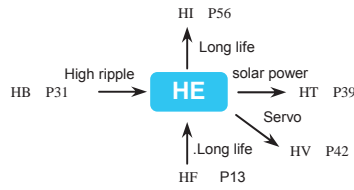


HE 系列 SERIES



- 保证 105℃、3000 小时寿命。(叠加纹波电流)
Endurance with ripple current: 3000 hours at 105℃
- 大纹波电流品。
High Ripple
- 额定工作电压范围：160V~500V
Rated voltage range: 160V-500V
- 适合转换电源及通用变频器等平滑用。
Ideal for switching power and inverter smoothing capacitors.



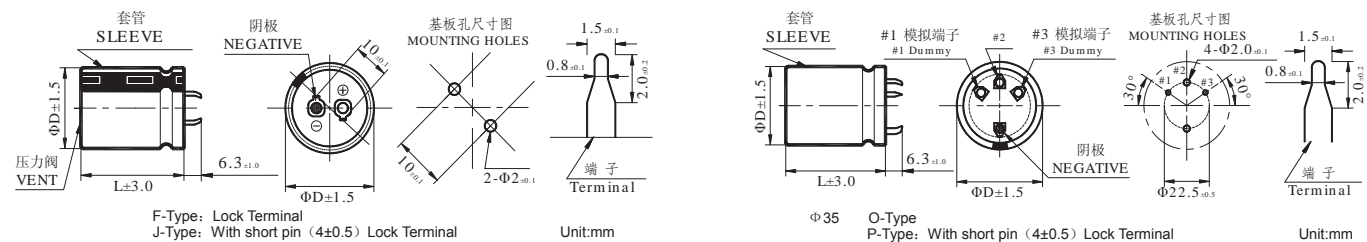
规格表 SPECIFICATIONS

| 项目 Items | 特性 Characteristics | | | | | | | | |
|--|---|------|------|------|------|------|------|------|------|
| 工作温度范围 Operating Temperature Range | -25~+105℃ | | | | | | | | |
| 额定工作电压范围 Rated Working Voltage Range | 160~500V | | | | | | | | |
| 静电容量允许偏差 Capacitance Tolerance | ±20% (20℃, 120Hz) | | | | | | | | |
| 损耗角正切值 Dissipation Factor (MAX) 20℃, 120Hz | U _R (V) | 160 | 200 | 250 | 315 | 350 | 400 | 450 | 500 |
| | tanδ | 0.15 | 0.15 | 0.15 | 0.18 | 0.18 | 0.18 | 0.20 | 0.20 |
| 阻抗比 Impedance Ratio (MAX) 120Hz | U _R (V) | 160 | 200 | 250 | 315 | 350 | 400 | 450 | 500 |
| | Z _{-25℃} /Z _{+20℃} | 4 | 4 | 4 | 7 | 7 | 7 | 8 | 8 |
| 漏电流 Leakage Current (MAX) | I=0.01C _R U _R 或 1.5mA取小者 (20℃, 施加额定电压 2 分钟后) I=0.01C _R U _R or 1.5mA whichever is minimum. (at 20℃, After 2 minutes application of rated voltage) I=漏电流 (µA) U _R =额定电压 (V) C _R =静电容量 (µF) Leakage Current Rated Voltage Rated Capacitance | | | | | | | | |

