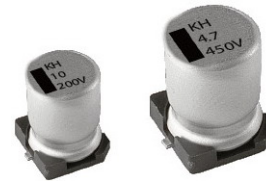


HIGH RELIABILITY

高可靠品

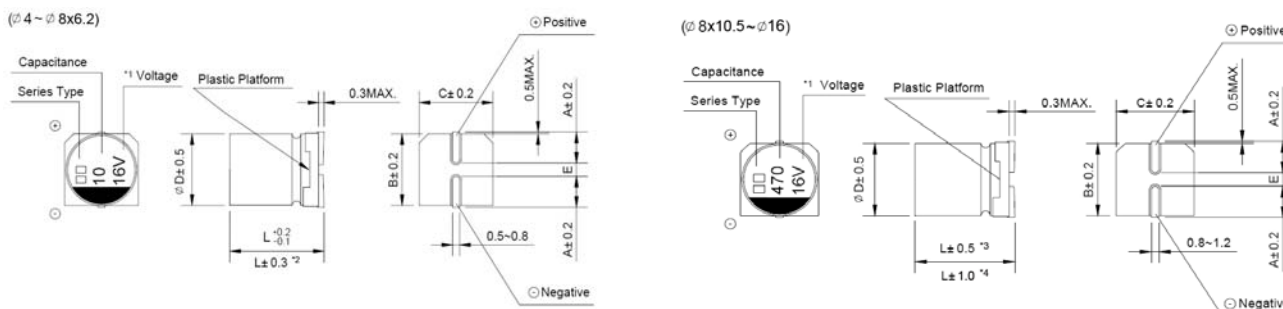
- High temperature range up to +125°C
適用於+125°C 的高溫範圍
- Suitable for automotive equipment
適用於汽車電子裝備
- Load life of 1000~5000 hours
負荷壽命 1000~5000 小時
- Comply with the RoHS directive
符合 RoHS 指令



SPECIFICATIONS 特性表

Items 項目	Characteristics 主要特性										
Operation Temperature Range 使用溫度範圍	-40 ~ +125°C										
Voltage Range 額定工作電壓範圍	10 ~ 450V										
Capacitance Range 靜電容量範圍	3.3 ~ 2200μF										
Capacitance Tolerance 靜電容量允許偏差	±20% at 120Hz, 20°C										
Leakage Current 漏電流	Leakage current (10V~100V) ≅0.03CV or 4μA, whichever is greater (after 2 minutes application of rated voltage) Leakage current (160V~450V) ≅0.04CV or 100μA, whichever is greater (after 2 minutes application of rated voltage) 漏電流 (10V~100V) ≅0.03CV 或 4μA, 取較大值 (施加額定工作電壓 2 分鐘後) 漏電流 (160V~450V) ≅0.04CV 或 100μA, 取較大值 (施加額定工作電壓 2 分鐘後)										
Dissipation Factor (tan δ) 損耗角正切	Measurement frequency 測試頻率: 120Hz, Temperature 溫度: 20°C										
	Rated Voltage (V) 額定工作電壓	10	16	25	35	50	63	100	160~250	400,450	
	tan δ (max.) 最大損耗角正切	Ø4~Ø10	0.24	0.20	0.16	0.14	0.14	0.18	0.18	—	—
		Ø12.5~Ø16	0.22	0.18	0.16	0.14	0.12	0.14	0.10	0.20	0.20
Stability at Low Temperature 低溫特性	Measurement frequency 測試頻率: 120Hz										
	Rated Voltage (V) 額定工作電壓		10	16	25	35	50	63	100	160~250	400,450
	Impedance Ratio 阻抗比 ZT/Z20 (max.)	Ø4~Ø10	Z(-25°C) / Z(20°C)	4	3	2	2	—	—	—	—
			Z(-40°C) / Z(20°C)	10	8	6	4	—	—	—	—
		Ø12.5~Ø16	Z(-25°C) / Z(20°C)	4	3	2	2	3	6	—	—
Z(-40°C) / Z(20°C)			8	6	4	3	6	10	—	—	
Load Life 高溫負荷特性	After 5000 hrs. application of the rated voltage for Ø12.5×16 (10~100V), and 2000 hrs. for Ø8×10.5~Ø10 (10~100V), and 1000 hrs. for Ø8×6.2~Ø6.3, as well as 2000 hrs. application of rated voltage for Ø12.5×16 (160~450V) at 125°C, they meet the characteristics listed below. 在 125°C 環境中施加額定工作電壓 5000 小時於Ø12.5×16 (10~100V), 2000 小時於Ø8×10.5~Ø10 (10~100V), 1000 小時於Ø8×6.2~Ø6.3, 以及施加額定工作電壓 2000 小時於Ø12.5×16 (160~450V)後, 電容器的特性符合下表的要求。										
	Capacitance Change 靜電容量變化率		Within ±30% of initial value 初始值的±30%以內								
	Dissipation Factor 損耗角正切		300% or less of initial specified value 不大於規範值的 300%								
	Leakage Current 漏電流		initial specified value or less 不大於規範值								
Shelf Life 高溫貯存特性	After leaving capacitors under no load at 125°C for 1000 hours, they meet the specified value for load life characteristics listed above. 在 125°C 環境中無負荷放置 1000 小時後, 電容器的特性符合高溫負荷特性中所列的規定值。										
Resistance to Soldering Heat 耐焊接熱特性	After reflow soldering and restored at room temperature, they meet the characteristics listed below. 經過回流焊並冷卻至室溫後, 電容器的特性符合下表的要求。										
	Capacitance Change 靜電容量變化率		Within ±10% of initial value 初始值的±10%以內								
	Dissipation Factor 損耗角正切		initial specified value or less 不大於規範值								
	Leakage Current 漏電流		initial specified value or less 不大於規範值								
Marking 標示	Black print on the case top. 鋁殼頂部黑字印刷。										

