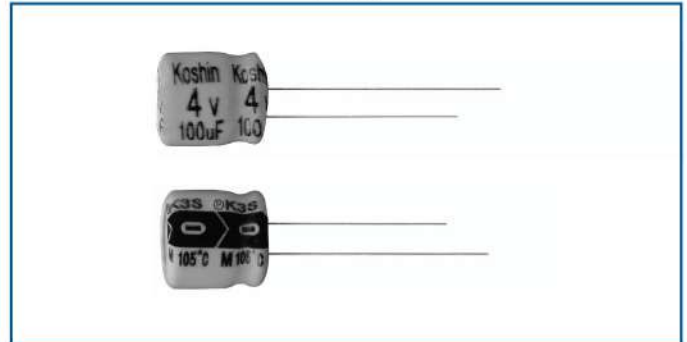
RoHS

Outline Drawing

Unit: mm



Photo



Marking color: black print on yellow sleeve

### Specifications

No.	Item	Performance									
1	Temperature range(°C)	-55 to +105									
2	Leakage current ( $\mu\text{A}$ )	Less than 0.01CV or 3 whichever is larger (after two minutes) C: Rated Capacitance( $\mu\text{F}$ ); V: Rated voltage(V) 20°C									
3	Capacitance tolerance (%)	$\pm 20$ (20°C, 120Hz)									
4	Tangent of the loss angle (Tan $\delta$ )	Rated voltage (V)	4	6.3	10	16	25	35	50	20°C, 120Hz	
		Tan $\delta$ (max)	0.35	0.28	0.24	0.20	0.14	0.12	0.10		
5	Low temperature characteristics	Rated voltage (V)	4	6.3	10	16	25	35	50	120Hz	
		Impedance ratio(max)	$Z_{(-25^\circ\text{C})}/Z_{(+20^\circ\text{C})}$	7	4	3	2	2	2		2
			$Z_{(-40^\circ\text{C})}/Z_{(+20^\circ\text{C})}$	15	8	6	4	4	3	3	
6	Endurance (105°C) (Applied ripple current)	Test time	1000hours								
		Leakage current	The initial specified value or less								
		Percentage of capacitance change	Within $\pm 20\%$ of initial value								
		Tangent of the loss angle	200% or less of the initial specified value								
7	Shelf life (105°C)	Test time	500hours								
		Leakage current	The initial specified value or less								
		Percentage of capacitance change	Within $\pm 20\%$ of initial value								
		Tangent of the loss angle	200% or less of the initial specified value								
8	Applicable standards	JIS-C-5101-4(IEC60384)									

### Coefficient of Frequency for Ripple Current

Frequency (Hz)	50-60	120	1K	10K-100K
Rated voltage (V)				
4 to 16	0.80	1.00	1.15	1.25
25 to 35	0.80	1.00	1.25	1.41
50	0.80	1.00	1.35	1.50

### Coefficient of Temperature for Ripple Current

Temperature(°C)	60	85	105
Coefficient	1.90	1.40	1.00

### DIMENSION & PERMISSIBLE RIPPLE CURRENT

Dimension:  $\Phi$ DXL(mm)  
Ripple Current: mA/rms at 120Hz, 105°C

V.DC Contents $\mu$ F	4V		6.3V		10V		16V		25V		35V		50V	
	$\Phi$ DXL	mA	$\Phi$ DXL	mA	$\Phi$ DXL	mA	$\Phi$ DXL	mA	$\Phi$ DXL	mA	$\Phi$ DXL	mA	$\Phi$ DXL	mA
0.1													4X5(3X5)	1.0
0.22													4X5(3X5)	2.6
0.33													4X5(3X5)	3.2
0.47													4X5(3X5)	3.8
1													4X5(3X5)	6.2
2.2									3X5	7.5	4X5	8.7	4X5	10
3.3									4X5	11	4X5	12	4X5	13
4.7					4X5	13	4X5	14	4X5	15	4X5	17	5X5	20
10			4X5	18	4X5	14	4X5	23	5X5	27	5X5	27	6.3X5	31
22	4X5	20	4X5	21	5X5	27	5X5	30	6.3X5	42	6.3X5	46	6.3X5	46
33	4X5(5X5)	27	5X5	30	5X5	34	6.3X5	40	6.3X5	52	6.3X5	52	8X5	55
47	4X5(5X5)	34	5X5	36	6.3X5	43	6.3X5	48	6.3X5	58	8X5	68		
100	5X5(6.3X5)	50	6.3X5	56	6.3X5	70	8X5	80	8X5	85				
220	6.3X5	74	8X5	80	8X5	95								

### 105°C Miniature Standard Capacitors, 9–25mm Height Low Profile Series.

Used space-saving equipment, low profile.