| | 使用寿命 Useful Life | | 负荷寿命 Load Life | 耐久性特性 Endurance Test | 高温无负荷特性 Shelf Life |
|--|--|---|--|---|---|
| 产品寿命 Life Time | 5000h | >180000h | 3000h | 3000h | 1000h |
| 漏电流 Leakage Current | ≤规定值 ≤Specified value | | ≤规定值 ≤Specified value | ≤规定值 ≤Specified value | ≤规定值 ≤Specified value |
| 损耗角正切值变化率 tanδ change | ≤规定值的 300% ≤300% of specified value | | ≤规定值的 200% ≤200% of specified value | ≤规定值的 200% ≤200% of specified value | ≤规定值的 200% ≤200% of specified value |
| 静电容量变化率 Capacitance Change | 初始值±30%以内 Within±30% of initial value | | 初始值±20%以内 Within±20% of initial value | 初始值±20%以内 Within±20% of initial value | 初始值±20%以内 Within±20% of initial value |
| 施加条件 Condition 施加电压 Applied Voltage 施加纹波电流 Applied Ripple Current 环境温度 Applied Temperature 失效等级 Failure Rate Level | U _R I _R 105℃ ≤1% Failure rate | U _R 1.4×I _R 40℃ ≤1% Failure rate | U _R I _R 105℃ 0% | U _R I _R =0 105℃ 0% | U _R =0 I _R =0 105℃ 0% Back up to 20℃ and placed more than 24 hours. U _R to be applied for 60 min before measurement. |

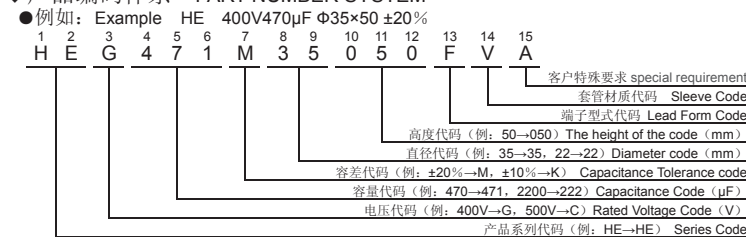
尺寸图 Dimensions

● 常用端子型式代码: Terminal Code



● 记载以外的端子形状, 请另行咨询。Please consult to us for the terminal type not displayed in content.

产品编码体系 PART NUMBER SYSTEM



纹波电流修正系数 Rated Ripple Current Multiplies

| 频率修正系数 Frequency coefficient | | 频率 (Hz) Frequency | | | | |
|--------------------------------|-----------|--------------------|------|------|------|------|
| 电压范围 (v) Rated voltage | 160~250VV | 0.80 | 1.00 | 1.17 | 1.32 | 1.45 |
| | 315~500VV | 0.80 | 1.00 | 1.16 | 1.30 | 1.42 |
| 温度修正系数 Temperature coefficient | | 温度 (℃) Temperature | | | | |
| 电压范围 (v) Rated voltage | 160~500VV | +40 | +55 | +70 | +85 | +105 |
| | | 2.7 | 2.5 | 2.1 | 1.7 | 1.0 |

