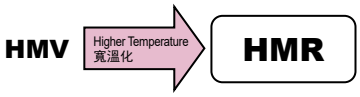
HMR Series

CHIP TYPE, 125°C HIGH TEMPERATURE
貼片式，125°C 高溫品



- Operating with wide temperature range -55~+125°C
  適用於-55~+125°C 的寬溫範圍
- High reliability & high voltage are realized by hybrid electrolyte
  通過混合型電解質，提升高可靠性和高電壓化
- Endurance 4000 hours
  耐久性 4000 小時
- RoHS & REACH compliant, Halogen-free
  符合 RoHS 與 REACH，無鹵
- AEC-Q200 compliant (Please contact us for details)
  符合 AEC-Q200（請與我們聯繫瞭解詳細信息）

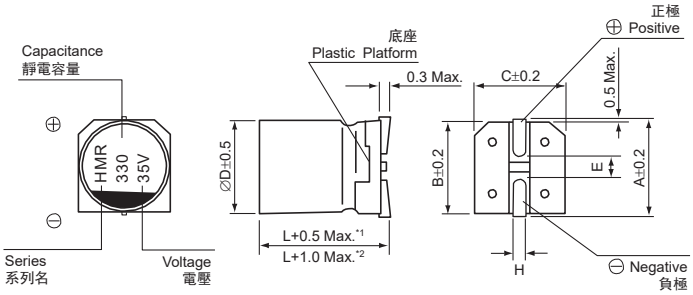




☐ SPECIFICATIONS 特性表

Items 項目	Characteristics 主要特性
Operation Temperature Range 使用温度範圍	-55 ~ +125°C
Voltage Range 額定工作電壓範圍	16 ~ 100V
Capacitance Range 靜電容量範圍	22 ~ 1800μF
Capacitance Tolerance 靜電容量允許偏差	±20% at 120Hz, 20°C
Leakage Current 漏電流	Leakage current ≤0.01CV (after 2 minutes application of rated voltage at 20°C) 漏電流 ≤0.01CV（在 20°C 環境中施加額定工作電壓 2 分鐘後） C: Nominal capacitance (μF) 標稱靜電容量, V: Rated voltage (V) 額定電壓
Dissipation Factor (tan δ) 損耗角正切	≤Specified value at 120Hz, 20°C. ≤規範值（在 20°C 120Hz 環境下）。
ESR 等效串聯電阻	≤Specified value at 100KHz, 20°C. ≤規範值（在 20°C 100KHz 環境下）。
Stability at Low Temperature 低溫特性	Measurement frequency 測試頻率: 100KHz Impedance Ratio 阻抗比 ZT/Z20 (max.): Z(-25°C)/Z(+20°C) ≤2.0; Z(-55°C)/Z(+20°C) ≤2.5
Bias Humidity Test 耐濕負荷特性	When the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C, 85% RH, they meet the characteristics listed below. 在 85°C 和相對濕度 85%環境下施加額定工作電壓 2000 小時並恢復至 20°C 後，電容器的特性符合下表要求。 Capacitance Change 靜電容量變化率: Within ±30% of initial value 為初始值的±30%以內 Dissipation Factor 損耗角正切: 200% or less of initial specified value 不大於規範值的 200% ESR 等效串聯電阻: 200% or less of initial specified value 不大於規範值的 200% Leakage Current 漏電流: Initial specified value or less 不大於規範值 Appearance 外觀: No significant damage 無明顯異常
Endurance 耐久性	When the capacitors are restored to 20°C after 4000 hours application of the rated voltage at 125°C, they meet the characteristics listed below. 在 125°C 環境中施加額定工作電壓 4000 小時後，待電容器恢復至 20°C 時進行測量，電容器的特性符合下表要求。 Capacitance Change 靜電容量變化率: Within ±30% of initial value 為初始值的±30%以內 Dissipation Factor 損耗角正切: 200% or less of initial specified value 不大於規範值的 200% ESR 等效串聯電阻: 200% or less of initial specified value 不大於規範值的 200% Leakage Current 漏電流: Initial specified value or less 不大於規範值
Shelf Life 高溫貯存特性	When the capacitors are restored to 20°C after leaving under no load at 125°C for 1000 hours, they meet the specified value for endurance characteristics listed above. 在 125°C 環境中無負荷放置 1000 小時後，待電容器恢復至 20°C 時進行測量，電容器的特性符合耐久性特性中所列的規定值。
Resistance to Soldering Heat 耐焊接熱特性 (Please refer page 25 for soldering conditions) (焊接條件請查閱第 25 頁)	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 標識	Black print on the case top. 鋁殼頂部黑色字體印刷。