Load life 2000 hrs at 105°C

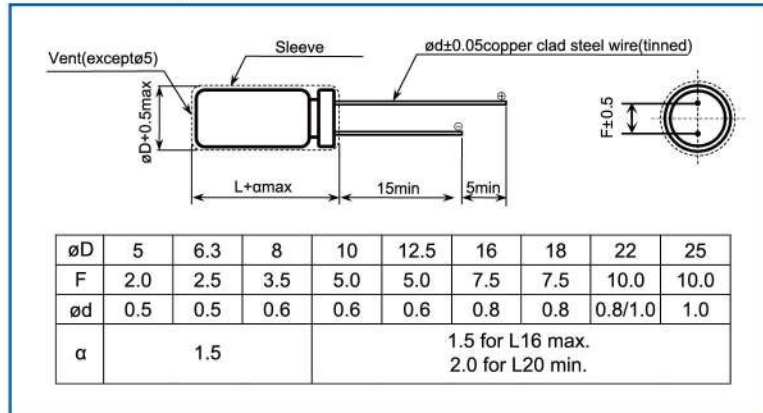
Safety vent construction design.

RoHS Compliant

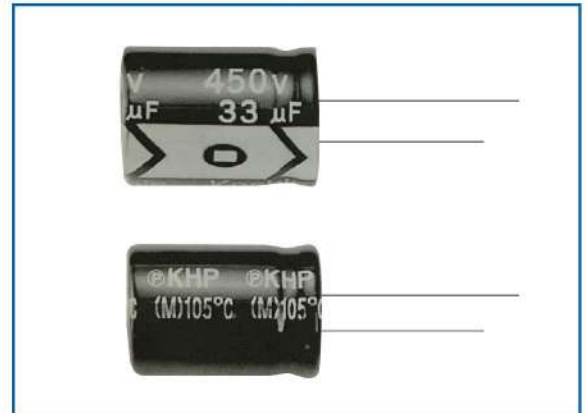
RoHS

#### Outline Drawing

Unit: mm



#### Photo



Marking color: white print on black sleeve

### Specifications

No.	Item	Performance											
1	Temperature range(°C)	-55 to +105(6.3V~100V)						-40 to +105(160V~500V)					
2	Leakage current (μA)	Less than 0.01CV or 3 whichever is larger(after one minutes)						Less than 0.03CV or 3 whichever is larger (after one minutes)					
		C: Rated Capacitance (μF). V: Rated voltage (V) 20°C											
3	Capacitance tolerance (%)	±20 (20°C,120Hz)											
4	Tangent of the loss angle (Tan δ)	Rated voltage (V)	6.3	10	16	25	35	50	63	100	160-250	350-500	20°C 120Hz
		Tanδ(max)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.15	
		0.02 is added to each 1000uF increase over 1000uF.											
5	Low temperature characteristics	Rated voltage (V)	6.3	10	16	25	35	50	63	100	160-250	350-500	120Hz
		Impedance ratio(max)	Z <sub>(-25°C)</sub> /Z <sub>(+20°C)</sub>	4	3	2	2	2	2	2	2	3	
		Z <sub>(-40°C)</sub> /Z <sub>(+20°C)</sub>	8	6	4	3	3	3	3	3	8	6	
6	Endurance (105°C) (Applied ripple current)	Test time	2000hours										
		Leakage current	The initial specified value or less										
		Percentage of capacitance change	Within ± 20% of initial value										
		Tangent of the loss angle	200% or less of the initial specified value										
7	Shelf life (105°C)	Test time	1000hours										
		Leakage current	The initial specified value or less										
		Percentage of capacitance change	Within ± 20% of initial value										
		Tangent of the loss angle	200% or less of the initial specified value										
8	Applicable standards	JIS-C-5101-4(IEC60384)											

Dimension:  $\Phi$ DXL(mm)  
Ripple Current: mA/rms at 120Hz, 105°C

### DIMENSION & PERMISSIBLE RIPPLE CURRENT

V.DC Contents $\mu$ F	6.3V				10V				16V				25V			
	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA
10																
22																
33																
47									5X9	105			5X9	110		
68					5X9	115			6.3X9	125			6.3X9	130		
100	5X9	120			5X9	135			6.3X9	150			6.3X9	160		
150	5X9	135			6.3X9	150			6.3X9	160			8X9	185		
220	6.3X9	165			6.3X9	165			8X9	200			8X9	230		
330	6.3X9	185			8X9	205			8X9	250			10X9	310		
470	8X9	260			8X9	275	10X9	280	10X9	310			10X12.5	370		
680	10X9	310			10X9	360			13X13	390			13X16	520		
1000	10X9	370			10X12.5	450			13X13	520			13X16	600		
2200	13X16	620			13X16	690			16X16	850			16X21	950	18X16	940
3300	16X16	860			16X16	950			16X21	1180			18X21	1250		
4700	16X16	1010			16X21	1150			18X21	1480			18X25	1470		
6800	16X16	1210			18X21	1350			18X25	1600						
10000	18X21	1450			18X25	1700										