HE 系列 SERIES

◆ 产品一览表 Standard Ratings

| WV _{DC} (Surge Voltage) (V) | Cap (μF) | Size D×L (mm) | tanδ 20°C 120Hz | Ripple Current 105°C 120Hz (Arms) | Catalog Part Number |
|--|-------------|---------------------|--------------------|---|---------------------|
| 160 (200) | 330 | 22×25 | 0.15 | 1.70 | HEN331M22025□VA |
| | 390 | 25×25 | 0.15 | 1.80 | HEN391M25025□VA |
| | 470 | 22×35 | 0.15 | 2.00 | HEN471M22035□VA |
| | 560 | 22×35 | 0.15 | 2.50 | HEN561M22035□VA |
| | 560 | 25×30 | 0.15 | 2.40 | HEN561M25030□VA |
| | 560 | 30×25 | 0.15 | 2.30 | HEN561M30025□VA |
| | 680 | 22×40 | 0.15 | 2.80 | HEN681M22040□VA |
| | 680 | 25×35 | 0.15 | 2.70 | HEN681M25035□VA |
| | 820 | 22×50 | 0.15 | 3.00 | HEN821M22050□VA |
| | 820 | 25×40 | 0.15 | 2.90 | HEN821M25040□VA |
| | 820 | 30×30 | 0.15 | 3.10 | HEN821M30030□VA |
| | 820 | 35×25 | 0.15 | 3.00 | HEN821M35025□VA |
| | 1000 | 25×45 | 0.15 | 3.50 | HEN102M25045□VA |
| | 1000 | 30×35 | 0.15 | 3.60 | HEN102M30035□VA |
| | 1000 | 35×30 | 0.15 | 3.50 | HEN102M35030□VA |
| | 1200 | 25×50 | 0.15 | 3.90 | HEN122M25050□VA |
| | 1200 | 30×40 | 0.15 | 4.00 | HEN122M30040□VA |
| | 1200 | 35×35 | 0.15 | 3.80 | HEN122M35035□VA |
| | 1500 | 30×45 | 0.15 | 4.60 | HEN152M30045□VA |
| | 1500 | 35×40 | 0.15 | 4.50 | HEN152M35040□VA |
| 1800 | 35×45 | 0.15 | 4.60 | HEN182M35045□VA | |
| 2200 | 35×40 | 0.15 | 6.10 | HEN222M35040□VA | |
| 200 (250) | 220 | 22×25 | 0.15 | 1.30 | HEL221M22025□VA |
| | 270 | 22×25 | 0.15 | 1.37 | HEL271M22025□VA |
| | 330 | 22×30 | 0.15 | 1.60 | HEL331M22030□VA |
| | 330 | 25×25 | 0.15 | 1.60 | HEL331M25025□VA |
| | 390 | 22×30 | 0.15 | 1.65 | HEL391M22030□VA |
| | 470 | 22×35 | 0.15 | 1.75 | HEL471M22035□VA |
| | 470 | 25×30 | 0.15 | 1.75 | HEL471M25030□VA |
| | 470 | 30×25 | 0.15 | 1.80 | HEL471M30025□VA |
| | 560 | 22×45 | 0.15 | 1.85 | HEL561M22045□VA |
| | 560 | 25×35 | 0.15 | 1.85 | HEL561M25035□VA |
| | 680 | 22×50 | 0.15 | 1.88 | HEL681M22050□VA |
| | 680 | 25×40 | 0.15 | 2.12 | HEL681M25040□VA |
| | 680 | 30×30 | 0.15 | 2.12 | HEL681M30030□VA |
| | 680 | 35×25 | 0.15 | 2.40 | HEL681M35025□VA |
| | 820 | 25×45 | 0.15 | 2.40 | HEL821M25045□VA |
| | 820 | 30×35 | 0.15 | 2.40 | HEL821M30035□VA |
| | 820 | 35×30 | 0.15 | 2.60 | HEL821M35030□VA |
| | 1000 | 30×40 | 0.15 | 2.60 | HEL102M30040□VA |
| | 1000 | 35×35 | 0.15 | 2.60 | HEL102M35035□VA |
| | 1200 | 30×45 | 0.15 | 2.95 | HEL122M30045□VA |
| 1200 | 35×40 | 0.15 | 2.95 | HEL122M35040□VA | |
| 1500 | 35×40 | 0.15 | 3.65 | HEL152M35040□VA | |
| 1800 | 35×45 | 0.15 | 4.20 | HEL182M35045□VA | |
| 2200 | 35×50 | 0.15 | 4.70 | HEL222M35050□VA | |
| 250 (300) | 180 | 22×25 | 0.15 | 1.20 | HEJ181M22025□VA |
| | 220 | 22×30 | 0.15 | 1.40 | HEJ221M22030□VA |
| | 220 | 25×25 | 0.15 | 1.40 | HEJ221M25025□VA |
| | 270 | 22×35 | 0.15 | 1.45 | HEJ271M22035□VA |
| | 330 | 22×40 | 0.15 | 1.50 | HEJ331M22040□VA |
| | 330 | 25×30 | 0.15 | 1.65 | HEJ331M25030□VA |
| | 330 | 30×25 | 0.15 | 1.55 | HEJ331M30025□VA |
| | 390 | 22×45 | 0.15 | 1.60 | HEJ391M22045□VA |
| | 390 | 25×35 | 0.15 | 1.65 | HEJ391M25035□VA |
| | 470 | 22×50 | 0.15 | 1.85 | HEJ471M22050□VA |
| | 470 | 30×30 | 0.15 | 1.85 | HEJ471M30030□VA |
| | 470 | 35×25 | 0.15 | 1.85 | HEJ471M35025□VA |

