

# DC - Link 金属化薄膜电容器 DKMJ - S series



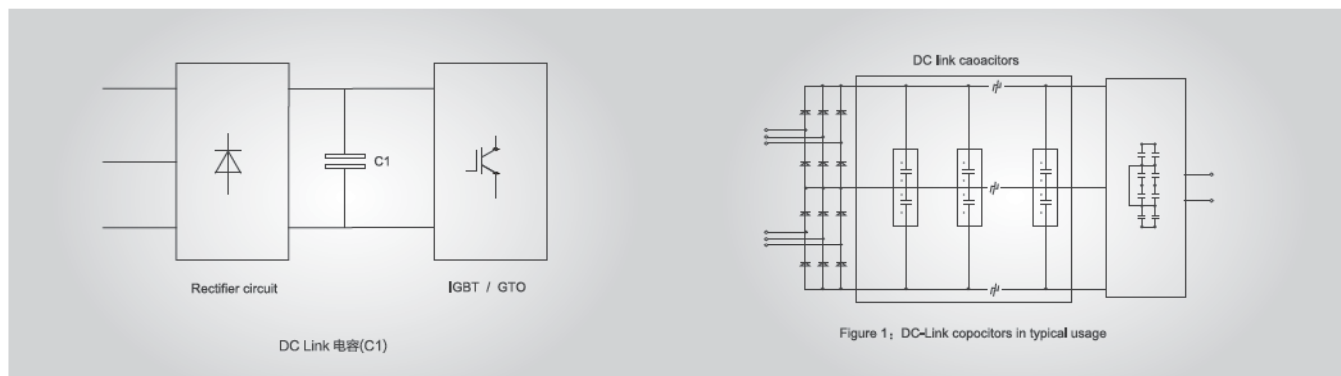
## 应用

- 广泛应用于DC - Link电路中，作滤波储能用。
- 能替代电解电容，性能更优，寿命更长。
- 光伏逆变器，风电变流器；各种变频器及逆变电源；纯电动及混合动力汽车；SVG，SVC等各类电能质量管理设备。

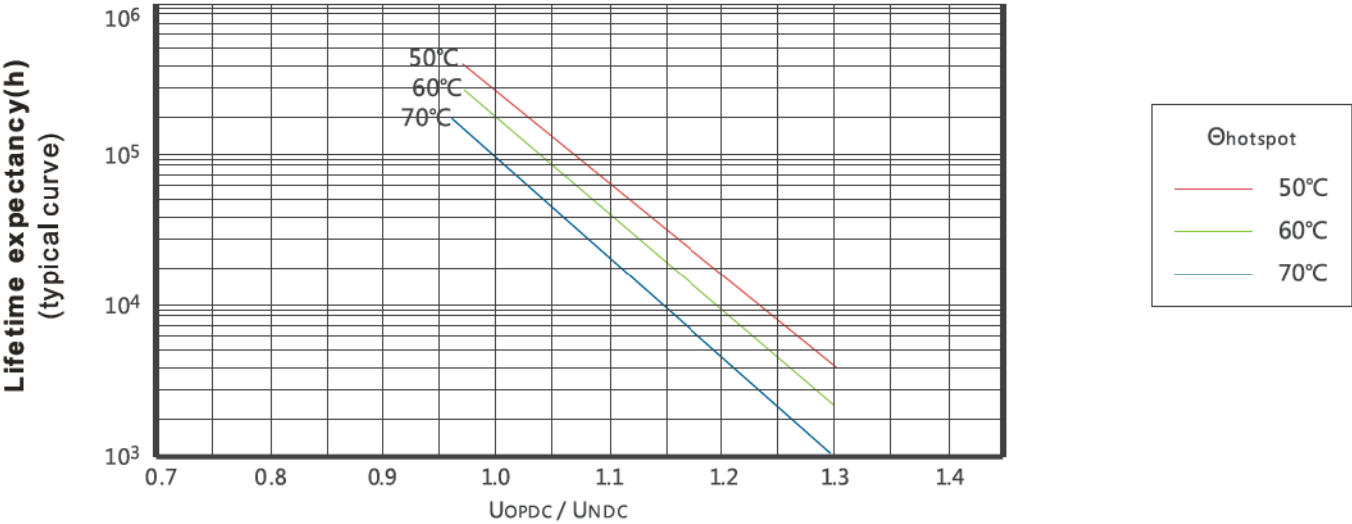
## Application

- Widely used in DC - Link circuit for filtering energy storage.
- Can replace electrolytic capacitors, better performance and longer life.
- Pv inverter, wind power converter; All kinds of frequency converter and inverter power supply; Pure electric and hybrid cars; SVG, SVC devices and other kinds of power quality management.