V.DC Contents $\mu$ F	35V				50V				63V				100V			
	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA
2.2					5X9	19			5X9	20			5X9	20		
3.3					5X9	25			5X9	26			5X9	27		
4.7					5X9	40			5X9	41			5X9	42		
6.8					5X9	48			5X9	49			6.3X9	56		
10					5X9	54			5X9	55			8X9	72		
22					5X9	75			6.3X9	107			8X9	114		
33	5X9	90			6.3X9	115			6.3X9	114			10X9	141		
47	6.3X9	120			6.3X9	130			8X9	136			10X16	197		
68	8X9	145			8X9	169			10X9	170			10X16	200		
100	8X9	180			10X9	200			10X9	173			13X13	247		
150	8X9	210			10X9	250			10X16	245			13X16	295	16X16	346
220	10X9	255			10X12.5	290			13X13	317			16X16	373		
330	10X12.5	360			13X13	375	13X16	400	13X16	382			16X21	500		
470	13X13	410	13X16	430	16X16	550			16X16	490			18X25	745		
680	13X16	580			16X16	700			16X21	730						
1000	16X16	750			16X21	850			16X25	1050						
2200	18X21	1200			18X25	1300										
3300	18X25	1450														
4700																

Dimension:  $\Phi$ DXL(mm)

Ripple Current: mA/rms at 120Hz, 105°C

### DIMENSION & PERMISSIBLE RIPPLE CURRENT

V.DC Contents $\mu$ F	160V				200V				250V			
	$\Phi$ DXL	Ma	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA
2.2												
3.3												
4.7	8X9	50			8X9	50			8X9	50		
6.8	8X9	55			8X9	58			10X9	65		
10	10X9	80			10X9	78			13X16	82		
22	13X16	120			13X16	145			13X16	165	16X16	180
33	13X16	175			16X16	200			16X16	225		
47	16X16	225			16X16	240			18X16	350		
68	16X21	305			16X21	360			18X21	390		
100	16X21	380			18X21	410			18X25	450		
150	18X21	530			18X25	560						
180	18X25	600										

V.DC Contents $\mu$ F	350V				400V				450V			
	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA	$\Phi$ DXL	mA	* $\Phi$ DXL	mA
1.5									8X9	18		
2.2					8X9	35			10X9	25		
3.3	8X9	35			10X9	40			10X9	30		
4.7	10X9	50			13X16	50			13X16	48		
6.8	13X16	80			13X16	80			13X16	68		
10	13X16	95			13X16	100	16X16	105	16X16	100		
22	16X16	180			16X21	185			16X21	170		
33	16X21	225			18X21	230			18X25	225		
47	18X21	300			18X21	309			18X25	270		
68	18X25	390										
100												

### Coefficient of Frequency for Ripple Current

Rated voltage (V)	Frequency (Hz)					
	Capacitance( $\mu$ F)	50 * 60	120	1K	10K	100K
6.3 to 100	CAP $\leq$ 10	0.80	1.00	1.30	1.50	1.57
	10 < CAP $\leq$ 100	0.80	1.00	1.30	1.50	1.50
	100 < CAP $\leq$ 1000	0.80	1.00	1.20	1.30	1.30
	1000 < CAP	0.80	1.00	1.10	1.20	1.20
160 to 500	0.47 to 330	0.80	1.00	1.10	1.20	1.20

### Coefficient of Temperature for Ripple Current

Rated voltage (V)	Temperature (°C)		
	70 or less	85	105
6.3 to 100	2.00	1.70	1.00
160 to 500	1.80	1.40	1.00

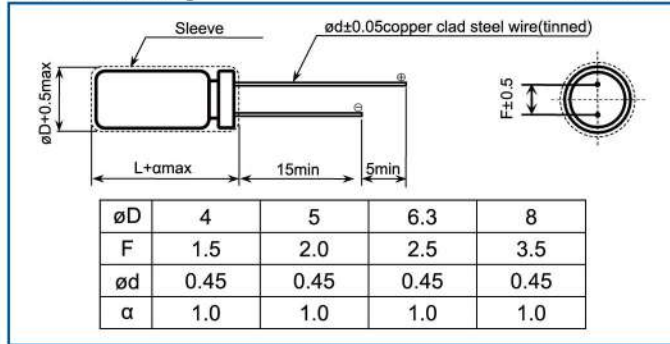
### 7mm L, 105°C Miniature Capacitors, Series KRJ.

