PAG Series

- Downsize, high ripple design (φ10 to 18)
- Rated voltage range : 200 to 450Vdc, Capacitance range : 18 to 560μF
- Endurance with ripple current : 2,000 hours at 105℃
- Ideal for low profile power supply applications
- Non solvent resistant type
- RoHS2 Compliant

KHE
Downsized
PAG

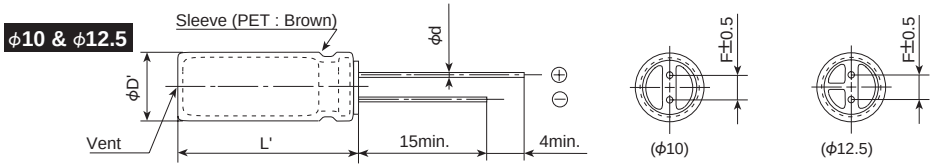
◆SPECIFICATIONS

Items	Characteristics					
Category Temperature Range	-40 to +105℃ (200, 400Vdc) -25 to+105℃ (420, 450Vdc)					
Rated Voltage Range	200 to 450Vdc					
Capacitance Tolerance	±20% (M)					(at 20℃, 120Hz)℃
Leakage Current		After 1 minute		After 5 minutes		
	CV≦1,000	I=0.1CV+40		I=0.03CV+15		
	CV>1,000	I=0.04CV+100		I=0.02CV+25		
	Where, I : Max. leakage current(μA), C : Nominal capacitance (μF), V : Rated voltage (V)					(at 20℃)℃
Dissipation Factor (tan δ)	Rated voltage (Vdc)	200V	400V	420V	450V	
	tan δ (Max.)	0.12	0.15	0.20	0.20	(at 20℃, 120Hz)℃
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (Vdc)	200V	400V	420V	450V	
	Z(-25℃)/Z(+20℃)	3	5	6	6	
	Z(-40℃)/Z(+20℃)	6	6	—	—	(at 120Hz)
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃ after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 2,000 hours at 105℃.					
	Capacitance change	≦±20% of the initial value				
	D.F. (tan δ)	≦200% of the initial specified value				
	Leakage current	≦The initial specified value				
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃ without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4.					
	Capacitance change	≦±20% of the initial value				
	D.F. (tan δ)	≦200% of the initial specified value				
	Leakage current	≦500% of the initial specified value				

◆DIMENSIONS [mm]

●Terminal Code : E

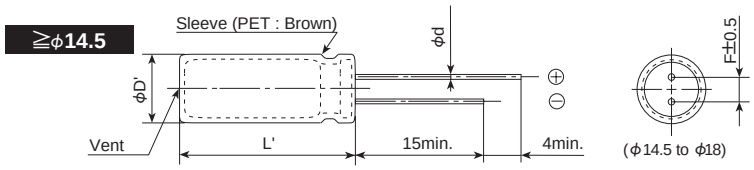
φ10 & φ12.5



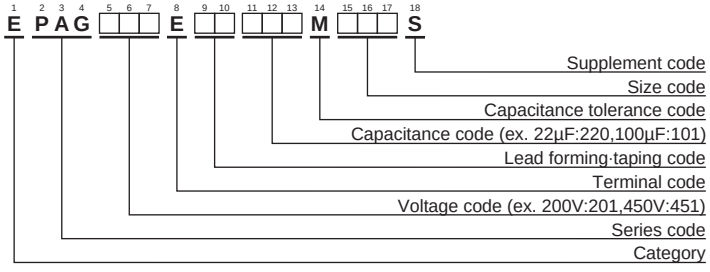
Gas escape end seal

φD	10	12.5	14.5	16	18
φd	0.6	0.6	0.8	0.8	0.8
F	5.0	5.0	7.5	7.5	7.5
φD'	φD+0.5 max.				
L'	L+2.0 max.				

≧φ14.5



◆PART NUMBERING SYSTEM



Please refer to "Product code guide (radial lead type)"

Product specifications in this catalog are subject to change without notice.Request our product specifications before purchase and/or use. Please use our products based on the information contained in this catalog and product specifications.