| WV _{DC} (Surge Voltage) (V) | Cap (μF) | Size D×L (mm) | tanδ 20°C 120Hz | Ripple Current 105°C 120Hz (Arms) | Catalog Part Number | |
|--|--------------|---------------------|--------------------|---|---------------------|-----------------|
| 250 (300) | 560 | 25×45 | 0.15 | 2.05 | HEJ561M25045□VA | |
| | 560 | 30×35 | 0.15 | 2.05 | HEJ561M30035□VA | |
| | 560 | 35×30 | 0.15 | 2.05 | HEJ561M35030□VA | |
| | 680 | 25×50 | 0.15 | 2.40 | HEJ681M25050□VA | |
| | 680 | 30×40 | 0.15 | 2.40 | HEJ681M30040□VA | |
| | 820 | 30×45 | 0.15 | 2.70 | HEJ821M30045□VA | |
| | 820 | 30×50 | 0.15 | 2.70 | HEJ821M30050□VA | |
| | 1000 | 30×50 | 0.15 | 3.10 | HEJ102M30050□VA | |
| | 1000 | 35×40 | 0.15 | 3.10 | HEJ102M35040□VA | |
| | 1200 | 35×45 | 0.15 | 3.50 | HEJ122M35045□VA | |
| | 1500 | 35×50 | 0.15 | 4.00 | HEJ152M35050□VA | |
| | 350 (400) | 68 | 22×25 | 0.18 | 0.90 | HEH680M22025□VA |
| | | 100 | 22×30 | 0.18 | 1.07 | HEH101M22030□VA |
| | | 100 | 25×25 | 0.18 | 1.07 | HEH101M25025□VA |
| | | 120 | 22×35 | 0.18 | 1.10 | HEH121M22035□VA |
| 150 | | 22×40 | 0.18 | 1.18 | HEH151M22040□VA | |
| 150 | | 25×30 | 0.18 | 1.22 | HEH151M25030□VA | |
| 150 | | 30×25 | 0.18 | 1.22 | HEH151M30025□VA | |
| 180 | | 22×45 | 0.18 | 1.31 | HEH181M22045□VA | |
| 180 | | 25×35 | 0.18 | 1.31 | HEH181M25035□VA | |
| 180 | | 30×30 | 0.18 | 1.32 | HEH181M30030□VA | |
| 220 | | 22×50 | 0.18 | 1.36 | HEH221M22050□VA | |
| 220 | | 25×40 | 0.18 | 1.40 | HEH221M25040□VA | |
| 220 | | 35×25 | 0.18 | 1.40 | HEH221M35025□VA | |
| 270 | | 25×50 | 0.18 | 1.46 | HEH271M25050□VA | |
| 270 | | 30×35 | 0.18 | 1.51 | HEH271M30035□VA | |
| 270 | 35×30 | 0.18 | 1.46 | HEH271M35030□VA | | |
| 330 | 30×45 | 0.18 | 1.65 | HEH331M30045□VA | | |
| 330 | 35×35 | 0.18 | 1.65 | HEH331M35035□VA | | |
| 390 | 30×50 | 0.18 | 1.78 | HEH391M30050□VA | | |
| 390 | 35×40 | 0.18 | 1.78 | HEH391M35040□VA | | |
| 470 | 35×45 | 0.18 | 1.89 | HEH471M35045□VA | | |
| 560 | 35×50 | 0.18 | 2.09 | HEH561M35050□VA | | |
| 400 (450) | 68 | 22×25 | 0.18 | 0.68 | HEG680M22025□VA | |
| | 82 | 22×30 | 0.18 | 0.77 | HEG820M22030□VA | |
| | 82 | 25×25 | 0.18 | 0.76 | HEG820M25025□VA | |
| | 100 | 22×35 | 0.18 | 0.85 | HEG101M22035□VA | |
| | 100 | 25×25 | 0.18 | 0.85 | HEG101M25025□VA | |
| | 120 | 22×35 | 0.18 | 0.91 | HEG121M22035□VA | |
| | 120 | 25×30 | 0.18 | 0.91 | HEG121M25030□VA | |
| | 120 | 30×25 | 0.18 | 0.91 | HEG121M30025□VA | |
| | 150 | 22×40 | 0.18 | 1.05 | HEG151M22040□VA | |
| | 150 | 25×35 | 0.18 | 1.05 | HEG151M25035□VA | |
| | 150 | 30×25 | 0.18 | 1.05 | HEG151M30025□VA | |
| | 180 | 22×50 | 0.18 | 1.20 | HEG181M22050□VA | |
| | 180 | 25×40 | 0.18 | 1.20 | HEG181M25040□VA | |
| | 180 | 30×30 | 0.18 | 1.20 | HEG181M30030□VA | |
| | 180 | 35×25 | 0.18 | 1.20 | HEG181M35025□VA | |
| 220 | 25×45 | 0.18 | 1.40 | HEG221M25045□VA | | |
| 220 | 30×35 | 0.18 | 1.40 | HEG221M30035□VA | | |
| 220 | 35×30 | 0.18 | 1.40 | HEG221M35030□VA | | |
| 270 | 25×50 | 0.18 | 1.55 | HEG271M25050□VA | | |
| 270 | 30×40 | 0.18 | 1.55 | HEG271M30040□VA | | |
| 270 | 35×30 | 0.18 | 1.55 | HEG271M35030□VA | | |
| 330 | 30×45 | 0.18 | 1.80 | HEG331M30045□VA | | |
| 330 | 35×35 | 0.18 | 1.80 | HEG331M35035□VA | | |
| 390 | 30×50 | 0.18 | 2.00 | HEG391M30050□VA | | |
| 390 | 35×40 | 0.18 | 2.00 | HEG391M35040□VA | | |

