

## HBX series

125°C 3000時間品  
Load Life: 125°C 3000 hours

- ・高リップル、低ESR 車載専用高信頼性。  
High Ripple Current, Low ESR, High Reliability.
- ・高圧インバータ等のDCリンクに最適。  
Suitable for DC Link of high voltage inverter.

AEC-Q200



車載専用 Automotive Only



### ◆規格表／SPECIFICATIONS

| 項目 Item                                                                  | 特性 Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                               |                                                   |                              |                                                            |                         |                                             |      |      |                 |   |   |   |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------|------------------------------|------------------------------------------------------------|-------------------------|---------------------------------------------|------|------|-----------------|---|---|---|
| カテゴリ温度範囲<br>Category Temperature Range                                   | -40～+125℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                               |                                                   |                              |                                                            |                         |                                             |      |      |                 |   |   |   |
| 定格電圧範囲<br>Rated Voltage Range                                            | 250～290Vdc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                                   |                              |                                                            |                         |                                             |      |      |                 |   |   |   |
| 静電容量許容差<br>Capacitance Tolerance                                         | ±20% (20℃, 120Hz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                               |                                                   |                              |                                                            |                         |                                             |      |      |                 |   |   |   |
| 漏れ電流<br>Leakage Current (MAX)                                            | I=0.04CV+100 μ A以下 (定格電圧印加1分後)<br>I=0.04CV+100 μ A (After 1 minute)<br>I=漏れ電流 (μ A) C=静電容量 (μ F) V=定格電圧 (Vdc)<br>Leakage Current Capacitance Rated Voltage                                                                                                                                                                                                                                                                                                                                                                    |                               |                                                   |                              |                                                            |                         |                                             |      |      |                 |   |   |   |
| 損失角の正接 (tan δ )<br>Dissipation Factor (MAX)                              | <table><tr><td>定格電圧 (Vdc)<br/>Rated Voltage</td><td>250</td><td>275</td><td>290</td></tr><tr><td>tan δ</td><td>0.15</td><td>0.15</td><td>0.15</td></tr></table> (20℃, 120Hz)                                                                                                                                                                                                                                                                                                                                                  | 定格電圧 (Vdc)<br>Rated Voltage   | 250                                               | 275                          | 290                                                        | tan δ                   | 0.15                                        | 0.15 | 0.15 |                 |   |   |   |
| 定格電圧 (Vdc)<br>Rated Voltage                                              | 250                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 275                           | 290                                               |                              |                                                            |                         |                                             |      |      |                 |   |   |   |
| tan δ                                                                    | 0.15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.15                          | 0.15                                              |                              |                                                            |                         |                                             |      |      |                 |   |   |   |
| 耐久性<br>Endurance                                                         | 125℃中で3000時間定格電圧(リップル重畳)印加後、下記項目を満足すること。<br>After applying rated voltage with rated ripple current for 3000 hours at 125℃, the capacitors shall meet the following requirements. <table><tr><td>静電容量変化率<br/>Capacitance Change</td><td>初期値の ±20% 以内<br/>Within ±20% of the initial value.</td></tr><tr><td>損失角の正接<br/>Dissipation Factor</td><td>規格値の 200% 以下<br/>Not more than 200% of the specified value.</td></tr><tr><td>漏れ電流<br/>Leakage Current</td><td>規格値以下<br/>Not more than the specified value.</td></tr></table> | 静電容量変化率<br>Capacitance Change | 初期値の ±20% 以内<br>Within ±20% of the initial value. | 損失角の正接<br>Dissipation Factor | 規格値の 200% 以下<br>Not more than 200% of the specified value. | 漏れ電流<br>Leakage Current | 規格値以下<br>Not more than the specified value. |      |      |                 |   |   |   |
| 静電容量変化率<br>Capacitance Change                                            | 初期値の ±20% 以内<br>Within ±20% of the initial value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                               |                                                   |                              |                                                            |                         |                                             |      |      |                 |   |   |   |
| 損失角の正接<br>Dissipation Factor                                             | 規格値の 200% 以下<br>Not more than 200% of the specified value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                                   |                              |                                                            |                         |                                             |      |      |                 |   |   |   |
| 漏れ電流<br>Leakage Current                                                  | 規格値以下<br>Not more than the specified value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                               |                                                   |                              |                                                            |                         |                                             |      |      |                 |   |   |   |
| 低温特性<br>Low Temperature Stability<br>(インピーダンス比)<br>Impedance Ratio (MAX) | <table><tr><td>定格電圧 (Vdc)<br/>Rated Voltage</td><td>250</td><td>275</td><td>290</td></tr><tr><td>Z(-25℃)/Z(+20℃)</td><td>3</td><td>3</td><td>3</td></tr><tr><td>Z(-40℃)/Z(+20℃)</td><td>6</td><td>6</td><td>6</td></tr></table> (120Hz)                                                                                                                                                                                                                                                                                       | 定格電圧 (Vdc)<br>Rated Voltage   | 250                                               | 275                          | 290                                                        | Z(-25℃)/Z(+20℃)         | 3                                           | 3    | 3    | Z(-40℃)/Z(+20℃) | 6 | 6 | 6 |
| 定格電圧 (Vdc)<br>Rated Voltage                                              | 250                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 275                           | 290                                               |                              |                                                            |                         |                                             |      |      |                 |   |   |   |
| Z(-25℃)/Z(+20℃)                                                          | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3                             | 3                                                 |                              |                                                            |                         |                                             |      |      |                 |   |   |   |
| Z(-40℃)/Z(+20℃)                                                          | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 6                             | 6                                                 |                              |                                                            |                         |                                             |      |      |                 |   |   |   |