PAG Series

◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (mArms/ 105℃, 120Hz)	Part No.
200	82	10×30	0.12	440	EPAG201E□□820MJ30S
	100	10×35	0.12	510	EPAG201E□□101MJ35S
	120	10×40	0.12	590	EPAG201E□□121MJ40S
	150	12.5×30	0.12	650	EPAG201E□□151MK30S
	180	12.5×35	0.12	750	EPAG201E□□181MK35S
	220	12.5×40	0.12	830	EPAG201E□□221MK40S
	220	14.5×30	0.12	830	EPAG201E□□221MU30S
	270	14.5×35	0.12	960	EPAG201E□□271MU35S
	270	16×30	0.12	960	EPAG201E□□271ML30S
	330	16×35	0.12	1,100	EPAG201E□□331ML35S
	330	18×30	0.12	1,100	EPAG201E□□331MM30S
	390	16×40	0.12	1,240	EPAG201E□□391ML40S
	390	18×35	0.12	1,240	EPAG201E□□391MM35S
	470	18×40	0.12	1,390	EPAG201E□□471MM40S
	560	18×45	0.12	1,560	EPAG201E□□561MM45S
400	27	10×30	0.15	260	EPAG401E□□270MJ30S
	33	10×35	0.15	300	EPAG401E□□330MJ35S
	39	10×40	0.15	340	EPAG401E□□390MJ40S
	47	12.5×30	0.15	370	EPAG401E□□470MK30S
	56	12.5×35	0.15	420	EPAG401E□□560MK35S
	68	12.5×40	0.15	480	EPAG401E□□680MK40S
	68	14.5×30	0.15	480	EPAG401E□□680MU30S
	82	14.5×35	0.15	530	EPAG401E□□820MU35S
	100	14.5×40	0.15	580	EPAG401E□□101MU40S
	100	16×30	0.15	580	EPAG401E□□101ML30S
	120	16×35	0.15	670	EPAG401E□□121ML35S
	120	18×30	0.15	670	EPAG401E□□121MM30S
	150	16×40	0.15	770	EPAG401E□□151ML40S
	150	18×35	0.15	770	EPAG401E□□151MM35S
	180	18×40	0.15	880	EPAG401E□□181MM40S
	220	18×45	0.15	1,000	EPAG401E□□221MM45S

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (mArms/ 105℃, 120Hz)	Part No.
420	22	10×30	0.20	230	EPAG421E□□220MJ30S
	27	10×35	0.20	270	EPAG421E□□270MJ35S
	33	10×40	0.20	310	EPAG421E□□330MJ40S
	39	12.5×30	0.20	330	EPAG421E□□390MK30S
	47	12.5×35	0.20	390	EPAG421E□□470MK35S
	56	12.5×40	0.20	430	EPAG421E□□560MK40S
	56	14.5×30	0.20	430	EPAG421E□□560MU30S
	68	14.5×35	0.20	510	EPAG421E□□680MU35S
	68	16×30	0.20	510	EPAG421E□□680ML30S
	82	14.5×40	0.20	570	EPAG421E□□820MU40S
	82	16×35	0.20	570	EPAG421E□□820ML35S
	100	16×40	0.20	610	EPAG421E□□101ML40S
	100	18×30	0.20	610	EPAG421E□□101MM30S
	120	18×35	0.20	690	EPAG421E□□121MM35S
	150	18×40	0.20	790	EPAG421E□□151MM40S
450	18	10×30	0.20	210	EPAG451E□□180MJ30S
	22	10×35	0.20	240	EPAG451E□□220MJ35S
	27	10×40	0.20	280	EPAG451E□□270MJ40S
	33	12.5×30	0.20	310	EPAG451E□□330MK30S
	39	12.5×35	0.20	350	EPAG451E□□390MK35S
	47	12.5×40	0.20	390	EPAG451E□□470MK40S
	47	14.5×30	0.20	390	EPAG451E□□470MU30S
	56	14.5×35	0.20	440	EPAG451E□□560MU35S
	56	16×30	0.20	440	EPAG451E□□560ML30S
	68	14.5×40	0.20	500	EPAG451E□□680MU40S
	68	16×35	0.20	500	EPAG451E□□680ML35S
	82	16×40	0.20	550	EPAG451E□□820ML40S
	82	18×30	0.20	550	EPAG451E□□820MM30S
	100	18×35	0.20	650	EPAG451E□□101MM35S
	120	18×40	0.20	740	EPAG451E□□121MM40S
	150	18×45	0.20	810	EPAG451E□□151MM45S

□□ : Enter the appropriate lead forming or taping code.

◆RATED RIPPLE CURRENT MULTIPLIERS

❶Frequency Multipliers

Capacitance(μF) \ Frequency(Hz)	120	1k	10k	100k
18 to 82	1.00	1.50	1.75	1.80
100 to 560	1.00	1.30	1.40	1.50

The deterioration of aluminum electrolytic capacitors accelerates their life due to the internal heating produced by ripple current. For details, refer to Section "5-3 Ripple Current Effect on Lifetime" in the catalog, Technical Note.

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