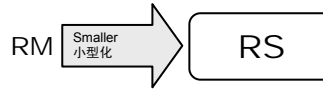


WIDE TEMPERATURE RANGE, HEIGHT 5MM

5MM 高，寬溫品

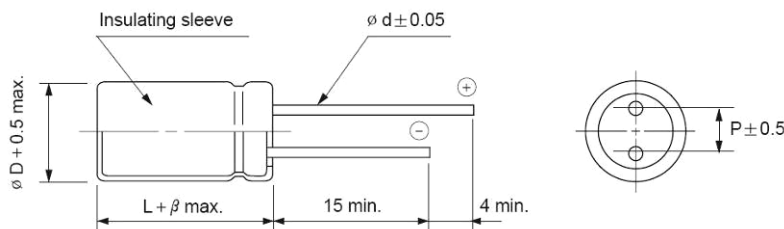
- Super miniature series with 5mm height
5mm 高，超小型系列
- Suitable to replace tantalum capacitors at low cost
可替換價格較高的鉭電容器
- Load life of 1000 hours at 105°C
在 105°C 環境中負荷壽命 1000 小時
- Comply with the RoHS directive
符合 RoHS 指令



□ SPECIFICATIONS 特性表

Items 項目	Characteristics 主要特性																		
Operation Temperature Range 使用溫度範圍	-40 ~ +105°C																		
Voltage Range 額定工作電壓範圍	4 ~ 63V																		
Capacitance Range 靜電容量範圍	0.1 ~ 470µF																		
Capacitance Tolerance 靜電容量允許偏差	±20% at 120Hz, 20°C																		
Leakage Current 漏電流	Leakage current = 0.01CV or 3µA, whichever is greater (after 2 minutes application of rated voltage) 漏電流 = 0.01CV 或 3µA，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 <table border="1"> <tr> <td>Rated Voltage (V) 額定工作電壓</td> <td>4</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>tan δ (max.) 最大損耗角正切</td> <td>0.35</td> <td>0.27</td> <td>0.23</td> <td>0.19</td> <td>0.15</td> <td>0.13</td> <td>0.11</td> </tr> </table>	Rated Voltage (V) 額定工作電壓	4	6.3	10	16	25	35	50	tan δ (max.) 最大損耗角正切	0.35	0.27	0.23	0.19	0.15	0.13	0.11		
Rated Voltage (V) 額定工作電壓	4	6.3	10	16	25	35	50												
tan δ (max.) 最大損耗角正切	0.35	0.27	0.23	0.19	0.15	0.13	0.11												
Stability at Low Temperature 低溫特性	Measurement frequency 測試頻率: 120Hz <table border="1"> <tr> <td>Rated Voltage (V) 額定工作電壓</td> <td>4</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25-50</td> </tr> <tr> <td>Impedance Ratio Z(-25°C) / Z(20°C)</td> <td>7</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> </tr> <tr> <td>阻抗比 Z(-40°C) / Z(20°C)</td> <td>12</td> <td>8</td> <td>5</td> <td>4</td> <td>3</td> </tr> </table>	Rated Voltage (V) 額定工作電壓	4	6.3	10	16	25-50	Impedance Ratio Z(-25°C) / Z(20°C)	7	3	3	2	2	阻抗比 Z(-40°C) / Z(20°C)	12	8	5	4	3
Rated Voltage (V) 額定工作電壓	4	6.3	10	16	25-50														
Impedance Ratio Z(-25°C) / Z(20°C)	7	3	3	2	2														
阻抗比 Z(-40°C) / Z(20°C)	12	8	5	4	3														
Load Life 高溫負荷特性	After 1000 hours application of the rated voltage at 105°C, they meet the characteristics listed below. 在 105°C 環境中施加額定工作電壓 1000 小時後，電容器的特性符合下表的要求。 <table border="1"> <tr> <td>Capacitance Change 靜電容量變化率</td> <td>Within ±25% of initial measured value 初始值的 ±25% 以內</td> </tr> <tr> <td>Dissipation Factor 損耗角正切</td> <td>≤ 200% of initial specified value 不大於規範值的 200%</td> </tr> <tr> <td>Leakage Current 漏電流</td> <td>Initial specified value 不大於規範值</td> </tr> </table>	Capacitance Change 靜電容量變化率	Within ±25% of initial measured value 初始值的 ±25% 以內	Dissipation Factor 損耗角正切	≤ 200% of initial specified value 不大於規範值的 200%	Leakage Current 漏電流	Initial specified value 不大於規範值												
Capacitance Change 靜電容量變化率	Within ±25% of initial measured value 初始值的 ±25% 以內																		
Dissipation Factor 損耗角正切	≤ 200% of initial specified value 不大於規範值的 200%																		
Leakage Current 漏電流	Initial specified value 不大於規範值																		
Shelf Life 高溫貯存特性	After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for load life characteristics listed above. 在 105°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。																		
Marking 標識	Printed with white colour on black sleeve (PVC) or printed with white colour on green and brown (∅3x5) sleeve (PET). 黑色膠管白字印刷 (PVC) 或綠色和褐色 (∅3x5) 膠管白字印刷 (PET)。																		