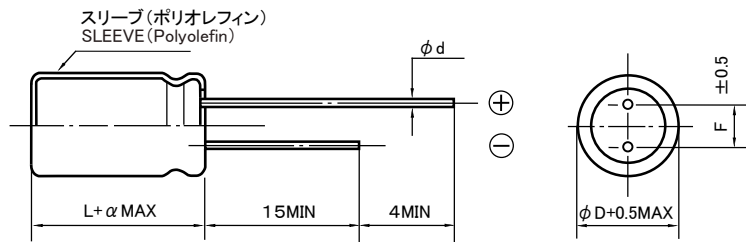
### ◆呼称方法／PART NUMBER

|                       |                 |                     |                                  |               |                         |                     |
|-----------------------|-----------------|---------------------|----------------------------------|---------------|-------------------------|---------------------|
| □□□                   | HBX             | □□□□□               | M                                | SPA           | □□                      | D x L               |
| 定格電圧<br>Rated Voltage | シリーズ名<br>Series | 静電容量<br>Capacitance | 静電容量許容差<br>Capacitance Tolerance | 副記号<br>Option | リード加工記号<br>Lead Forming | ケースサイズ<br>Case Size |

### ◆リップル電流補正係数／MULTIPLIER FOR RIPPLE CURRENT

|                       |      |      |      |       |
|-----------------------|------|------|------|-------|
| 周波数 (Hz)<br>Frequency | 120  | 1k   | 10k  | 100k≤ |
| 係数 Coefficient        | 0.45 | 0.80 | 1.00 | 1.00  |

◆寸法図／DIMENSIONS



| (mm)     |     |      |     |
|----------|-----|------|-----|
| $\phi D$ | 10  | 12.5 | 16  |
| $\phi d$ | 0.8 |      |     |
| F        | 5.0 |      | 7.5 |
| $\alpha$ | 2.0 |      |     |