DRAWING (Unit: mm) 外形圖



*1. Voltage mark for 6.3V is [6V] 6.3V 的產品標識為 [6V]
 *2. Applicable to 06.3~7.7 適用於 06.3~7.7

*3. Applicable to 08~10.5~010 適用於 08~10.5~010
 *4. Applicable to 012.5~016 適用於 012.5~016

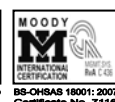
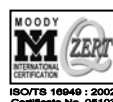
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KELIWEI ELECTRONICS

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□ DIMENSIONS (Unit: mm) 尺寸表

ØD x L	4 x 5.4	5 x 5.4	6.3 x 5.8	6.3 x 7.7	8 x 6.2	8 x 10.5	10 x 10.5	10 x 13.5	12.5 x 13.5	12.5 x 16	16 x 16.5
A	1.8	2.1	2.4	2.4	3.3	2.9	3.2	3.2	4.7	4.7	5.5
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	13.0	13.0	17.0
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	13.0	13.0	17.0
E ± 0.2	1.0	1.3	2.2	2.2	2.2	3.1	4.4	4.4	4.4	4.4	6.7
L	5.4	5.4	5.4	7.7	6.2	10.5	10.5	13.5	13.5	16.0	16.5

□ DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT & ESR 規格尺寸及最大允許紋波電流及 ESR 值

WV		10 (1A)				16 (1C)				25 (1E)			
Parameter 參數 µF		Case size ØDxL (mm) 尺寸	E.S.R. (Ω) 20°C E.S.R.值	E.S.R. (Ω) -40°C E.S.R.值	Ripple current (mA rms) at 125°C 100KHz 紋波電流	Case size ØDxL (mm) 尺寸	E.S.R. (Ω) 20°C E.S.R.值	E.S.R. (Ω) -40°C E.S.R.值	Ripple current (mA rms) at 125°C 100KHz 紋波電流	Case size ØDxL (mm) 尺寸	E.S.R. (Ω) 20°C E.S.R.值	E.S.R. (Ω) -40°C E.S.R.值	Ripple current (mA rms) at 125°C 100KHz 紋波電流
33	330									6.3 x 5.8	3.3	66	45
47	470					6.3 x 5.8	3.3	66	43	6.3 x 7.7 (8 x 6.2)	2.3 (2.3)	46 (46)	68 (68)
100	101	6.3 x 7.7 (8 x 6.2)	2.3 (2.3)	46 (46)	72 (72)	8 x 10.5	1.0	20	115	8 x 10.5	1.0	20	126
220	221	8 x 10.5	1.0	20	136	10 x 10.5	0.7	13.4	175	10 x 10.5	0.7	13.4	211
330	331	10 x 10.5	0.7	13.4	188	10 x 13.5	0.5	9.5	280	12.5 x 13.5 (10.5 x 13.5)	0.14 (0.5)	2.1 (9.5)	750 (270)
470	471	10 x 13.5	0.5	9.5	300	12.5 x 13.5	0.14	2.1	750	12.5 x 13.5	0.14	2.1	750
680	681					16 x 16.5 (12.5 x 13.5)	0.10 (0.14)	1.5 (2.1)	1000 (750)	16 x 16.5	0.10	1.5	1000
1000	102	12.5 x 16 (12.5 x 13.5)	0.11 (0.14)	1.5 (2.1)	900 (750)								
2200	222	16 x 16.5	0.10	1.5	1000								