☐ DRAWING 外形圖 (Unit: mm)



*1. Applicable to ∅6.3 and ∅8 | 適用於∅6.3 和∅8
*2. Applicable to ∅10 and above | 適用於∅10 和∅10 以上

Dimension table in next page.
尺寸表見下一頁。

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HMR Series

☐ DIMENSIONS 尺寸表 (Unit: mm)

ØD × L	6.3 × 6	6.3 × 7.7	8 × 10/10.5	8 × 12.5	10 × 10.5	10 × 12.5/12.8	10 × 16.5
A	7.3	7.3	9.0	9.0	11.0	11.0	11.0
B	6.6	6.6	8.3	8.3	10.3	10.3	10.3
C	6.6	6.6	8.3	8.3	10.3	10.3	10.3
E	1.9	1.9	3.1	3.1	4.7	4.7	4.7
L	6.0	7.7	10.0/10.5	12.5	10.5	12.5/12.8	16.5
H	0.5~0.8	0.5~0.8	0.8~1.1	0.8~1.1	0.8~1.1	0.8~1.1	0.8~1.1

☐ DIMENSIONS & STANDARD RATINGS 規格尺寸及標準參數

WV (V) / Parameter 參數 / Cap. 容量 (μF)		16 (1C)					25 (1E)				
		Case size ØD×L (mm) 尺寸	Dissipation factor (tan δ) 損耗角正切	Leakage current (μA) 漏電流	ESR (mΩ) max. 20°C, 100KHz 等效串聯電阻	Ripple current (mA rms) 125°C, 100KHz 紋波電流	Case size ØD×L (mm) 尺寸	Dissipation factor (tan δ) 損耗角正切	Leakage current (μA) 漏電流	ESR (mΩ) max. 20°C, 100KHz 等效串聯電阻	Ripple current (mA rms) 125°C, 100KHz 紋波電流
68	680						6.3 × 6	0.14	17	50	900
100	101	6.3 × 6	0.16	16	45	950	6.3 × 6 (6.3 × 7.7)	0.14 (0.14)	25 (25)	30 (30)	1400 (1400)
150	151	6.3 × 6	0.16	24	45	1080	6.3 × 7.7	0.14	37.5	30	1400
220	221	6.3 × 7.7	0.16	35.2	27	1450	8 × 10	0.14	55	27	1600
270	271	8 × 10	0.16	43.2	22	1700					
330	331						8 × 10 (10 × 10.5)	0.14 (0.14)	82.5 (82.5)	27 (20)	1600 (2000)
470	471	8 × 10 (10 × 10.5)	0.16 (0.16)	75.2 (75.2)	22 (18)	1700 (2100)	8 × 12.5 (10 × 10.5)	0.14 (0.14)	117.5 (117.5)	23 (20)	1900 (2000)
680	681						10 × 12.8	0.14	170	15	2700
820	821	8 × 12.5 (10 × 10.5)	0.16 (0.16)	131.2 (131.2)	20 (18)	1850 (2100)					
1000	102						10 × 16.5	0.14	250	11	4000
1500	152	10 × 12.8	0.16	240	14	3000					
1800	182	10 × 16.5	0.16	288	12	3400					