◆標準品一覧表／STANDARD SIZE

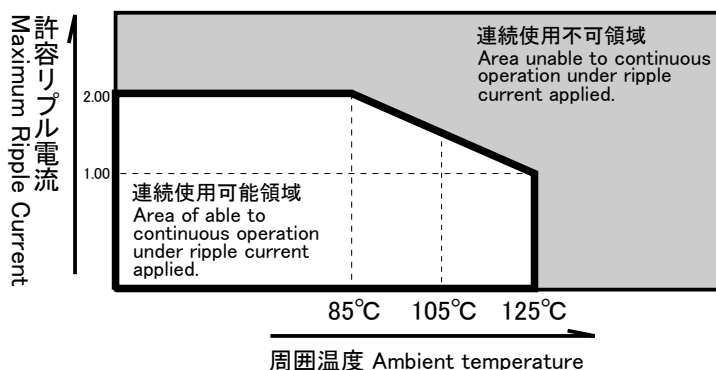
| 定格電圧<br>Rated Voltage<br>(Vdc) | 静電容量<br>Capacitance<br>( $\mu F$ ) | 外形寸法<br>Size<br>$\phi D \times L$ (mm) | 定格リプル電流 $I_0$<br>Rated ripple current<br>$I_0$ (mA r.m.s./<br>125°C, 100kHz) | 許容リプル電流 IMAX<br>MAX ripple current<br>IMAX (mA r.m.s./<br>125°C, 100kHz) | 許容リプル電流 IMAX<br>MAX ripple current<br>IMAX (mA r.m.s./<br>105°C, 100kHz) |
|--------------------------------|------------------------------------|----------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------|
| 250                            | 30                                 | 12.5×20                                | 1100                                                                         | 1100                                                                     | 1870                                                                     |
|                                | 36                                 | 10×30                                  | 1330                                                                         | 1330                                                                     | 2260                                                                     |
|                                | 43                                 | 10×35                                  | 1550                                                                         | 1550                                                                     | 2630                                                                     |
|                                | 43                                 | 12.5×25                                | 1410                                                                         | 1410                                                                     | 2390                                                                     |
|                                | 51                                 | 10×40                                  | 1760                                                                         | 1760                                                                     | 2990                                                                     |
|                                | 51                                 | 16×20                                  | 1440                                                                         | 1440                                                                     | 2440                                                                     |
|                                | 56                                 | 12.5×30                                | 1710                                                                         | 1710                                                                     | 2900                                                                     |
| 275                            | 30                                 | 12.5×20                                | 1020                                                                         | 1020                                                                     | 1730                                                                     |
|                                | 36                                 | 10×30                                  | 1240                                                                         | 1240                                                                     | 2100                                                                     |
|                                | 43                                 | 10×35                                  | 1440                                                                         | 1440                                                                     | 2440                                                                     |
|                                | 43                                 | 12.5×25                                | 1310                                                                         | 1310                                                                     | 2220                                                                     |
|                                | 51                                 | 10×40                                  | 1640                                                                         | 1640                                                                     | 2780                                                                     |
|                                | 51                                 | 16×20                                  | 1350                                                                         | 1350                                                                     | 2290                                                                     |
|                                | 56                                 | 12.5×30                                | 1590                                                                         | 1590                                                                     | 2700                                                                     |
| 290                            | 24                                 | 12.5×20                                | 830                                                                          | 830                                                                      | 1410                                                                     |
|                                | 30                                 | 10×30                                  | 1000                                                                         | 1000                                                                     | 1700                                                                     |
|                                | 36                                 | 10×35                                  | 1160                                                                         | 1160                                                                     | 1970                                                                     |
|                                | 36                                 | 12.5×25                                | 1060                                                                         | 1060                                                                     | 1800                                                                     |
|                                | 43                                 | 10×40                                  | 1320                                                                         | 1320                                                                     | 2240                                                                     |
|                                | 43                                 | 16×20                                  | 1100                                                                         | 1100                                                                     | 1870                                                                     |
|                                | 43                                 | 12.5×30                                | 1290                                                                         | 1290                                                                     | 2190                                                                     |

定格リプル電流 $I_0$ : 耐久性規格を満たす、連続印加可能なリプル電流。

Rated ripple current  $I_0$ : Ripple current continuous operation within endurance lifetime.

許容リプル電流IMAX: 連続印加可能なリプル電流最大値。寿命推定時間は、寿命計算式に従う。

Maximum ripple current IMAX: Maximum ripple current continuous operation. Estimated lifetime complies with our lifetime calculation formula.



# Mouser Electronics

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