WV		35 (1V)				50 (1H)			
Parameter 參數 µF		Case size ØDxL (mm) 尺寸	E.S.R. (Ω) 20°C E.S.R.值	E.S.R. (Ω) -40°C E.S.R.值	Ripple current (mA rms) at 125°C 100KHz 紋波電流	Case size ØDxL (mm) 尺寸	E.S.R. (Ω) 20°C E.S.R.值	E.S.R. (Ω) -40°C E.S.R.值	Ripple current (mA rms) at 125°C 100KHz 紋波電流
10	100	6.3 x 5.8	3.3	66	38	6.3 x 7.7 (6.3 x 5.8)	2.3 (3.3)	46 (66)	50 (38)
22	220	6.3 x 5.8	3.3	66	39	6.3 x 7.7 (8 x 6.2)	2.3 (2.3)	46 (46)	50 (50)
33	330	6.3 x 7.7 (8 x 6.2)	2.3 (2.3)	46 (46)	62 (62)	8 x 10.5	1.0	20	83
47	470	8 x 10.5	1.0	20	92	10 x 10.5	0.7	13.4	111
100	101	10 x 10.5	0.7	13.4	151	12.5 x 13.5	0.23	3.5	550
220	221	12.5 x 13.5 (10 x 13.5)	0.14 (0.5)	2.1 (9.5)	750 (260)	16 x 16.5 (12.5 x 13.5)	0.15 (0.23)	2.3 (3.5)	850 (550)
330	331	12.5 x 13.5	0.14	2.1	750	16 x 16.5 (12.5 x 16)	0.15 (0.18)	2.3 (2.7)	850 (700)
470	471	16 x 16.5 (12.5 x 16)	0.10 (0.11)	1.5 (1.5)	1000 (900)				

WV		63 (1J)				100 (2A)			
Parameter 參數 µF		Case size ØDxL (mm) 尺寸	E.S.R. (Ω) 20°C E.S.R.值	E.S.R. (Ω) -40°C E.S.R.值	Ripple current (mA rms) at 125°C 100KHz 紋波電流	Case size ØDxL (mm) 尺寸	E.S.R. (Ω) 20°C E.S.R.值	E.S.R. (Ω) -40°C E.S.R.值	Ripple current (mA rms) at 125°C 100KHz 紋波電流
10	100	6.3 x 7.7 (8 x 6.2)	2.3 (2.3)	115 (115)	42 (42)	8 x 10.5	1.00	50	53
22	220	8 x 10.5	1.0	50	56	10 x 10.5	0.70	35	63
33	330	10 x 10.5	0.7	35	77	10 x 13.5	0.45	22.5	130
47	470	10 x 13.5	0.45	22.5	150	12.5 x 13.5	0.33	16.5	450
68	680					12.5 x 16	0.26	13	550
100	101	12.5 x 13.5	0.25	12.5	500	16 x 16.5	0.24	12	650
220	221	12.5 x 16	0.20	10	600				
330	331	16 x 16.5	0.18	9	820				

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□ DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT 規格尺寸及最大允許紋波電流

μF	WV Code 代碼	160		200		250		400		450	
		2C		2D		2E		2G		2W	
3.3	3R3									12.5×16	65
4.7	4R7							12.5×13.5	70	16×16.5	85
6.8	6R8							16×16.5	100		
10	100	12.5×13.5	100	12.5×13.5	100	12.5×16	110			Case size 尺寸	Ripple current 紋波電流
22	220	16×16.5	180	16×16.5	180						

• Case size $\varnothing D \times L$ (mm), ripple current (mA rms) at 125°C 120Hz • 尺寸 $\varnothing D \times L$ (mm), 紋波電流 (mA rms) 於 125°C 120Hz

□ FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT 紋波電流頻率補償系數

Frequency 頻率			50Hz	120Hz	1KHz	10KHz~	100KHz~
Coefficient 系數	10~100V	10 ~ 100μF	0.35	0.40	0.75	0.90	1.00
		220 ~ 470μF	0.35	0.50	0.85	0.94	1.00
		680 ~ 2200μF	0.40	0.60	0.85	0.95	1.00

Frequency 頻率		50Hz	120Hz	300Hz	1KHz	10KHz	100KHz~
Coefficient 系數	160~450V	0.75	1.00	1.25	1.50	1.75	1.80

- Taping specifications are given in page 11. 編帶標準請參閱第 11 頁。
- Please refer to page 12 for the minimum package quantity. 最小包裝數量請參閱第 12 頁。

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