



## Film Capacitors – Power Electronic Capacitors

MKP DC

**Series/Type:**  
**Ordering code:**     **B2562\***  
Date:                   January 2013  
Version:                8

**Construction and general data**

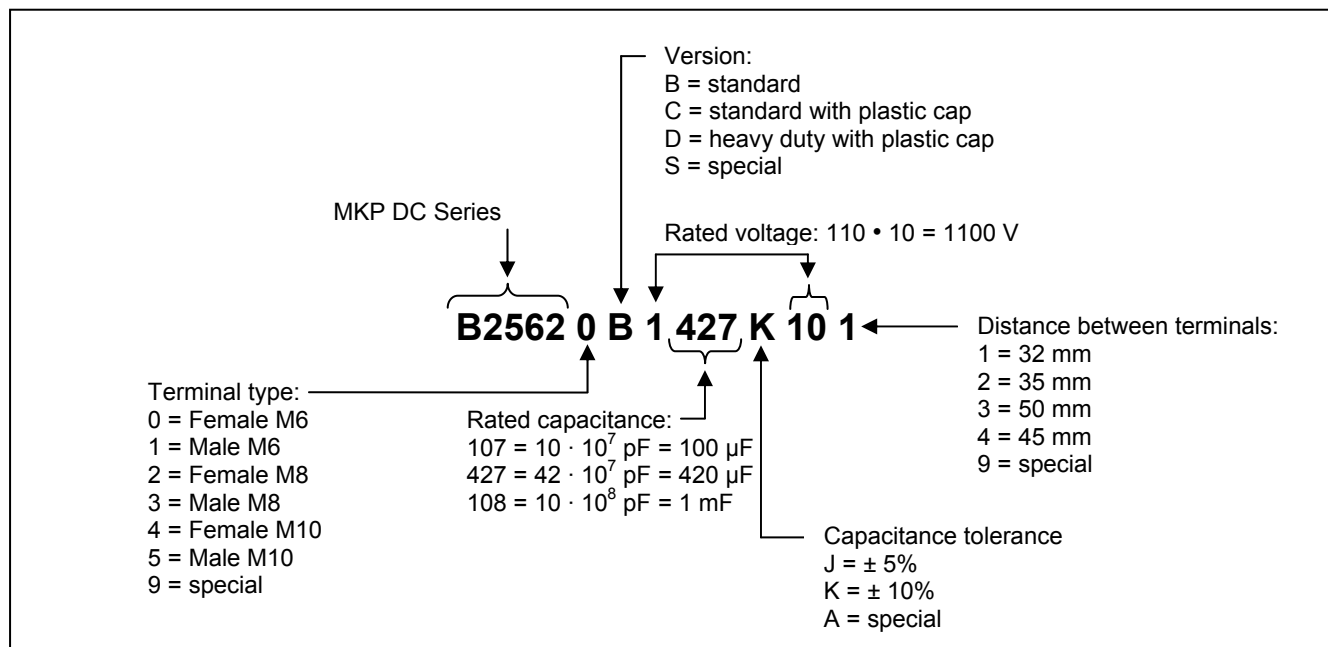
| <b>Characteristics</b>                                            |                                                                                                                |
|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Standard capacitance tolerance                                    | K: $\pm 10\%$                                                                                                  |
| Dielectric dissipation factor ( $\tan \delta_o$ )                 | $2 \cdot 10^{-4}$                                                                                              |
| $\Theta_{stg}$                                                    | $-55 \dots +85 \text{ }^{\circ}\text{C}$                                                                       |
| Expected lifetime $t_{LD (co)}$                                   | 100 000 h at $\Theta_{hs} +75^{\circ}\text{C}$ (refer to section 1)                                            |
| Fit rate                                                          | 200 (refer to section 2)                                                                                       |
| Minimum temperature $\Theta_{min.}$                               | $-55 \text{ }^{\circ}\text{C}$                                                                                 |
| Maximum temperature $\Theta_{max.}$                               | $+70 \text{ }^{\circ}\text{C}$ (refer to section 2)                                                            |
| Storage temperature $\Theta_{stg}$                                | $-55 \dots +85 \text{ }^{\circ}\text{C}$                                                                       |
| Maximum hotspot temperature $\Theta_{hs}$<br>(refer to section 1) | $+85 \text{ }^{\circ}\text{C}$ for diameter 85 and 90 mm<br>$+75 \text{ }^{\circ}\text{C}$ for diameter 116 mm |
| Climatic category                                                 | 55/70/56                                                                                                       |
| Maximum altitude                                                  | 2000 m above sea level<br>(derating curves available upon request)                                             |

| <b>Test data</b>                            |                                              |
|---------------------------------------------|----------------------------------------------|
| Voltage between terminals $V_{TT}$          | 1.5 $V_{DC}$ , 10s                           |
| Voltage between terminals and case $V_{TC}$ | 4000 $V_{AC}$ , 10s                          |
| Dissipation factor $\tan \delta$ (100 Hz)   | $\leq 1.0 \cdot 10^{-3}$                     |
| Life test                                   | According to IEC 61071                       |
| Cooling                                     | Naturally air-cooled (or forced air cooling) |
| Degree of protection                        | Indoor mounting                              |

| <b>Design data</b>          |                                                      |
|-----------------------------|------------------------------------------------------|
| Impregnation                | Resin filling: Non PCB, hard polyurethane (dry type) |
| Mounting and grounding      | M12 threaded bolt on bottom of the aluminum case     |
| Max. torque (case) M12 stud | 10 Nm                                                |
| Max. torque terminal        | Female M6: 5 Nm<br>Female M8: 6 Nm<br>Male M8: 8 Nm  |

| <b>Reference standards</b>                             |  |
|--------------------------------------------------------|--|
| IEC 61071                                              |  |
| RoHS compliance                                        |  |
| Certification: UL 810-5th edition (refer to table 1.3) |  |

## 1.1 Structure of ordering code



## 1.2 Standard types:

| D (mm)<br>OC ending |                       | 32 ± 0.5<br>- **1 | 45 ± 0.5<br>- **4 | 50 ± 0.5<br>- **3 |
|---------------------|-----------------------|-------------------|-------------------|-------------------|
| Diameter (Ø)        | Terminal type         |                   |                   |                   |
| 85 mm               | Female M6<br>(B25620) | standard          |                   |                   |
| 90 mm               | Male M8<br>(B25623)   |                   | standard          |                   |
|                     | Female M6<br>(B25620) |                   | available         |                   |
| 116 mm              | Female M6<br>(B25620) |                   |                   | standard          |

Other terminal configurations available upon request.

## 1.3 UL approved types:

| Diameter (Ø) | Series             |
|--------------|--------------------|
| 85 mm        | B2562xC<br>B2562xD |
| 90 mm        | all types          |
| 116 mm       | all types          |

#### 1.4 Drawings types:

Figure 1: - B25620B - Ø 85mm

- Female terminals (M6)