## 典型线路图 A typical circuit diagram



预期寿命曲线图 Life expectancy in the graph



性能参数 Technical data

|                                             |                                                                                                                          |                                                         |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| 工作温度范围 / Operating temperature range        | Max.Operating temperature„Top,max : + 70°C<br>Upper category temperature : + 60°C<br>Lower category temperature : - 40°C |                                                         |
| 容量范围 ( C <sub>N</sub> ) / Capacitance range | 100μF ~ 20000μF                                                                                                          |                                                         |
| 额定电压 ( U <sub>N</sub> ) / Rated voltage     | 600V.DC ~ 4000V.DC                                                                                                       |                                                         |
| 容量偏差 / Cap.tol                              | ± 5% ( J ) ; ± 10% ( K )                                                                                                 |                                                         |
| 耐电压 / Withstand voltage                     | Vt - t                                                                                                                   | 1.5U <sub>N</sub> DC / 60S                              |
|                                             | Vt - c                                                                                                                   | 1000+2×U <sub>N</sub> /√2 ( V.AC ) 60S ( min 3000V.AC ) |
| 过电压 / Over voltage                          | 1.1U <sub>N</sub> ( 30% of on - load - dur. )                                                                            |                                                         |
|                                             | 1.15U <sub>N</sub> ( 30min / day )                                                                                       |                                                         |
|                                             | 1.2U <sub>N</sub> ( 5min / day )                                                                                         |                                                         |
|                                             | 1.3U <sub>N</sub> ( 1min / day )                                                                                         |                                                         |
|                                             | 1.5U <sub>N</sub> ( 100ms every time , 1000times during the lifetime )                                                   |                                                         |
| 损耗角正切 / Dissipation factor                  | tgδ ≤ 0.003 f = 100Hz                                                                                                    |                                                         |
|                                             | 介质损耗 tgδ <sub>0</sub> ≤ 0.0002                                                                                           |                                                         |
| 绝缘电阻 / Insulation resistance                | ( 内置放电电阻 ) ( 实测 )                                                                                                        |                                                         |
| 耐脉冲电流冲击 / Withstand strike current          | 具体见规格表                                                                                                                   |                                                         |
| 有效电流 / Irms                                 | 具体见规格表                                                                                                                   |                                                         |
| 杂散电感 / ESL                                  | < 150 nH                                                                                                                 |                                                         |
| 阻燃性 / Flame retardation                     | UL94V - 0                                                                                                                |                                                         |