Diameter from  $\Phi 4$  to  $\Phi 8$  and height of 7mm  
Guaranteed 1000 hours at 105°C

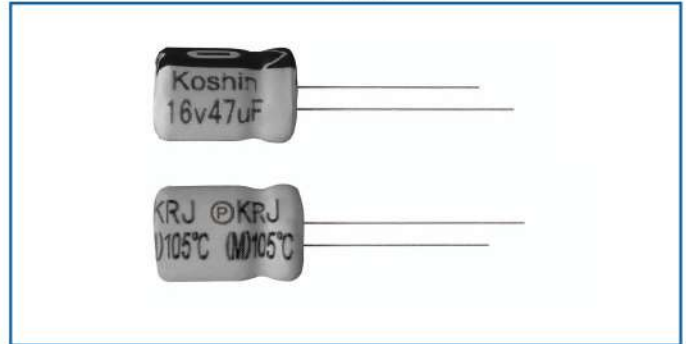


Outline Drawing

Unit: mm



Photo



Marking color: black print on yellow sleeve

### Specifications

No.	Item	Performance										
1	Temperature range(°C)	-55 to +105										
2	Leakage current ( $\mu A$ )	Less than 0.01CV or 3 whichever is larger (after two minutes) C: Rated Capacitance( $\mu F$ ); V: Rated voltage(V) 20°C										
3	Capacitance tolerance (%)	$\pm 20(20^\circ C, 120Hz)$										
4	Tangent of the loss angle (Tan $\delta$ )	Rated voltage (V)	4	6.3	10	16	25	35	50	63	20°C, 120Hz	
		Tan $\delta$ (max)	0.35	0.22	0.19	0.16	0.14	0.12	0.10	0.09		
5	Low temperature characteristics	Rated voltage (V)	4	6.3	10	16	25	35	50	63	120Hz	
		Impedance ratio(max)	Z(-25°C)/Z(+20°C)	7	4	3	2	2	2	2		2
			Z(-40°C)/Z(+20°C)	15	8	6	4	4	3	3	3	
6	Endurance (105°C) (Applied ripple current)	Test time	1000hours									
		Leakage current	The initial specified value or less									
		Percentage of capacitance change	Within $\pm 20\%$ of initial value									
		Tangent of the loss angle	200% or less of the initial specified value									
7	Shelf life (105°C)	Test time	500hours									
		Leakage current	The initial specified value or less									
		Percentage of capacitance change	Within $\pm 20\%$ of initial value									
		Tangent of the loss angle	200% or less of the initial specified value									
8	Applicable standards	JIS-C-5101-4(IEC60384)										

### Coefficient of Frequency for Ripple Current

Frequency (Hz)	50-60	120	1K	10K-100K
Rated voltage (V)				
4 to 16	0.95	1.00	1.28	1.39
25 to 35	0.76	1.00	1.27	1.59
50 to 63	0.90	1.00	1.40	2.00

### Coefficient of Temperature for Ripple Current

Temperature(°C)	70 or less	85	105
Coefficient	2.10	1.80	1.00

### DIMENSION & PERMISSIBLE RIPPLE CURRENT

Dimension:  $\Phi$ DXL(mm)  
Ripple Current: mA/rms at 120Hz, 105°C

V.DC Contents $\mu$ F	4V		6.3V		10V		16V		25V		35V		50V		63V	
	$\Phi$ DXL	mA	$\Phi$ DXL	mA	$\Phi$ DXL	mA	$\Phi$ DXL	mA	$\Phi$ DXL	mA	$\Phi$ DXL	mA	$\Phi$ DXL	mA	$\Phi$ DXL	mA
0.1													4X7	2	4X7	2
0.22													4X7	3	4X7	3
0.33													4X7	4	4X7	4.4
0.47													4X7	5	4X7	7.9
1													4X7	10	4X7	11
2.2													4X7	15	4X7	17
3.3													4X7	18	4X7	21
4.7											4X7	22	5X7*	23	5X7	26
10							4X7	25	4X7	26	5X7*	30	6.3X7*	34	6.3X7	40
22			4X7	31	4X7	32	5X7*	39	5X7*	41	6.3X7	47	6.3X7	53	8X7	70
33	4X7	32	4X7	32	4X7	35	5X7	43	6.3X7	53	8X7*	71	8X7	76		
47	4X7	38	4X7	38	5X7*	47	6.3X7*	59	6.3X7	65	8X7	83	8X7	85		
100	5X7	61	6.3X7*	75	6.3X7	80	6.3X7	90	8X7	125						
220	6.3X7	90	6.3X7	99	8X7	140	8X7	146								
330	8X7	156	8X7	156												

Note: Case size in mark of “\*” is available to product down size.