- Between terminals  $32 \pm 0.5$ mm

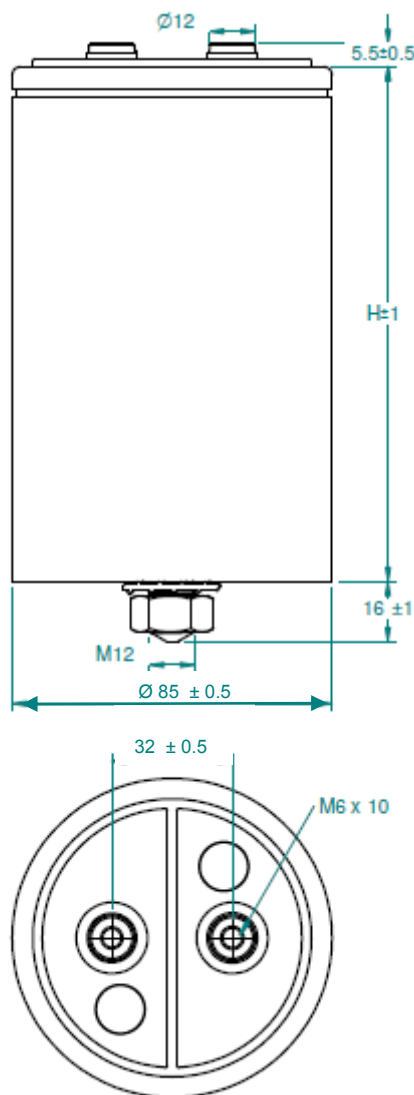
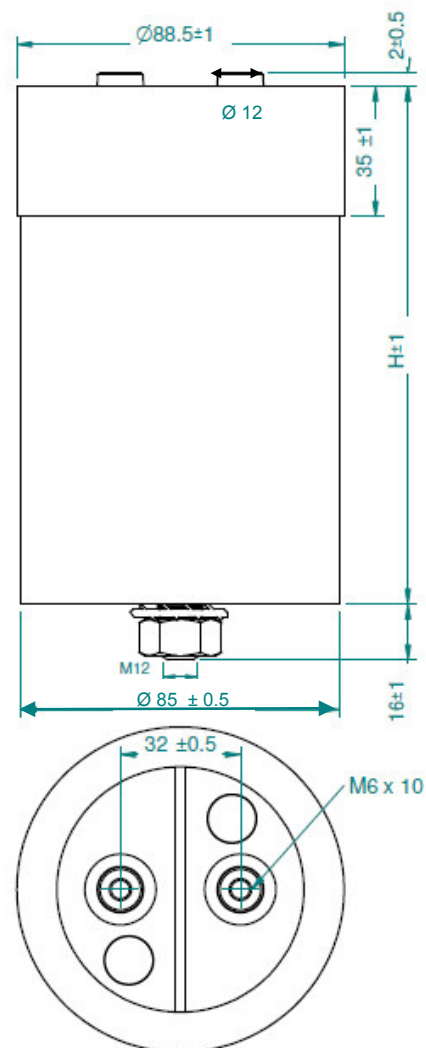


Figure 2: - B25620C / B25620D - Ø 85mm

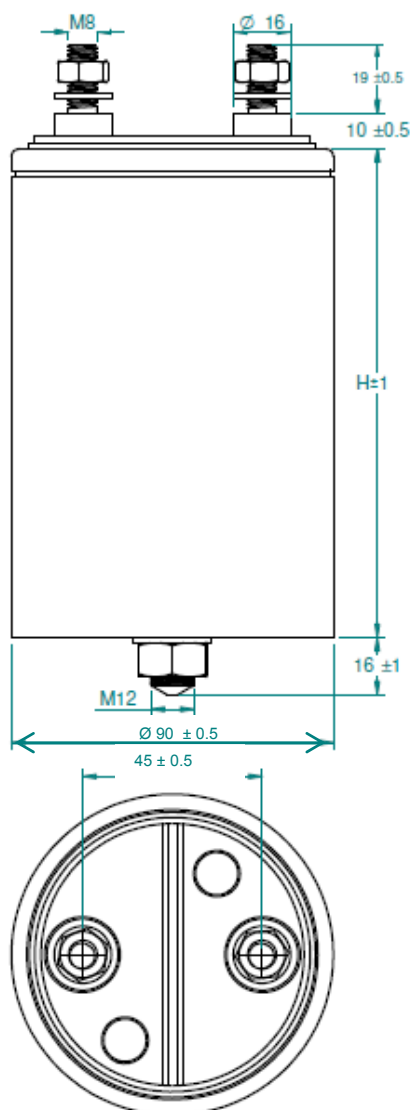
- Female terminals (M6)

- Between terminals  $32 \pm 0.5$ mm

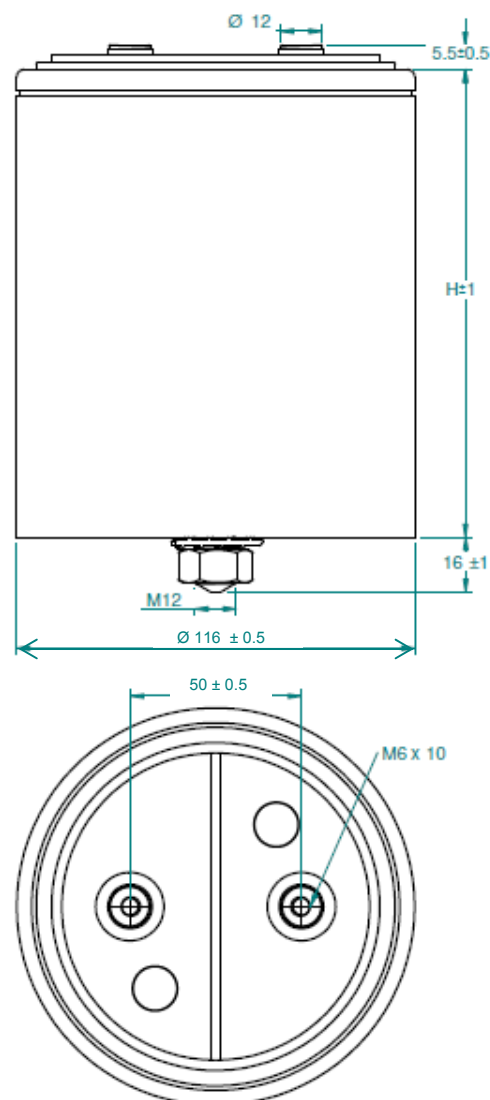


**Figure 3 : - B25620B - Ø 90mm**

- Male terminals (M8)
- Between terminals  $45 \pm 0.5$ mm


**Figure 4: - B25620B - Ø 116mm**

- Female terminals (M6)
- Between terminals  $50 \pm 0.5$ mm



M12 stud on bottom of the aluminum case, nut and washer for fixing are standard for all types.

### Terms and characteristics

The following definitions apply to power capacitors according to IEC 61071.

#### **Rated capacitance $C_N$**

Nominal value of the capacitance at 20 °C and measuring frequency range of 50 to 120 Hz.

#### **Rated DC voltage $V_{RDC}$**

Maximum operating peak voltage of either polarity but of a non-reversing type wave form, for which the capacitor has been designed, for continuous operation.

#### **Ripple voltage $V_r$**

Peak-to-peak alternating component of the unidirectional voltage.

#### **Maximum surge voltage $V_s$**

Peak voltage induced by a switching or any other disturbance of the system which is allowed for a limited number of times and duration.

- Maximum duration: 50 ms / pulse
- Maximum number of occurrences: 1000 (during load)

#### **Insulation voltage $V_i$**

Rms rated value of the insulation voltage of capacitive elements and terminals to case or earth. When it is not specified in the product data sheet, the insulation voltage is at least:

$$V_i = \frac{V_R}{\sqrt{2}}$$

#### **Maximum rate of voltage rise $(dV/dt)_{\max}$**

Maximum permissible repetitive rate of voltage rise of the operational voltage.

#### **Maximum current $I_{\max}$**

Maximum rms current for continuous operation.

#### **Maximum peak current $\hat{I}$**

Maximum permissible repetitive current amplitude during continuous operation.

Maximum peak current ( $\hat{I}$ ) and maximum rate of voltage rise  $(dV/dt)_{\max}$  on a capacitor are related as follows:

$$\hat{I} = C \cdot (dV/dt)_{\max}$$

#### **Maximum surge current $\hat{I}_s$**

Admissible peak current induced by a switching or any other disturbance of the system which is allowed for a limited number of times (1000 times) and duration (50 ms / pulse).

$$\hat{I}_s = C \cdot (dV/dt)_s$$

#### **Ambient temperature $\Theta_A$**

Temperature of the surrounding air, measured at 10 cm distance and 2/3 of the case height of the capacitor.

#### **Lowest operating temperature $\Theta_{\min}$**

Lowest permitted ambient temperature at which a capacitor may be energized.

**Maximum operating temperature  $\Theta_{\max}$** 

Highest permitted capacitor temperature during operation, i.e. temperature at the hottest point of the case.

**Hot-spot temperature  $\Theta_{\text{hs}} / T_{\text{hs}}$** 

Temperature zone inside of the capacitor at hottest spot.

**Tangent of the loss angle of a capacitor  $\tan \delta$** 

Ratio between the equivalent series resistance and the capacitive reactance of a capacitor at a specified sinusoidal alternating voltage, frequency and temperature.

**Series resistance  $R_s$** 

The sum of all Ohmic resistances occurring inside the capacitor.