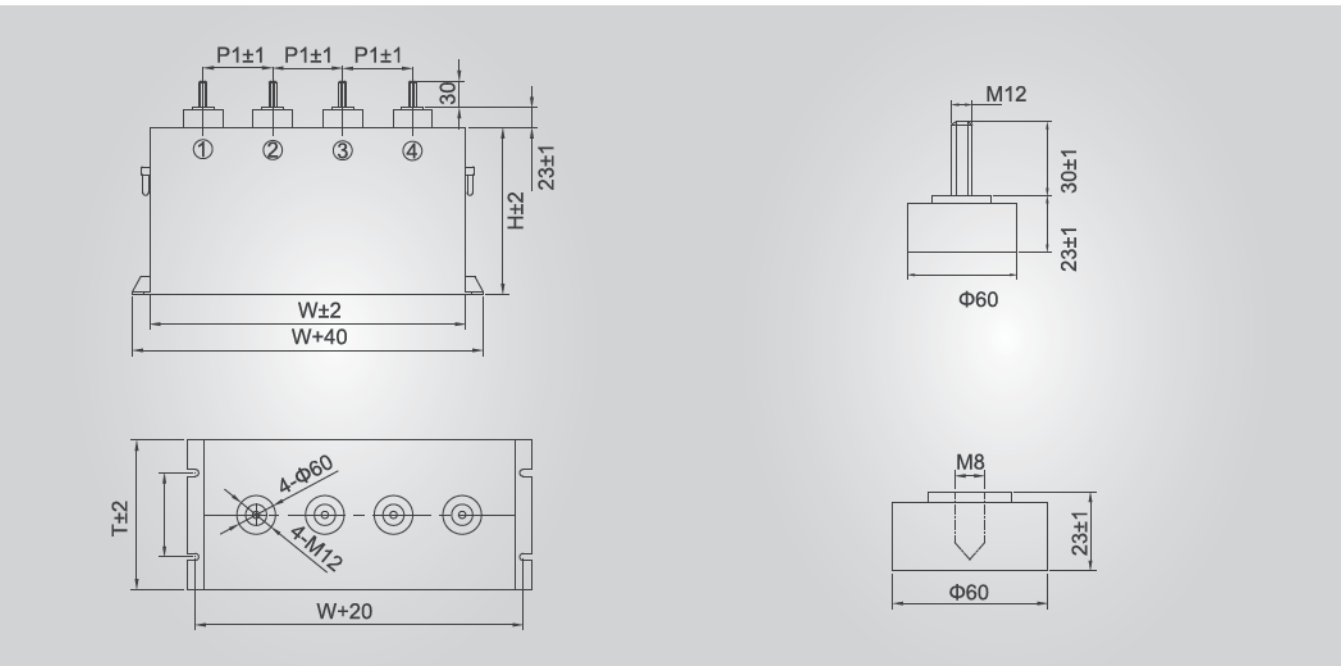
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## 性能参数 Technical data

续上表

|                             |                                                              |
|-----------------------------|--------------------------------------------------------------|
| 最高使用海拔高度 / Maximum altitude | 2000m<br>海拔高度2000m以上至5000m以内，需考虑降额使用，（每增加1000m，电压及电流降额10%使用） |
| 预期寿命 / Life expectancy      | 100000h ( $U_N$ ; $\Theta_{hotspot} \leq 70^\circ C$ )       |
| 引用标准 / Reference standard   | IEC61071 ; IEC61881                                          |

## 外形图 The contour map



## 规格表 The contour map

| $C_N$<br>( $\mu F$ )                                                          | W<br>(mm) | T<br>(mm) | H<br>(mm) | $dv/dt$<br>(V/ $\mu S$ ) | $I_p$<br>(KA) | $I_{rms}$<br>@10KHz50°C<br>(A) | ESR<br>@1KHz<br>(m $\Omega$ ) | $R_{th}$<br>(K/W) | Weight $\approx$<br>(Kg) |
|-------------------------------------------------------------------------------|-----------|-----------|-----------|--------------------------|---------------|--------------------------------|-------------------------------|-------------------|--------------------------|
| <b><math>U_N</math> 800V.DC <math>U_s</math> 1200V <math>U_r</math> 200V</b>  |           |           |           |                          |               |                                |                               |                   |                          |
| 4000                                                                          | 340       | 125       | 190       | 5                        | 20.0          | 120                            | 1.1                           | 0.9               | 17.6                     |
| 8000                                                                          | 340       | 125       | 350       | 4                        | 32.0          | 180                            | 0.72                          | 0.6               | 31.2                     |
| 6000                                                                          | 420       | 125       | 245       | 5                        | 30.0          | 150                            | 0.95                          | 0.7               | 26.4                     |
| 10000                                                                         | 420       | 125       | 360       | 4                        | 40.0          | 200                            | 0.72                          | 0.5               | 39.2                     |
| 12000                                                                         | 420       | 235       | 245       | 4                        | 48.0          | 250                            | 0.9                           | 0.3               | 49.6                     |
| 20000                                                                         | 420       | 235       | 360       | 3                        | 60.0          | 300                            | 0.6                           | 0.3               | 73.6                     |
| <b><math>U_N</math> 1200V.DC <math>U_s</math> 1800V <math>U_r</math> 300V</b> |           |           |           |                          |               |                                |                               |                   |                          |
| 3300                                                                          | 340       | 125       | 245       | 8                        | 26.4          | 150                            | 0.95                          | 0.7               | 22.4                     |
| 5000                                                                          | 420       | 125       | 300       | 7                        | 35.0          | 180                            | 0.8                           | 0.6               | 32.8                     |
| 7500                                                                          | 420       | 125       | 430       | 5.5                      | 41.3          | 200                            | 0.66                          | 0.6               | 44.8                     |
| 5000                                                                          | 340       | 235       | 190       | 8                        | 40.0          | 200                            | 1.1                           | 0.3               | 32.8                     |
| 10000                                                                         | 340       | 235       | 350       | 6                        | 60.0          | 250                            | 0.8                           | 0.3               | 58.4                     |



