

KHP Miniature Aluminum Electrolytic Capacitors

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

Used space-saving equipment, low profile.

Load life 2000 hours at 105°C

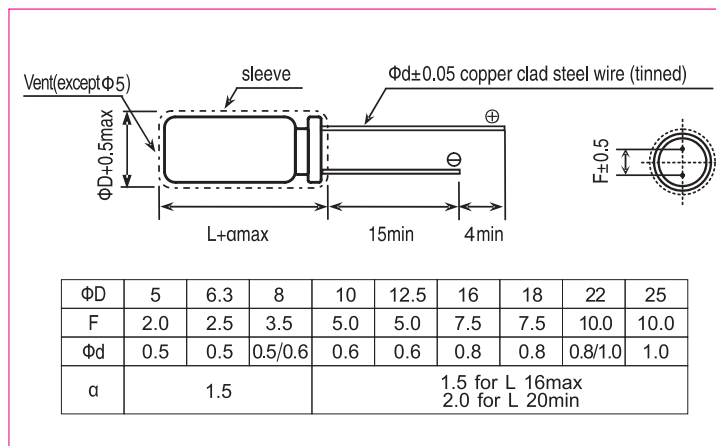
Safety vent construction design.

RoHS Compliant

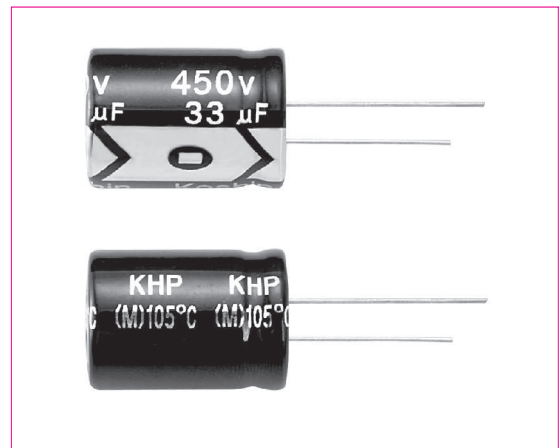
RoHS

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~450V)					
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	350-450	20°C
		Tan δ (max)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.15	120Hz
		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	350-450	120Hz
		Impedance ratio (max)	$Z_{(-25^{\circ}C)}/Z_{(+20^{\circ}C)}$	4	3	2	2	2	2	2	2	3	
		$Z_{(-40^{\circ}C)}/Z_{(+20^{\circ}C)}$	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 $\pm 20\%$ of initial value										
		Tangent of the loss angle	200% or less of the initial specified value										
7	Shelf life (105°C)	Test time	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-5102 and JIS-C-5141											

Dimension: Φ DXL(mm)

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

DIMENSION & PERMISSIBLE RIPPLE CURRENT

V.DC μ F	Contents	6.3V				10V				16V				25V			
		Φ D×L	mA	* Φ D×L	mA	Φ D×L	mA	* Φ D×L	mA	Φ D×L	mA	* Φ D×L	mA	Φ D×L	mA	* Φ D×L	mA
10																	
22																	
33																	
47																	
68						5X9	115			6.3X9	125			5X9	110		
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			12.5X13	390			12.5X16	520		
1000		10X9	370			10X12.5	450			12.5X13	520			12.5X16	600		
2200		12.5X16	620			12.5X16	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 μ F	Contents	35V				50V				63V				100V			
		Φ D×L	mA	* Φ D×L	mA	Φ D×L	mA	* Φ D×L	mA	Φ D×L	mA	* Φ D×L	mA	Φ D×L	mA	* Φ D×L	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			12.5X13	247		
150		8X9	210			10X9	250			10X16	245			12.5X16	295	16X16	346
220		10X9	255			10X12.5	290			12.5X13	317			16X16	373		
330		10X12.5	360			12.5X13	375	12.5X16	400	12.5X16	382			16X21	500		
470		12.5X13	410	13X16	430	16X16	550			16X16	490			18X25	745		
680		12.5X16	580			16X16	700			16X21	730						
1000		16X16	750			16X21	850			16X25	1050						
2200		18X21	1200			18X25	1300										
3300		18X25	1450														
4700																	

Dimension: Φ DXL(mm)

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

DIMENSION & PERMISSIBLE RIPPLE CURRENT

μ F	V,DC Contents	160V				200V				250V			
		Φ D×L	mA	* Φ D×L	mA	Φ D×L	mA	* Φ D×L	mA	Φ D×L	mA	* Φ D×L	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			12.5X16	82		
22		12.5X16	120			12.5X16	145			12.5X16	165	16X16	180
33		12.5X16	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										
220													
330													
470													

μ F	V,DC Contents	350V				400V				450V			
		Φ D×L	mA	* Φ D×L	mA	Φ D×L	mA	* Φ D×L	mA	Φ D×L	mA	* Φ D×L	mA
1.5										8X9	18		
2.2						8X9	35			10X9	25		
3.3		8X9	35			10X9	40			10X9	30		
4.7		10X9	50			12.5X16	50			12.5X16	48		
6.8		12.5X16	80			12.5X16	80			12.5X16	68		
10		12.5X16	95			12.5X16	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													
150													
180													

Coefficient of Frequency for Ripple Current

Rated voltage (v)	Frequency (Hz)		50	60	120	1K	10K	100K
	Capacitance(μ F)							
6.3 to 100	CAP \leq 10		0.80	1.00	1.30	1.50	1570	
	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 450	0.47 to 330		0.80	1.00	1.10	1.20	1.20	

Coefficient of Temperature for Ripple Current

Temperature (°C)	70 or less	85	105
6.3 to 100	2.00	1.70	1.00
160 to 450	1.80	1.40	1.00