**ESR**

ESR (Equivalent Series Resistance) representing entire active power in capacitor.

$$\text{ESR} = \frac{\tan \delta}{\omega \cdot C} = R_s + \frac{\tan \delta_0}{\omega \cdot C}$$

**Thermal resistance  $R_{\text{th}}$** 

The thermal resistance indicates by how many degrees the capacitor temperature at the hot spot rises in relation to the dissipation losses.

**Maximum power loss  $P_{\max}$** 

Maximum permissible power dissipation for the capacitor's operation.

$$P_{\max} = \frac{\Theta_{\text{hs}} - \Theta_A}{R_{\text{th}}}$$

**Self inductance  $L_{\text{self}}$** 

The sum of all inductive elements which are contained in a capacitor.

**Resonance frequency  $f_r$** 

The lowest frequency at which the impedance of the capacitor becomes minimum.

$$f_r = \frac{1}{2\pi \cdot \sqrt{L_{\text{self}} \cdot C_R}}$$

# Film Capacitors – Power Electronic Capacitors

B2562\*

## MKP DC

$V_R = 700 \text{ V DC} / V_{TT} = 1050 \text{ V DC}, 10\text{s} / V_{TC} = 4000 \text{ V AC}, 10\text{s}$

| $C_R$<br>$\mu\text{F}$ | $I_{MAX}^1$<br>A | $I_s$<br>kA | $\hat{I}$<br>kA | $R_S$<br>m $\Omega$ | $L_{self}$<br>nH | $R_{TH}$<br>K/W | D<br>mm | H<br>mm | Weight<br>kg | Fig. | Ordering code   |
|------------------------|------------------|-------------|-----------------|---------------------|------------------|-----------------|---------|---------|--------------|------|-----------------|
| 280                    | 55               | 12.1        | 4.0             | 1.2                 | $\leq 40$        | 5.4             | 85      | 70      | 0.45         | 1    | B25620B0287K701 |
| 500                    | 60               | 13.5        | 4.5             | 1.4                 | $\leq 40$        | 3.7             | 90      | 95      | 0.73         | 3    | B25623B0507K704 |
| 560                    | 80               | 24.2        | 8.0             | 0.9                 | $\leq 40$        | 4.0             | 116     | 70      | 0.88         | 4    | B25620B0567K703 |
| 620                    | 55               | 12.1        | 4.0             | 1.9                 | $\leq 40$        | 3.1             | 85      | 120     | 0.71         | 1    | B25620B0627K701 |
| 700                    | 55               | 12.1        | 4.0             | 2.0                 | $\leq 40$        | 2.8             | 85      | 132     | 0.87         | 1    | B25620B0707K701 |
| 780                    | 65               | 13.4        | 4.5             | 1.9                 | $\leq 40$        | 2.7             | 90      | 132     | 1.00         | 3    | B25623B0787K703 |
| 900                    | 80               | 24.3        | 8.0             | 1.1                 | $\leq 40$        | 2.9             | 116     | 95      | 1.13         | 4    | B25620B0907K703 |
| 1240                   | 80               | 24.3        | 8.1             | 1.3                 | $\leq 40$        | 2.3             | 116     | 120     | 1.40         | 4    | B25620B0128K743 |
| 1400                   | 80               | 24.1        | 8.0             | 1.4                 | $\leq 40$        | 2.1             | 116     | 132     | 1.55         | 4    | B25620B0148K703 |

$V_R = 900 \text{ V DC} / V_{TT} = 1350 \text{ V DC}, 10\text{s} / V_{TC} = 4000 \text{ V AC}, 10\text{s}$

| $C_R$<br>$\mu\text{F}$ | $I_{MAX}^1$<br>A | $I_s$<br>kA | $\hat{I}$<br>kA | $R_S$<br>m $\Omega$ | $L_{self}$<br>nH | $R_{TH}$<br>K/W | D<br>mm | H<br>mm | Weight<br>kg | Fig. | Ordering code   |
|------------------------|------------------|-------------|-----------------|---------------------|------------------|-----------------|---------|---------|--------------|------|-----------------|
| 220                    | 50               | 10.8        | 3.6             | 1.3                 | $\leq 40$        | 5.4             | 85      | 70      | 0.45         | 1    | B25620B0227K881 |
| 220                    | 50               | 10.8        | 3.6             | 1.3                 | $\leq 40$        | 5.4             | 85      | 73      | 0.48         | 2    | B25620C0227K881 |
| 350                    | 50               | 10.7        | 3.6             | 1.7                 | $\leq 40$        | 3.9             | 85      | 95      | 0.58         | 1    | B25620B0357K881 |
| 350                    | 50               | 10.7        | 3.6             | 1.7                 | $\leq 40$        | 3.9             | 85      | 98      | 0.61         | 2    | B25620C0357K881 |
| 420                    | 60               | 11.9        | 4.0             | 1.5                 | $\leq 40$        | 3.7             | 90      | 95      | 0.73         | 3    | B25623B0427K904 |
| 440                    | 65               | 21.7        | 7.2             | 1.1                 | $\leq 40$        | 3.8             | 116     | 70      | 0.88         | 4    | B25620B0447K883 |
| 480                    | 55               | 10.8        | 3.6             | 2.8                 | $\leq 40$        | 3.1             | 85      | 120     | 0.71         | 1    | B25620B0487K881 |
| 480                    | 55               | 10.8        | 3.6             | 2.1                 | $\leq 40$        | 3.1             | 85      | 123     | 0.74         | 2    | B25620C0487K881 |
| 550                    | 50               | 11          | 3.7             | 2.3                 | $\leq 40$        | 2.8             | 85      | 132     | 0.87         | 1    | B25620B0557K881 |
| 550                    | 50               | 11          | 3.7             | 2.3                 | $\leq 40$        | 2.8             | 85      | 135     | 0.9          | 2    | B25620C0557K881 |
| 580                    | 62               | 11.9        | 4.0             | 1.9                 | $\leq 40$        | 3.0             | 90      | 120     | 0.9          | 3    | B25623B0587K904 |
| 650                    | 62               | 11.8        | 3.9             | 2.1                 | $\leq 40$        | 2.7             | 90      | 132     | 1            | 3    | B25623B0657K904 |
| 700                    | 70               | 21.5        | 7.1             | 1.2                 | $\leq 40$        | 2.9             | 116     | 95      | 1.13         | 4    | B25620B0707K883 |
| 730                    | 62               | 11.8        | 3.9             | 2.2                 | $\leq 60$        | 2.4             | 90      | 145     | 1.2          | 3    | B25623B0737K904 |
| 750                    | 55               | 23.1        | 7.7             | 1.2                 | $\leq 60$        | 2.2             | 85      | 173     | 1.1          | 1    | B25620B0757K881 |
| 750                    | 55               | 23.1        | 7.7             | 1.2                 | $\leq 60$        | 2.2             | 85      | 176     | 1.13         | 2    | B25620C0757K881 |
| 830                    | 58               | 23.5        | 7.8             | 0.7                 | $\leq 60$        | 2.1             | 90      | 173     | 1.3          | 3    | B25623B0837K904 |
| 970                    | 75               | 21.7        | 7.2             | 1.4                 | $\leq 40$        | 2.3             | 116     | 120     | 1.4          | 4    | B25620B0977K883 |
| 1100                   | 75               | 21.7        | 7.2             | 1.6                 | $\leq 40$        | 2.1             | 116     | 132     | 1.55         | 4    | B25620B0118K883 |
| 1500                   | 80               | 43          | 15.4            | 1.1                 | $\leq 60$        | 1.6             | 116     | 173     | 1.945        | 4    | B25620B0158K883 |

<sup>1</sup>  $I_{MAX}$  at  $\Theta 40^\circ\text{C}$ , refer to "current derating" section for more details