规格表 Specification table

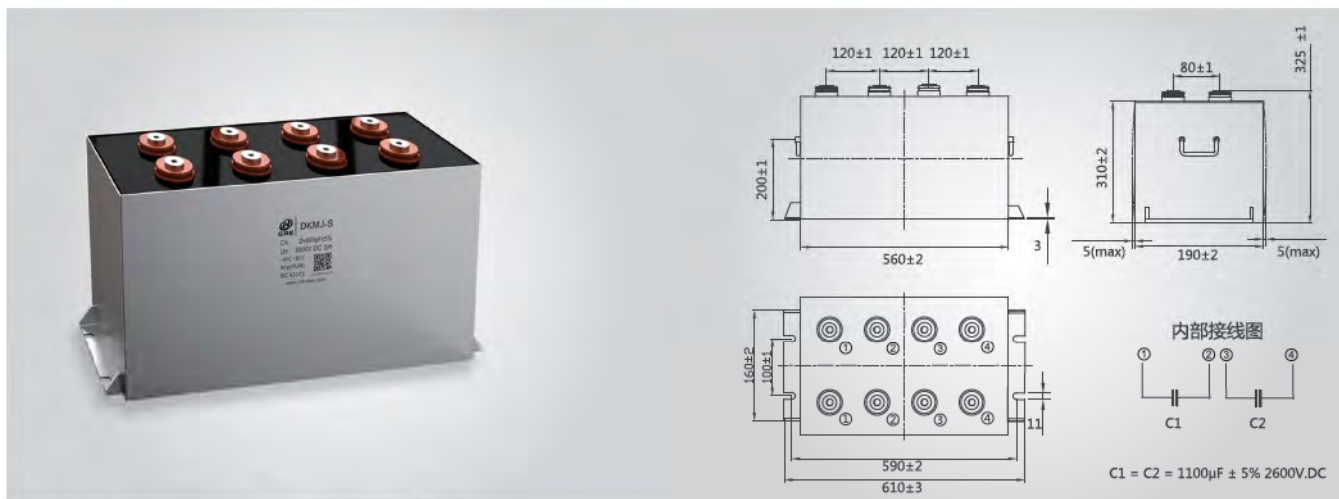
续上表

| C <sub>N</sub><br>( $\mu$ F)                                      | W<br>(mm) | T<br>(mm) | H<br>(mm) | dv/dt<br>(V/ $\mu$ S) | I <sub>p</sub><br>(KA) | I <sub>rms</sub><br>@10KHz50°C<br>(A) | ESR<br>@1KHz<br>(m $\Omega$ ) | R <sub>th</sub><br>(K/W) | Weight $\approx$<br>(Kg) |
|-------------------------------------------------------------------|-----------|-----------|-----------|-----------------------|------------------------|---------------------------------------|-------------------------------|--------------------------|--------------------------|
| U <sub>N</sub> 1200V.DC U <sub>s</sub> 1800V U <sub>r</sub> 300V  |           |           |           |                       |                        |                                       |                               |                          |                          |
| 5000                                                              | 420       | 235       | 175       | 8                     | 40.0                   | 200                                   | 1                             | 0.4                      | 36                       |
| 7500                                                              | 420       | 235       | 245       | 7                     | 52.5                   | 250                                   | 0.9                           | 0.3                      | 49.6                     |
| 10000                                                             | 420       | 235       | 300       | 7                     | 70.0                   | 250                                   | 0.8                           | 0.3                      | 61.6                     |
| 15000                                                             | 420       | 235       | 430       | 5                     | 75.0                   | 300                                   | 0.6                           | 0.3                      | 84                       |
| U <sub>N</sub> 1500V.DC U <sub>s</sub> 2250V U <sub>r</sub> 450V  |           |           |           |                       |                        |                                       |                               |                          |                          |
| 1200                                                              | 340       | 125       | 190       | 10                    | 12.0                   | 120                                   | 1.1                           | 0.9                      | 17.6                     |
| 3000                                                              | 340       | 125       | 420       | 8                     | 24.0                   | 180                                   | 0.66                          | 0.7                      | 37.6                     |
| 2000                                                              | 420       | 125       | 245       | 10                    | 20.0                   | 150                                   | 0.95                          | 0.7                      | 26.4                     |
| 4000                                                              | 420       | 125       | 430       | 8                     | 32.0                   | 200                                   | 0.66                          | 0.6                      | 44.8                     |
| 5000                                                              | 340       | 235       | 350       | 8                     | 40.0                   | 250                                   | 0.8                           | 0.3                      | 58.4                     |
| 4000                                                              | 420       | 235       | 245       | 10                    | 40.0                   | 250                                   | 0.9                           | 0.3                      | 49.6                     |
| 8000                                                              | 420       | 235       | 430       | 8                     | 64.0                   | 300                                   | 0.6                           | 0.3                      | 84                       |
| U <sub>N</sub> 2000V.DC U <sub>s</sub> 3000V U <sub>r</sub> 600V  |           |           |           |                       |                        |                                       |                               |                          |                          |
| 1000                                                              | 340       | 125       | 245       | 12                    | 12.0                   | 150                                   | 0.95                          | 0.7                      | 22.4                     |