□ DRAWING (Unit: mm) 外形圖



∅D	3	4	5	6.3	8
p	1.0	1.5	2.0	2.5	3.5
∅d	0.45				
β	1.0				

Note: All design and specifications are for reference only and is subject to change without prior notice. If any doubt about safety for your application, please contact us immediately for technical assistance before purchase.

注：以上所提供的設計及特性參數僅供參考，任何修改不作預先通知。如果在使用上有疑問，請在採購前與我們聯繫，以便提供技術上的協助。

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

μF	WV Code 代碼	4		6.3		10		16		25		35		50	
		0G		0J		1A		1C		1E		1V		1H	
0.1	0R1													3 x 5 (4 x 5)	2.0 (2.4)
0.22	R22													3 x 5 (4 x 5)	3.0 (3.6)
0.33	R33													3 x 5 (4 x 5)	3.7 (4.4)
0.47	R47													3 x 5 (4 x 5)	4.4 (5.2)
0.68	R68													3 x 5 (4 x 5)	5.3 (6.3)
1	010													3 x 5 (4 x 5)	6.4 (7.7)
2.2	2R2													3 x 5 (4 x 5)	9.5 (11)
3.3	3R3											3 x 5 (4 x 5)	9 (11)	4 x 5	14
4.7	4R7									3 x 5 (4 x 5)	10 (12)	4 x 5	13	4 x 5 (5 x 5)	16 (19)
6.8	6R8					3 x 5	11	3 x 5	14	4 x 5	15	4 x 5	17	5 x 5	23
10	100			3 x 5 (4 x 5)	13 (15)	3 x 5 (4 x 5)	14 (17)	3 x 5 (4 x 5)	16 (16)	4 x 5	19	5 x 5	22	6.3 x 5	33
22	220	3 x 5 (4 x 5)	16 (16)	4 x 5	19	3 x 5 (4 x 5)	20 (22)	4 x 5	29	5 x 5	34	5 x 5	36	6.3 x 5	40
33	330	4 x 5	20	4 x 5	23	4 x 5	29	5 x 5	37	5 x 5	45	6.3 x 5	50	8 x 5	58
47	470	4 x 5	24	4 x 5	28	5 x 5	35	5 x 5	46	6.3 x 5	54	6.3 x 5	62	8 x 5	71
68	680	5 x 5	36	5 x 5	46	5 x 5	47	6.3 x 5	52	6.3 x 5	63	8 x 5	105		
100	101	5 x 5	41	5 x 5	50	6.3 x 5	52	6.3 x 5	58	8 x 5	90				
220	221	6.3 x 5	56	6.3 x 5	60	8 x 5	78	8 x 5	86						
330	331	8 x 5	80	8 x 5	86	8 x 5	90								
470	471	8 x 5	88	8 x 5	96										

•Case size $\varnothing D \times L$ (mm), ripple current (mA rms) at 105°C 120Hz •尺寸 $\varnothing D \times L$ (mm), 紋波電流(mA rms)於 105°C 120Hz

- Please refer to page 16, 18 about the formed or taped product spec. 編帶與引線成型標準請參閱第 16, 18 頁。
- Please refer to page 17 for the minimum package quantity. 最小包裝數量請參閱第 17 頁。

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