Other configurations and capacitance tolerances available upon request

**$V_R = 1100 \text{ V DC} / V_{TT} = 1650 \text{ V DC}, 10\text{s} / V_{TC} = 4000 \text{ V AC}, 10\text{s}$**

| $C_R$<br>$\mu\text{F}$ | $I_{MAX}^1$<br>A | $I_S$<br>kA | $\hat{I}$<br>kA | $R_S$<br>m $\Omega$ | $L_{self}$<br>nH | $R_{TH}$<br>K/W | D<br>mm | H<br>mm | Weight<br>kg | Fig. | Ordering code    |
|------------------------|------------------|-------------|-----------------|---------------------|------------------|-----------------|---------|---------|--------------|------|------------------|
| 140                    | 50               | 8.6         | 2.9             | 1.4                 | $\leq 40$        | 5.4             | 85      | 70      | 0.45         | 1    | B25620B1147K101  |
| 140                    | 50               | 8.6         | 2.9             | 1.4                 | $\leq 40$        | 5.4             | 85      | 73      | 0.48         | 2    | B25620C1147K101  |
| 220                    | 54               | 9.5         | 3.2             | 1.5                 | $\leq 40$        | 4.3             | 90      | 83      | 0.53         | 3    | B25623B1227K104  |
| 270                    | 55               | 9.6         | 3.2             | 1.7                 | $\leq 40$        | 3.7             | 90      | 95      | 0.73         | 3    | B25623B1277K104  |
| 280                    | 75               | 17.2        | 5.7             | 1.0                 | $\leq 40$        | 4               | 116     | 70      | 0.9          | 4    | B25620B1287K103  |
| 310                    | 50               | 8.6         | 2.9             | 2.3                 | $\leq 40$        | 3.1             | 85      | 120     | 0.71         | 1    | B25620B1317K101  |
| 310                    | 50               | 8.6         | 2.9             | 2.3                 | $\leq 40$        | 3.1             | 85      | 123     | 0.73         | 2    | B25620C1317K101  |
| 370                    | 56               | 9.5         | 3.2             | 2.2                 | $\leq 40$        | 3.0             | 90      | 120     | 0.9          | 3    | B25623B1377K104  |
| 400                    | 63               | 8.8         | 2.9             | 2.4                 | $\leq 40$        | 2.8             | 85      | 132     | 0.87         | 1    | B25620B1407K101  |
| 400                    | 63               | 8.8         | 2.9             | 2.4                 | $\leq 40$        | 2.8             | 85      | 135     | 0.9          | 2    | B25620C1407K101  |
| 400                    | 75               | 17.3        | 5.8             | 1.5                 | $\leq 40$        | 2.2             | 85      | 151     | 1            | 2    | B25620D1407K101  |
| 420                    | 63               | 8.8         | 2.9             | 2.4                 | $\leq 40$        | 2.8             | 85      | 135     | 0.87         | 1    | B25620B1427A101* |
| 420                    | 63               | 8.8         | 2.9             | 2.4                 | $\leq 40$        | 2.8             | 85      | 138     | 0.9          | 2    | B25620C1427A101* |
| 420                    | 75               | 17.3        | 5.8             | 1.5                 | $\leq 40$        | 2.2             | 85      | 151     | 1            | 2    | B25620D1427K101  |
| 420                    | 56               | 9.5         | 3.2             | 2.4                 | $\leq 40$        | 2.7             | 90      | 132     | 1            | 3    | B25623B1427K104  |
| 450                    | 75               | 16.5        | 5.4             | 1.3                 | $\leq 40$        | 2.9             | 116     | 95      | 1.13         | 4    | B25620B1457K103  |
| 450                    | 80               | 17.3        | 5.8             | 1.0                 | $\leq 60$        | 2.2             | 85      | 176     | 1.05         | 2    | B25620D1457K101  |
| 470                    | 56               | 9.5         | 3.2             | 2.6                 | $\leq 40$        | 2.4             | 90      | 145     | 1.2          | 3    | B25623B1477K104  |
| 480                    | 80               | 17.3        | 5.8             | 1.0                 | $\leq 60$        | 2.2             | 85      | 173     | 1.05         | 1    | B25620B1487K101  |
| 480                    | 80               | 17.3        | 5.8             | 1.0                 | $\leq 60$        | 2.2             | 85      | 176     | 1.08         | 2    | B25620C1487K101  |
| 530                    | 53               | 18.8        | 6.3             | 0.8                 | $\leq 60$        | 2.1             | 90      | 173     | 1.3          | 3    | B25623B1537K104  |
| 610                    | 80               | 16.8        | 5.6             | 3.13                | $\leq 40$        | 2.3             | 116     | 120     | 1.4          | 4    | B25620B1617K103  |
| 610                    | 80               | 17          | 5.7             | 1.1                 | $\leq 60$        | 1.7             | 85      | 226     | 2.2          | 2    | B25620D1617K101  |
| 700                    | 80               | 16.8        | 5.6             | 1.7                 | $\leq 40$        | 2.1             | 116     | 132     | 1.55         | 4    | B25620B1707K103  |
| 700                    | 80               | 27          | 8.9             | 1.1                 | $\leq 60$        | 1.7             | 116     | 176     | 2.05         | 4    | B25620D1707K103  |
| 940                    | 80               | 32.7        | 11              | 0.7                 | $\leq 60$        | 1.6             | 116     | 173     | 2.06         | 4    | B25620B1947K103  |
| 1100                   | 80               | 30.8        | 10.3            | 0.8                 | $\leq 100$       | 1.3             | 116     | 223     | 2.56         | 4    | B25620B1118K103  |
| 1500                   | 80               | 32.5        | 10.8            | 0.9                 | $\leq 90$        | 1               | 116     | 295     | 2.8          | 4    | B25620B1158K103  |

\* Capacitance tolerance A: -15% ... 0%

<sup>1</sup>  $I_{MAX}$  at  $\Theta 40^\circ\text{C}$ , refer to “current derating” section for more details

Other configurations and capacitance tolerances available upon request

**$V_R = 1200 \text{ V DC} / V_{TT} = 1800 \text{ V DC}, 10\text{s} / V_{TC} = 4000 \text{ V AC}, 10\text{s}$** 

| $C_R$<br>$\mu\text{F}$ | $I_{MAX}^1$<br>A | $I_s$<br>kA | $\bar{I}$<br>kA | $R_S$<br>$\text{m}\Omega$ | $L_{self}$<br>nH | $R_{TH}$<br>K/W | D<br>mm | H<br>mm | Weight<br>kg | Fig. | Ordering code   |
|------------------------|------------------|-------------|-----------------|---------------------------|------------------|-----------------|---------|---------|--------------|------|-----------------|
| 220                    | 50               | 8.6         | 2.9             | 1.9                       | $\leq 40$        | 3.7             | 90      | 95      | 0.73         | 3    | B25623B1227K204 |
| 300                    | 50               | 8.5         | 2.8             | 2.4                       | $\leq 40$        | 3.0             | 90      | 120     | 0.9          | 3    | B25623B1307K204 |
| 340                    | 50               | 8.5         | 2.8             | 2.6                       | $\leq 40$        | 2.7             | 90      | 132     | 1            | 3    | B25623B1347K204 |
| 360                    | 70               | 15.223      | 5.074           | 1.341                     | $\leq 40$        | 2.9             | 116     | 95      | 1.13         | 4    | B25620B1367K203 |
| 440                    | 52               | 17.1        | 5.7             | 0.8                       | $\leq 60$        | 2.1             | 90      | 173     | 1.3          | 3    | B25623B1447K204 |
| 500                    | 75               | 15.379      | 5.126           | 1.614                     | $\leq 40$        | 2.29            | 116     | 120     | 1.4          | 4    | B25620B1507K203 |
| 550                    | 80               | 16.917      | 5.639           | 0.987                     | $\leq 90$        | 1.59            | 90      | 223     | 1.4          | 3    | B25623B1557K204 |
| 570                    | 75               | 15.429      | 5.143           | 1.751                     | $\leq 40$        | 2.07            | 116     | 133     | 1.55         | 4    | B25620B1577K203 |
| 730                    | 80               | 30.869      | 10.29           | 0.69                      | $\leq 60$        | 1.59            | 116     | 173     | 2.05         | 4    | B25620B1737K203 |
| 1000                   | 80               | 30.758      | 10.253          | 0.807                     | $\leq 90$        | 1.23            | 116     | 223     | 2.56         | 4    | B25620B1108K203 |