WV (V) / Parameter 參數 / Cap. 容量 (μF)		35 (1V)					50 (1H)				
		Case size ØD×L (mm) 尺寸	Dissipation factor (tan δ) 損耗角正切	Leakage current (μA) 漏電流	ESR (mΩ) max. 20°C, 100KHz 等效串聯電阻	Ripple current (mA rms) 125°C, 100KHz 紋波電流	Case size ØD×L (mm) 尺寸	Dissipation factor (tan δ) 損耗角正切	Leakage current (μA) 漏電流	ESR (mΩ) max. 20°C, 100KHz 等效串聯電阻	Ripple current (mA rms) 125°C, 100KHz 紋波電流
22	220						6.3 × 6	0.10	11	80	750
27	270						6.3 × 6	0.10	13.5	80	750
33	330						6.3 × 7.7	0.10	16.5	40	1100
47	470	6.3 × 6	0.12	16.45	60	900	6.3 × 7.7	0.10	23.5	40	1150
68	680	6.3 × 7.7	0.12	23.8	35	1400	8 × 10	0.10	34	30	1250
100	101	6.3 × 7.7	0.12	35	35	1400	8 × 10 (10 × 10.5)	0.10 (0.10)	50 (50)	30 (25)	1250 (1600)
120	121						8 × 12.5	0.10	60	28	1400
150	151	6.3 × 7.7 (8 × 10)	0.12 (0.12)	52.5 (52.5)	35 (27)	1400 (1600)	10 × 10.5	0.10	75	25	1600
180	181	8 × 10	0.12	63	27	1600					
220	221	8 × 10.5 (8 × 12.5)	0.12 (0.12)	77 (77)	27 (24)	1600 (1800)	10 × 12.8	0.10	110	23	1800
270	271	10 × 10.5	0.12	94.5	20	2000	10 × 16.5	0.10	135	13	3700
330	331	10 × 10.5	0.12	115.5	20	2000					
470	471	10 × 12.8	0.12	164.5	16	2600					
680	680	10 × 16.5	0.12	238	11	4000					

WV (V) / Parameter 參數 / Cap. 容量 (μF)		63 (1J)					80 (1K)				
		Case size ØD×L (mm) 尺寸	Dissipation factor (tan δ) 損耗角正切	Leakage current (μA) 漏電流	ESR (mΩ) max. 20°C, 100KHz 等效串聯電阻	Ripple current (mA rms) 125°C, 100KHz 紋波電流	Case size ØD×L (mm) 尺寸	Dissipation factor (tan δ) 損耗角正切	Leakage current (μA) 漏電流	ESR (mΩ) max. 20°C, 100KHz 等效串聯電阻	Ripple current (mA rms) 125°C, 100KHz 紋波電流
10	100	6.3 × 6	0.08	6.3	80	900					
22	220	6.3 × 7.7	0.08	13.86	80	900	8 × 10	0.08	17.6	45	1050
33	330	8 × 10	0.08	20.79	40	1100	8 × 10	0.08	26.4	45	1050
47	470	8 × 10	0.08	29.61	40	1100	8 × 12.5 (10 × 10.5)	0.08 (0.08)	37.6 (37.6)	42 (36)	1200 (1200)
56	560	10 × 10.5	0.08	35.28	30	1400	10 × 10.5	0.08	44.8	36	1200
68	680	10 × 10.5	0.08	42.84	30	1400	10 × 12.5	0.08	54.4	33	1350
82	820						10 × 12.8	0.08	65.6	33	1350
100	101	8 × 12.5 (10 × 10.5)	0.08 (0.08)	63 (63)	36 (30)	1300 (1400)	10 × 16.5	0.08	80	20	2200
150	151	10 × 12.8	0.08	94.5	26	1600					
180	181	10 × 16.5	0.08	113.4	15	3500					

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CAT.2026/V2.1

HMR Series

☐ DIMENSIONS & STANDARD RATINGS 規格尺寸及標準參數

WV (V) / Parameter 參數 / Cap. 容量 (μF)		100 (2A)				
Cap. 容量 (μF)	Parameter 參數	Case size ØD×L (mm) 尺寸	Dissipation factor (tan δ) 損耗角正切	Leakage current (μA) 漏電流	ESR (mΩ) max. 20°C, 100KHz 等效串聯電阻	Ripple current (mA rms) 125°C, 100KHz 紋波電流
33	330	10 × 10.5	0.08	33	80	850
47	470	10 × 12.8	0.08	47	60	1050

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

Frequency 頻率	120Hz ≤ f ≤ 1KHz	1KHz ≤ f ≤ 10KHz	10KHz ≤ f ≤ 100KHz	100KHz ≤ f ≤ 300KHz
Coefficient 系數	0.10	0.40	0.70	1.00

- Taping specifications are given in page 19. 編帶標準請查閱第 19 頁。
- Soldering conditions and recommended land size are given in page 25. 焊接條件及推薦安裝尺寸請查閱第 25 頁。
- Please refer to page 20 for the minimum package quantity. 最小包裝數量請查閱第 20 頁。
- Please refer to page 17 for the Part Number System. 產品編碼規則請查閱第 17 頁。

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