| 1500                                                              | 340       | 125       | 350       | 10                    | 15.0                   | 180                                   | 0.72                          | 0.6                      | 31.2                     |
| 2000                                                              | 420       | 125       | 360       | 10                    | 20.0                   | 200                                   | 0.72                          | 0.5                      | 39.2                     |
| 2400                                                              | 420       | 125       | 430       | 9                     | 21.6                   | 200                                   | 0.66                          | 0.6                      | 44.8                     |
| 3200                                                              | 340       | 235       | 350       | 10                    | 32.0                   | 250                                   | 0.8                           | 0.3                      | 46.4                     |
| 4000                                                              | 420       | 235       | 360       | 10                    | 40.0                   | 280                                   | 0.7                           | 0.3                      | 58.4                     |
| 4800                                                              | 420       | 235       | 430       | 9                     | 43.2                   | 300                                   | 0.6                           | 0.3                      | 67.2                     |
| U <sub>N</sub> 2200V.DC U <sub>s</sub> 3300V U <sub>r</sub> 600V  |           |           |           |                       |                        |                                       |                               |                          |                          |
| 2000                                                              | 420       | 235       | 245       | 12                    | 24.0                   | 150                                   | 0.9                           | 0.7                      | 40                       |
| 2750                                                              | 420       | 235       | 300       | 10                    | 27.5                   | 200                                   | 0.8                           | 0.5                      | 49.6                     |
| 3500                                                              | 420       | 235       | 360       | 10                    | 35.0                   | 200                                   | 0.7                           | 0.5                      | 58.4                     |
| U <sub>N</sub> 3000V.DC U <sub>s</sub> 4500V U <sub>r</sub> 800V  |           |           |           |                       |                        |                                       |                               |                          |                          |
| 1050                                                              | 420       | 235       | 245       | 20                    | 21.0                   | 150                                   | 0.9                           | 0.7                      | 40                       |
| 1400                                                              | 420       | 235       | 300       | 15                    | 21.0                   | 200                                   | 0.8                           | 0.5                      | 49.6                     |
| 1800                                                              | 420       | 235       | 360       | 15                    | 27.0                   | 200                                   | 0.7                           | 0.5                      | 58.4                     |
| U <sub>N</sub> 4000V.DC U <sub>s</sub> 6000V U <sub>r</sub> 1000V |           |           |           |                       |                        |                                       |                               |                          |                          |
| 600                                                               | 420       | 235       | 245       | 20                    | 12.0                   | 150                                   | 0.9                           | 0.7                      | 40                       |
| 800                                                               | 420       | 235       | 300       | 20                    | 16.0                   | 200                                   | 0.8                           | 0.5                      | 49.6                     |
| 1000                                                              | 420       | 235       | 360       | 20                    | 20.0                   | 200                                   | 0.7                           | 0.5                      | 58.4                     |