 **$V_R = 1320 \text{ V DC} / V_{TT} = 1980 \text{ V DC}, 10\text{s} / V_{TC} = 4000 \text{ V AC}, 10\text{s}$** 

| $C_R$<br>$\mu\text{F}$ | $I_{MAX}^1$<br>A | $I_s$<br>kA | $\bar{I}$<br>kA | $R_S$<br>$\text{m}\Omega$ | $L_{self}$<br>nH | $R_{TH}$<br>K/W | D<br>mm | H<br>mm | Weight<br>kg | Fig. | Ordering code   |
|------------------------|------------------|-------------|-----------------|---------------------------|------------------|-----------------|---------|---------|--------------|------|-----------------|
| 190                    | 51               | 8.1         | 2.7             | 1.9                       | $\leq 40$        | 3.7             | 90      | 95      | 0.73         | 3    | B25623B1197K304 |
| 220                    | 45               | 7.4         | 2.5             | 2.6                       | $\leq 40$        | 3.1             | 85      | 120     | 0.71         | 1    | B25620B1227K321 |
| 220                    | 45               | 7.4         | 2.5             | 2.6                       | $\leq 40$        | 3.1             | 85      | 123     | 0.73         | 2    | B25620C1227K321 |
| 250                    | 51               | 7.7         | 2.6             | 2.5                       | $\leq 40$        | 3.0             | 90      | 120     | 0.9          | 3    | B25623B1257K304 |
| 260                    | 45               | 7.6         | 2.6             | 2.7                       | $\leq 40$        | 2.8             | 85      | 132     | 0.87         | 1    | B25620B1267K321 |
| 260                    | 45               | 7.6         | 2.6             | 2.7                       | $\leq 40$        | 2.8             | 85      | 135     | 0.9          | 2    | B25620C1267K321 |
| 290                    | 52               | 7.9         | 2.6             | 2.7                       | $\leq 40$        | 2.7             | 90      | 132     | 1            | 3    | B25623B1297K304 |
| 310                    | 65               | 14.3        | 4.8             | 1.4                       | $\leq 40$        | 2.9             | 116     | 95      | 1.13         | 4    | B25620B1317K323 |
| 330                    | 52               | 7.9         | 2.6             | 3.0                       | $\leq 60$        | 2.4             | 90      | 145     | 1.2          | 3    | B25623B1337K304 |
| 340                    | 70               | 14.8        | 5               | 0.9                       | $\leq 60$        | 1.6             | 85      | 173     | 1.05         | 1    | B25620B1347K321 |
| 340                    | 70               | 14.8        | 5               | 0.9                       | $\leq 60$        | 1.6             | 85      | 176     | 1.08         | 2    | B25620C1347K321 |
| 370                    | 50               | 15.7        | 5.2             | 0.8                       | $\leq 60$        | 2.1             | 90      | 173     | 1.3          | 3    | B25623B0377K304 |
| 420                    | 65               | 14.1        | 4.7             | 1.7                       | $\leq 40$        | 2.3             | 116     | 120     | 1.4          | 4    | B25620B1427K323 |
| 480                    | 70               | 14.1        | 4.7             | 1.8                       | $\leq 40$        | 2.1             | 116     | 132     | 1.55         | 4    | B25620B1487K323 |
| 660                    | 70               | 27.8        | 9.3             | 0.8                       | $\leq 90$        | 1.6             | 116     | 173     | 2.05         | 4    | B25620B1667K323 |
| 1000                   | 80               | 26.4        | 8.8             | 1                         | $\leq 90$        | 1               | 116     | 273     | 2.8          | 4    | B25620B1108K323 |

<sup>1</sup>  $I_{MAX}$  at  $\Theta 40^\circ\text{C}$ , refer to “current derating” section for more details

Other configurations and capacitance tolerances available upon request

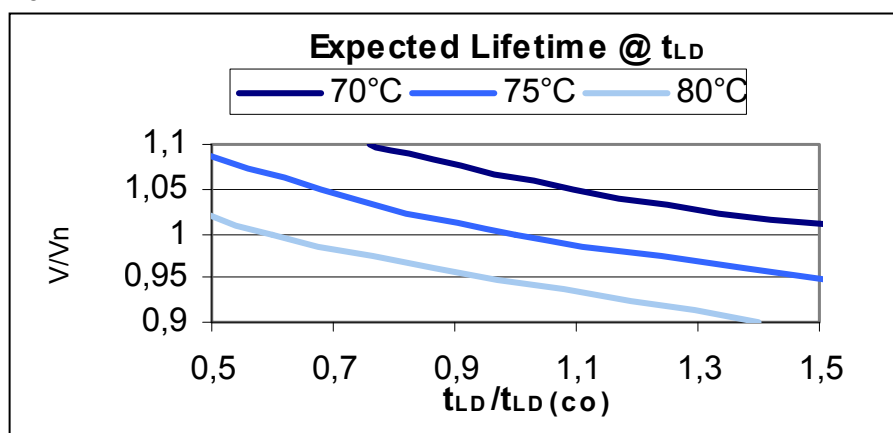
**$V_R = 1980 \text{ V DC} / V_{TT} = 2970 \text{ V DC}, 10\text{s} / V_{TC} = 4000 \text{ V AC}, 10\text{s}$**

| $C_R$<br>$\mu\text{F}$ | $I_{MAX}^1$<br>A | $I_s$<br>kA | $\hat{I}$<br>kA | $R_S$<br>m $\Omega$ | $L_{self}$<br>nH | $R_{TH}$<br>K/W | D<br>mm | H<br>mm | Weight<br>kg | Fig. | Ordering Code   |
|------------------------|------------------|-------------|-----------------|---------------------|------------------|-----------------|---------|---------|--------------|------|-----------------|
| 40                     | 35               | 4.5         | 1.5             | 2.1                 | $\leq 60$        | 5.4             | 85      | 70      | 0.45         | 1    | B25620B1406K981 |
| 40                     | 35               | 4.5         | 1.5             | 2.1                 | $\leq 60$        | 5.4             | 85      | 73      | 0.48         | 2    | B25620C1406K981 |
| 70                     | 40               | 4.9         | 1.6             | 2.8                 | $\leq 60$        | 4               | 85      | 95      | 0.58         | 1    | B25620B1706K981 |
| 70                     | 40               | 4.9         | 1.6             | 2.8                 | $\leq 60$        | 4               | 85      | 98      | 0.61         | 2    | B25620C1706K981 |
| 145                    | 50               | 10          | 3.4             | 1.1                 | $\leq 60$        | 2.2             | 85      | 173     | 1.05         | 1    | B25620B1147K981 |
| 145                    | 50               | 10          | 3.4             | 1.1                 | $\leq 60$        | 2.2             | 85      | 176     | 1.08         | 2    | B25620C1147K981 |
| 190                    | 60               | 18.9        | 6.3             | 0.7                 | $\leq 60$        | 2.3             | 116     | 120     | 1.4          | 4    | B25620B1197K983 |
| 215                    | 60               | 9.6         | 3.2             | 2.4                 | $\leq 40$        | 2.1             | 116     | 132     | 1.55         | 4    | B25620B1217K983 |
| 295                    | 70               | 18.8        | 6.3             | 0.8                 | $\leq 60$        | 1.6             | 116     | 173     | 2.05         | 4    | B25620B1297K983 |
| 460                    | 80               | 18.2        | 6               | 1.1                 | $\leq 90$        | 1               | 116     | 263     | 2.6          | 4    | B25620B1467K983 |

<sup>1</sup>  $I_{MAX}$  at  $\Theta 40^\circ\text{C}$ , refer to “current derating” section for more details

Other configurations and capacitance tolerances available upon request

## 2. Expected lifetime



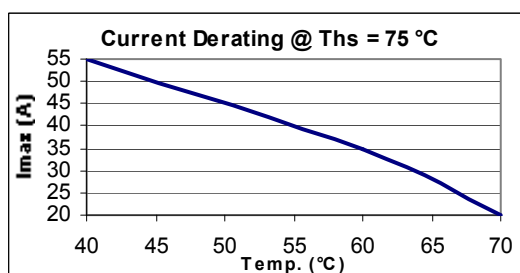
Expected lifetime  $t_{ld}$  at different hotspot temperature ( $\Theta_{hs}$ ) and voltage  $V$

For short term operation (maximum 10% of the total expected lifetime) and capacitors with diameter 85 and 90 mm a maximum hot spot temperature of 85°C is allowed without further reduction of the lifetime.