*产品编码中□内为产品端子引出型式代码
*□Enter the appropriate terminal code

HE 系列 SERIES

◆ 产品一览表 Standard Ratings

| WV _{DC} (Surge Voltage) (V) | Cap (μ F) | Size D \times L (mm) | $\tan\delta$ 20 $^{\circ}$ C 120Hz | Ripple Current 105 $^{\circ}$ C 120Hz (Arms) | Catalog Part Number |
|--|-------------------|------------------------------|---------------------------------------|---|---------------------|
| 400 (450) | 470 | 35 \times 45 | 0.18 | 2.30 | HEG471M35045□VA |
| | 470 | 35 \times 50 | 0.18 | 2.30 | HEG471M35050□VA |
| | 560 | 35 \times 50 | 0.18 | 2.50 | HEG561M35050□VA |
| 450 (500) | 56 | 22 \times 25 | 0.20 | 0.70 | HEE560M22025□VA |
| | 68 | 22 \times 30 | 0.20 | 0.80 | HEE680M22030□VA |
| | 82 | 22 \times 35 | 0.20 | 0.85 | HEE820M22035□VA |
| | 100 | 22 \times 35 | 0.20 | 0.92 | HEE101M22035□VA |
| | 100 | 25 \times 30 | 0.20 | 0.92 | HEE101M25030□VA |
| | 100 | 30 \times 25 | 0.20 | 0.92 | HEE101M30025□VA |
| | 120 | 22 \times 45 | 0.20 | 1.00 | HEE121M22045□VA |
| | 120 | 25 \times 35 | 0.20 | 1.00 | HEE121M25035□VA |
| | 150 | 22 \times 50 | 0.20 | 1.15 | HEE151M22050□VA |
| | 150 | 25 \times 40 | 0.20 | 1.15 | HEE151M25040□VA |
| | 150 | 30 \times 30 | 0.20 | 1.15 | HEE151M30030□VA |
| | 150 | 35 \times 25 | 0.20 | 1.15 | HEE151M35025□VA |
| | 180 | 25 \times 45 | 0.20 | 1.25 | HEE181M25045□VA |
| | 180 | 30 \times 35 | 0.20 | 1.25 | HEE181M30035□VA |
| | 220 | 25 \times 50 | 0.20 | 1.50 | HEE221M25050□VA |
| | 220 | 30 \times 40 | 0.20 | 1.50 | HEE221M30040□VA |
| | 220 | 35 \times 30 | 0.20 | 1.50 | HEE221M35030□VA |
| | 270 | 30 \times 45 | 0.20 | 1.70 | HEE271M30045□VA |
| | 270 | 35 \times 35 | 0.20 | 1.70 | HEE271M35035□VA |
| | 330 | 30 \times 50 | 0.20 | 2.10 | HEE331M30050□VA |