可依照客户需求定制产品。



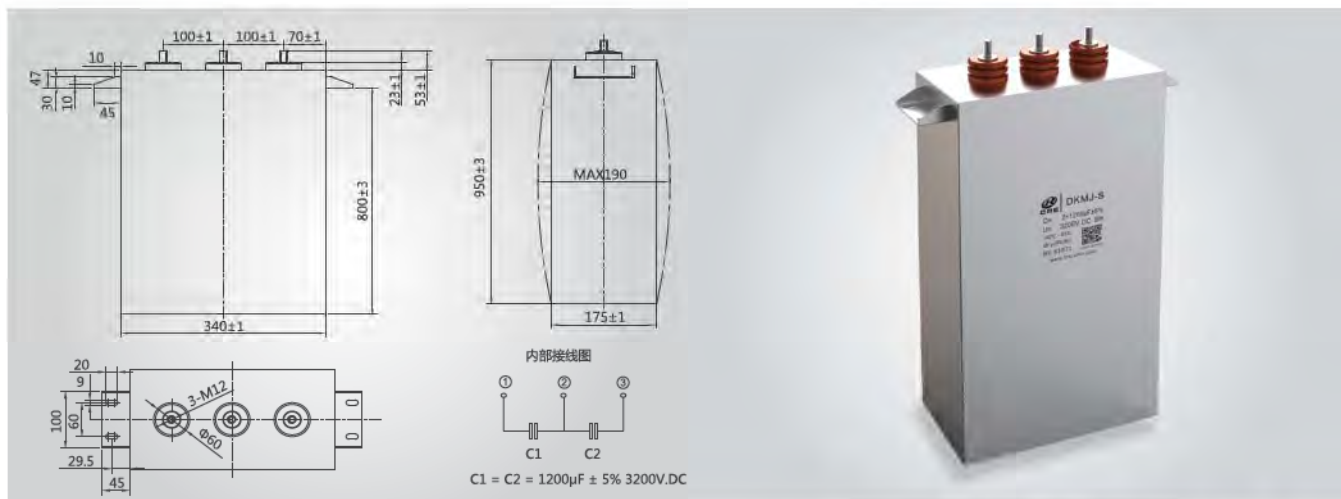
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|                                              |                                                                                   |                                      |
|----------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------|
| 工作温度范围 / Operating temperature range         | - 40°C ~ 85°C                                                                     |                                      |
| 贮存温度范围 / Storage temperature range           | - 40°C ~ 85°C                                                                     |                                      |
| 额定电压 ( $U_N$ ) / Rated voltage               | 2600V.DC                                                                          |                                      |
| 额定容量 ( $C_N$ ) / Rated capacitance           | 2 × 1100μF                                                                        |                                      |
| 容量偏差 / Cap.tol                               | ± 5% ( J )                                                                        |                                      |
| 耐电压 / Withstand voltage                      | Vt - t                                                                            | 1.5 $U_N$ / 10S ( 20°C ± 5°C )       |
|                                              | Vt - c                                                                            | 6000V.AC / 10S ( 50Hz , 20°C ± 5°C ) |
| 损耗角正切 / Dissipation factor                   | $\text{tg}\delta \leq 0.003$ f = 100Hz                                            |                                      |
|                                              | 介质损耗 $\text{tg}\delta_0 \leq 0.0002$                                              |                                      |
| 绝缘电阻 / Insulation resistance                 | $R_s \times C \geq 10000S$ ( at 20°C 100V.DC 60s )                                |                                      |
| 等效串联电阻 / ESR                                 | 0.6m $\Omega$ ( 1KHz )                                                            |                                      |
| 自感 / Ls                                      | $\leq 120\text{nH}$                                                               |                                      |
| 热阻 / Rth                                     | 0.8K / W                                                                          |                                      |
| 额定电流 / Max. current I <sub>rms</sub>         | 2 × 300A ( 50°C )                                                                 |                                      |
| 浪涌电压 / Non-recurrent surge voltage ( $U_s$ ) | 3900V.DC                                                                          |                                      |
| 脉冲峰值电流 / Maximum peak current ( $\hat{I}$ )  | 2 × 11KA                                                                          |                                      |
| 浪涌电流 / Maximum surge current ( $I_s$ )       | 2 × 33KA                                                                          |                                      |
| 失效率 / Failure quota                          | $\leq 100\text{Fit}$                                                              |                                      |
| 预期寿命 / Life expectancy                       | $\geq 100000\text{h}$ ( $U_N$ ; $\Theta_{\text{hotspot}} \leq 70^\circ\text{C}$ ) |                                      |
| 引用标准 / Reference standard                    | IEC61071 ; IEC61881                                                               |                                      |
| 重量 / Weight                                  | ≈ 60kg                                                                            |                                      |
| 尺寸 / Dimension                               | 560mm × 190mm × 310mm                                                             |                                      |