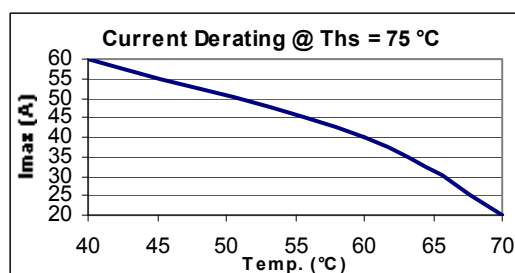
## 3. Current derating

### 3.1 Current derating graphs for capacitors 700 V DC

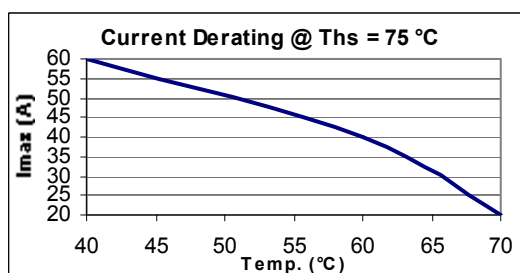
#### B25620B0287K701



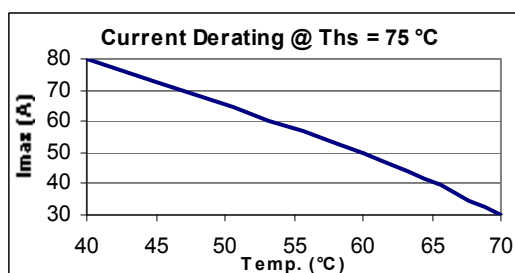
#### B25620B0627K701



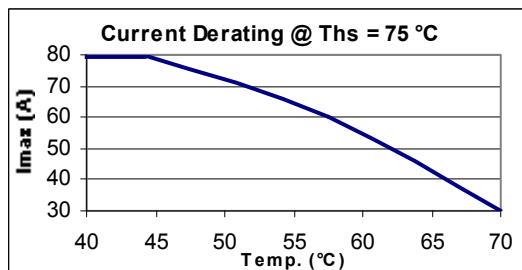
#### B25620B0707K701



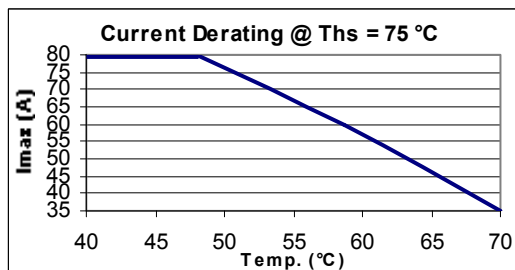
#### B25620B0567K703



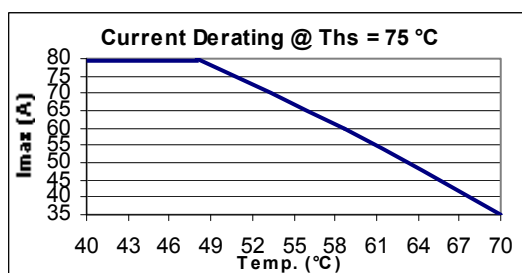
**B25620B0907K703**



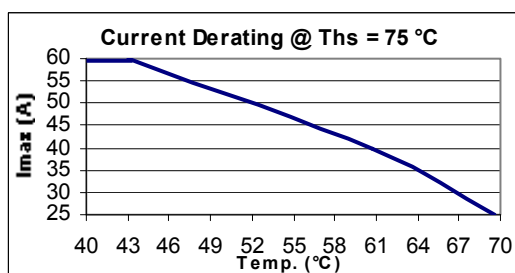
**B25620B0128K743**



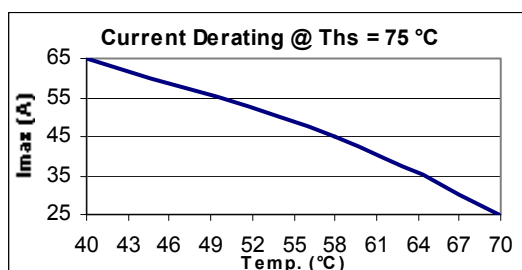
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**B25620B0507K704**