| WV _{DC} (Surge Voltage) (V) | Cap (μ F) | Size D \times L (mm) | $\tan\delta$ 20 $^{\circ}$ C 120Hz | Ripple Current 105 $^{\circ}$ C 120Hz (Arms) | Catalog Part Number |
|--|-------------------|------------------------------|---------------------------------------|---|---------------------|
| 450 (500) | 330 | 35 \times 40 | 0.20 | 2.10 | HEE331M35040□VA |
| | 390 | 35 \times 45 | 0.20 | 2.10 | HEE391M35045□VA |
| | 470 | 35 \times 50 | 0.20 | 2.40 | HEE471M35050□VA |
| 500 (550) | 100 | 22 \times 45 | 0.20 | 0.82 | HEC101M22045□VA |
| | 100 | 25 \times 40 | 0.20 | 0.82 | HEC101M25040□VA |
| | 100 | 30 \times 30 | 0.20 | 0.82 | HEC101M30030□VA |
| | 120 | 22 \times 50 | 0.20 | 0.91 | HEC121M22050□VA |
| | 120 | 25 \times 40 | 0.20 | 0.89 | HEC121M25040□VA |
| | 120 | 30 \times 35 | 0.20 | 0.93 | HEC121M30035□VA |
| | 120 | 35 \times 30 | 0.20 | 0.91 | HEC121M35030□VA |
| | 150 | 25 \times 45 | 0.20 | 1.01 | HEC151M25045□VA |
| | 150 | 30 \times 40 | 0.20 | 1.05 | HEC151M30040□VA |
| | 150 | 35 \times 35 | 0.20 | 1.08 | HEC151M35035□VA |
| | 180 | 25 \times 50 | 0.20 | 1.06 | HEC181M25050□VA |
| | 180 | 30 \times 45 | 0.20 | 1.11 | HEC181M30045□VA |
| | 220 | 30 \times 50 | 0.20 | 1.27 | HEC221M30050□VA |
| | 220 | 35 \times 40 | 0.20 | 1.24 | HEC221M35040□VA |
| | 270 | 30 \times 50 | 0.20 | 1.46 | HEC271M30050□VA |
| | 270 | 35 \times 40 | 0.20 | 1.43 | HEC271M35040□VA |
| | 330 | 35 \times 45 | 0.20 | 1.61 | HEC331M35045□VA |
| | 390 | 35 \times 50 | 0.20 | 1.79 | HEC391M35050□VA |
| | 470 | 35 \times 60 | 0.20 | 2.04 | HEC471M35060□VA |
| | 560 | 35 \times 70 | 0.20 | 2.38 | HEC561M35070□VA |

*产品编码中□内为产品端子引出型式代码

*□Enter the appropriate terminal code

*记载之外的体积，请另行咨询。

* Please consult to us for the terminal type not displayed in content.

*铝电解电容器由于承受纹波电流而发热，随着温升而发生性能劣化，每升高5 $^{\circ}$ C寿命减少一半。请在使用中降低产品承受的纹波电流。Aluminum electrolytic capacitor will emit heat when ripple current is applied, the performance will deteriorate when temp. rises. the useful life will be half of original life when temp rises every 5 $^{\circ}$ C. Please reduce the ripple current when using capacitor.