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|                                              |                                                          |                                      |
|----------------------------------------------|----------------------------------------------------------|--------------------------------------|
| 工作温度范围 / Operating temperature range         | - 40°C ~ 85°C                                            |                                      |
| 贮存温度范围 / Storage temperature range           | - 40°C ~ 85°C                                            |                                      |
| 额定电压 ( $U_N$ ) / Rated voltage               | 3200V.DC                                                 |                                      |
| 额定容量 ( $C_N$ ) / Rated capacitance           | 2 × 1200µF                                               |                                      |
| 容量偏差 / Cap.tol                               | ± 5% ( J )                                               |                                      |
| 耐电压 / Withstand voltage                      | $V_t - t$                                                | 1.5 $U_N$ / 10S ( 20°C ± 5°C )       |
|                                              | $V_t - c$                                                | 6000V.AC / 10S ( 50Hz , 20°C ± 5°C ) |
| 损耗角正切 / Dissipation factor                   | $tg\delta \leq 0.003$ $f = 100Hz$                        |                                      |
|                                              | 介质损耗 $tg\delta_0 \leq 0.0002$                            |                                      |
| 绝缘电阻 / Insulation resistance                 | $R_s \times C \geq 10000S$ ( at 20°C 100V.DC 60s )       |                                      |
| 等效串联电阻 / ESR                                 | 0.5mΩ ( 1KHz )                                           |                                      |
| 自感 / $L_s$                                   | ≤ 150nH                                                  |                                      |
| 热阻 / $R_{th}$                                | 0.7K / W                                                 |                                      |
| 额定电流 / Max. current $I_{rms}$                | 2 × 300A ( 50°C )                                        |                                      |
| 浪涌电压 / Non-recurrent surge voltage ( $U_s$ ) | 4800V.DC                                                 |                                      |
| 脉冲峰值电流 / Maximum peak current ( $\bar{I}$ )  | 2 × 12KA                                                 |                                      |
| 浪涌电流 / Maximum surge current ( $I_s$ )       | 2 × 24KA                                                 |                                      |
| 失效率 / Failure quota                          | ≤ 100Fit                                                 |                                      |
| 预期寿命 / Life expectancy                       | ≥ 100000h ( $U_N$ ; $\Theta_{hotspot} \leq 70^\circ C$ ) |                                      |
| 引用标准 / Reference standard                    | IEC61071 ; IEC61881                                      |                                      |
| 重量 / Weight                                  | ≈ 95kg                                                   |                                      |
| 尺寸 / Dimension                               | 340mm × 175mm × 950mm                                    |                                      |