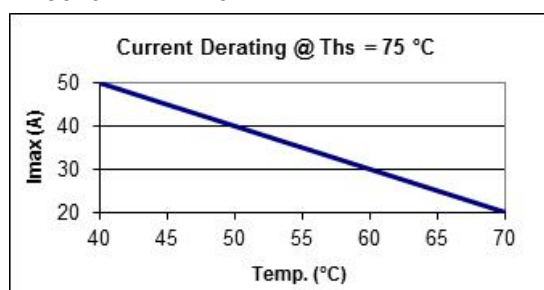


**B25620B0787K704**

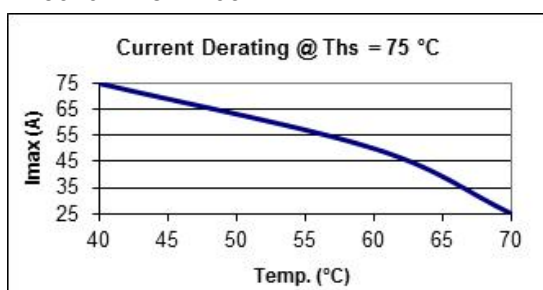


### 3.2 Current derating graphs for capacitors 1100 V DC

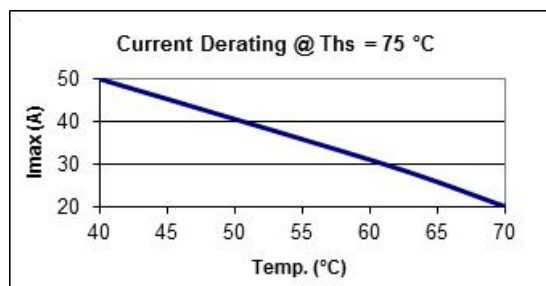
**B25620B1147K101**



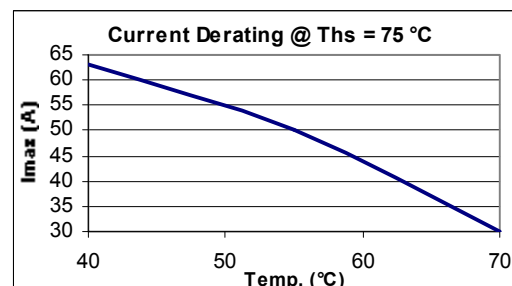
**B25620B1287K103**



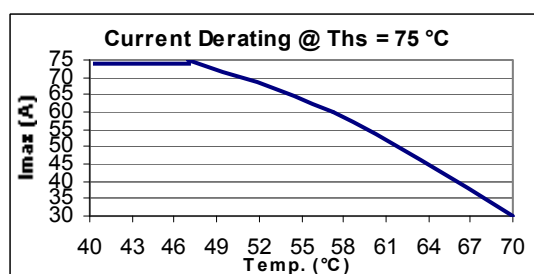
**B25620B1317K101**



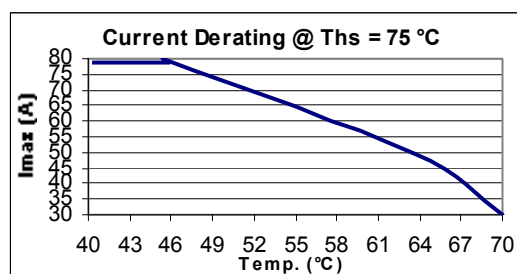
**B25620B1407K101/B25620B1427A101**



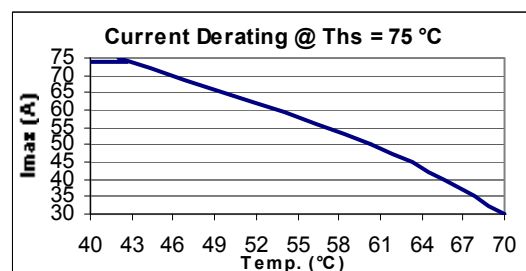
**B25620D1427K101**



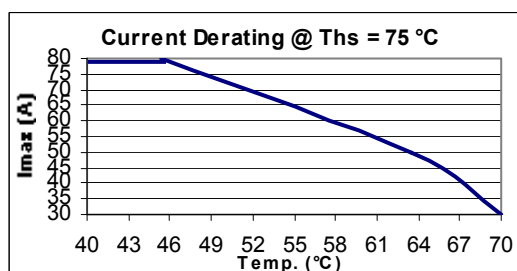
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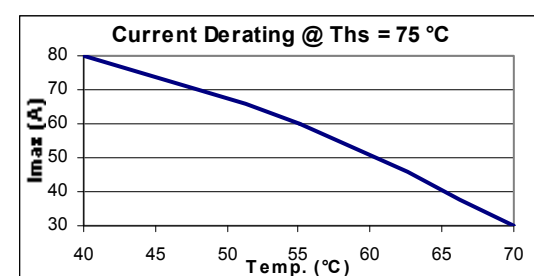
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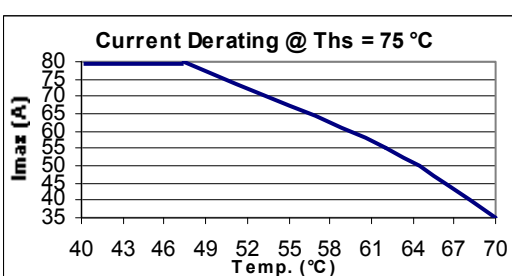
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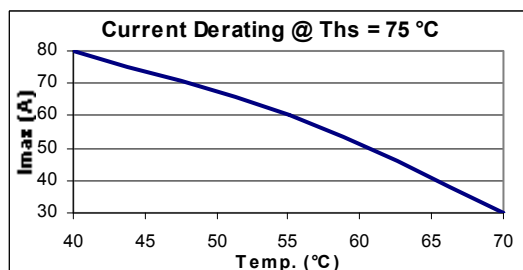
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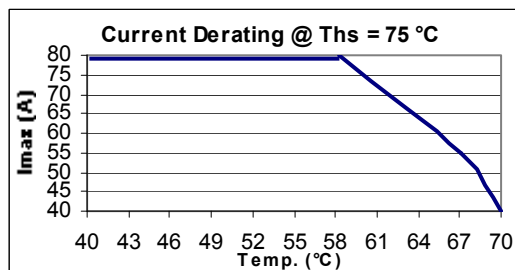
**B25620D1617K101**



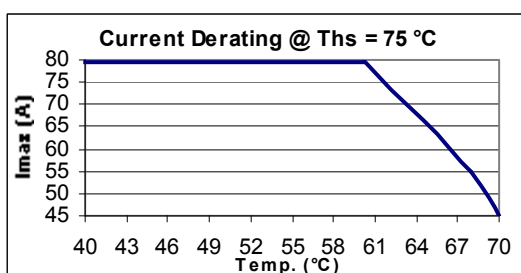
**B25620B1707K103**



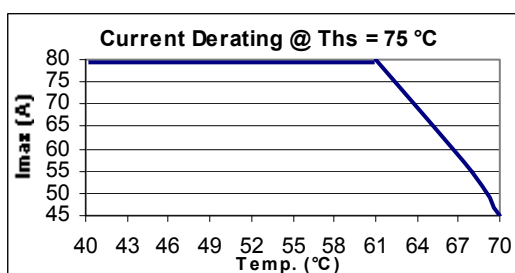
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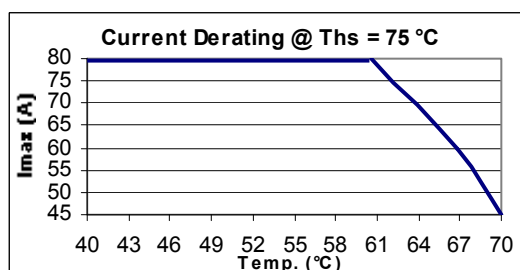
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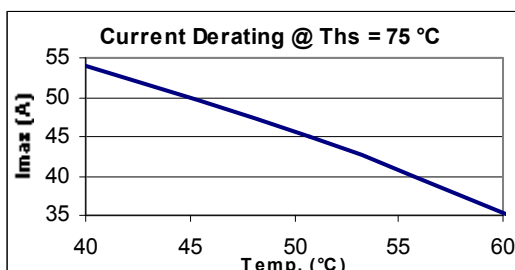
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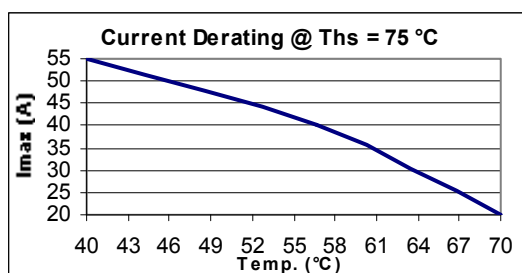
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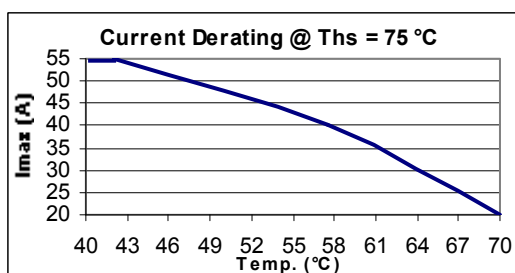
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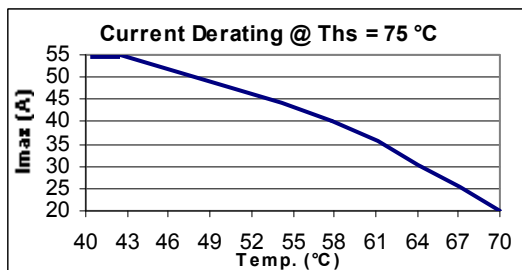
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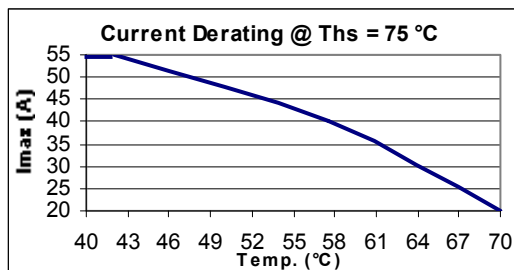
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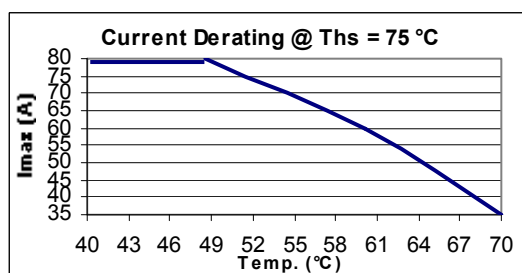
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**B25620B1477K104**

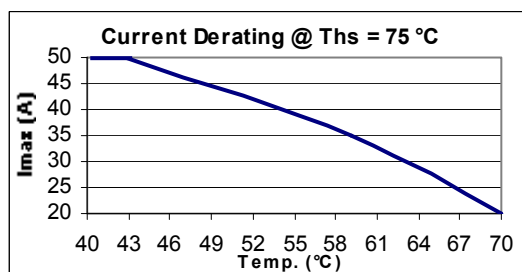


**B25620B1537K104**

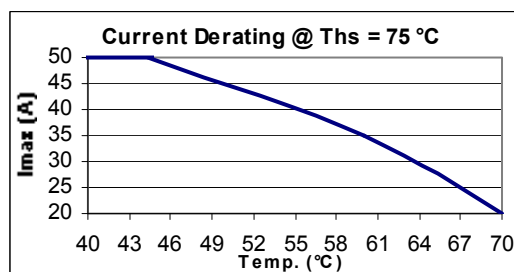


### 3.3 Current derating graphs for capacitors 1200 V DC

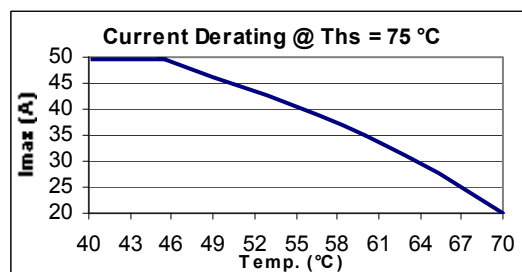
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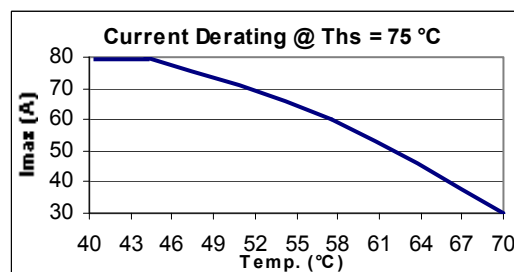
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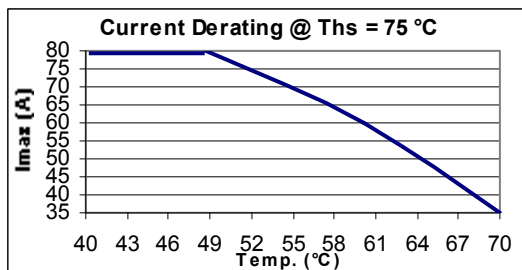
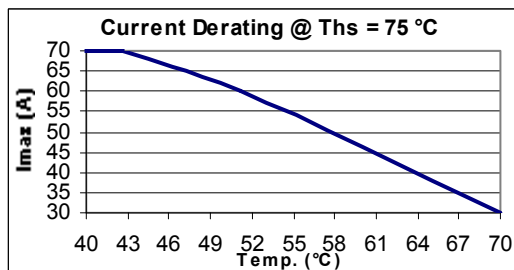
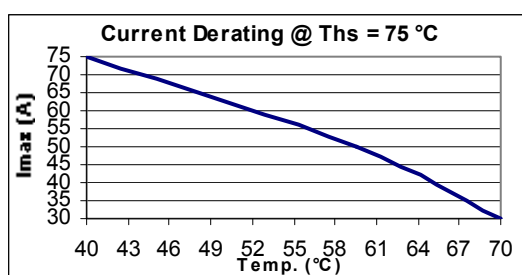
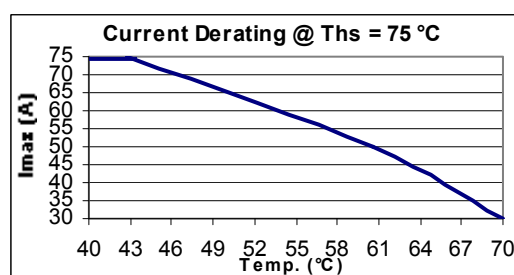
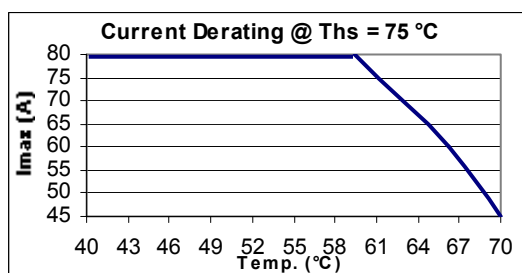
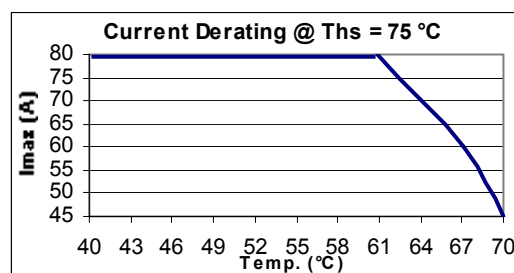


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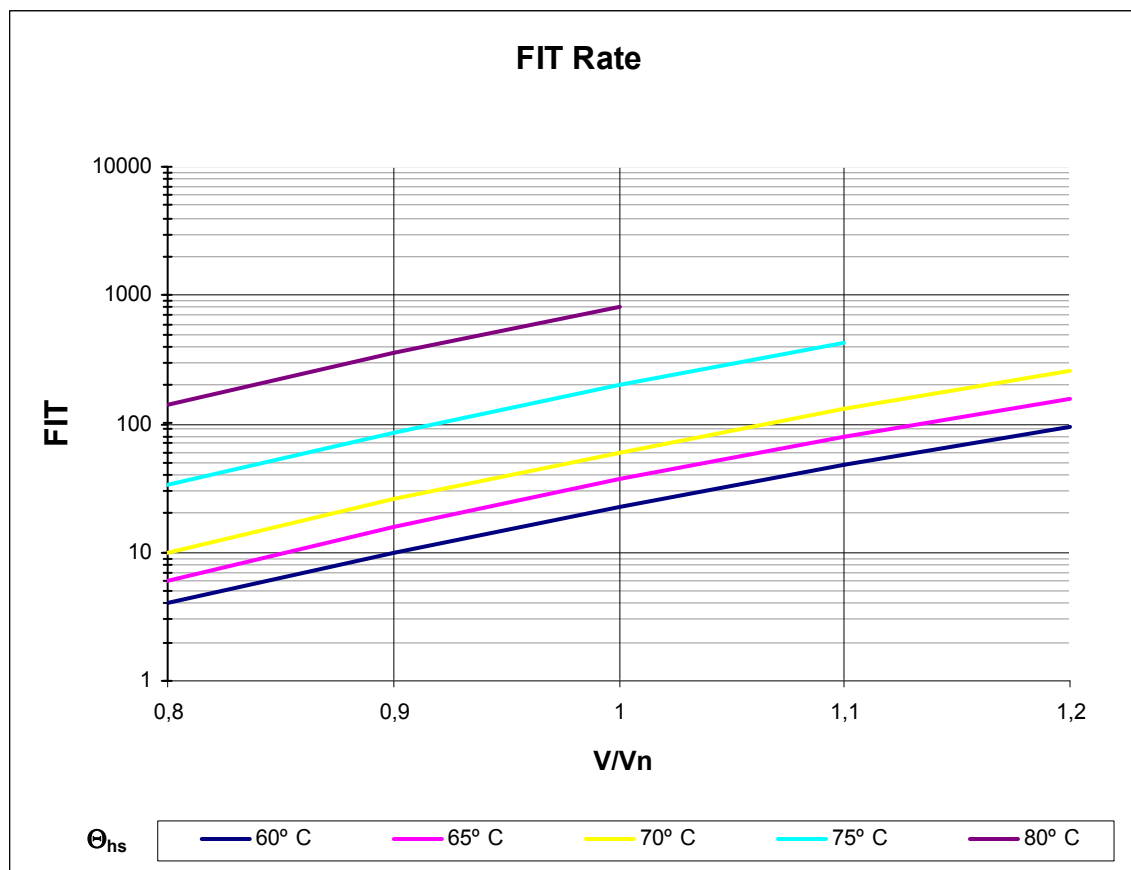
**B25620B1447K204**



**B25620B1557K204**

**B25620B1367K203**

**B25620B1507K203**

**B25620B1577K203**

**B25620B1737K203**

**B25620B1108K203**


Current derating graphs for capacitors rated 900 / 1320 / 1980 V DC are available upon request.

#### 4. FIT



**Cautions and warnings**

- In case of dents of more than 1 mm depth or any other mechanical damage, capacitors must not be used at all.
- Check tightness of the connections/terminals periodically.
- The energy stored in capacitors may be lethal. To prevent any chance of shock, discharge and short-circuit the capacitor before handling.
- Failure to follow cautions may result, worst case, in premature failures, bursting and fire.
- EPCOS AG is not responsible for any kind of possible damages to persons or things due to improper installation and application of capacitors for power electronics.

**Safety**

- Electrical or mechanical misapplication of capacitors may be hazardous. Personal injury or property damage may result from bursting of the capacitor or from expulsion of oil or melted material due to mechanical disruption of the capacitor.
- Ensure good, effective grounding for capacitor enclosures.
- Observe appropriate safety precautions during operation (self-recharging phenomena and the high energy contained in capacitors).
- Handle capacitors carefully, because they may still be charged even after disconnection.
- The terminals of capacitors, connected bus bars and cables as well as other devices may also be energized.
- Follow good engineering practice.

**Thermal load**

After installation of the capacitor it is necessary to verify that maximum hot-spot temperature is not exceeded at extreme service conditions.

**Mechanical protection**

The capacitor has to be installed in a way that mechanical damages and dents in the aluminum can are avoided.

**Storage and operating conditions**

Do not use or store capacitors in corrosive atmosphere, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are present. In dusty environments regular maintenance and cleaning especially of the terminals is required to avoid conductive path between phases and/or phases and ground.

The maximum storage temperature is 85 °C.

**Service life expectancy**

Electrical components do not have an unlimited service life expectancy; this applies to self-healing capacitors, too. The maximum service life expectancy may vary depending on the application the capacitor is used in.

## Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.
2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
3. **The warnings, cautions and product-specific notes must be observed.**
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous)**. Useful information on this will be found in our Material Data Sheets on the Internet ([www.epcos.com/material](http://www.epcos.com/material)). Should you have any more detailed questions, please contact our sales offices.
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