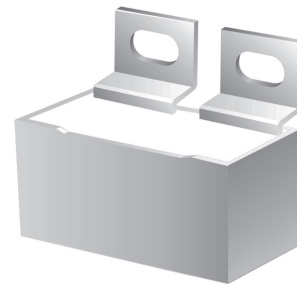


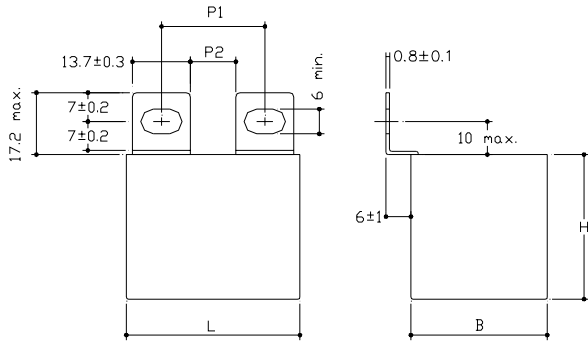
## Metallized polypropylene film capacitor MKP - Snubber/pulse - High current

**Main applications:** Snubber, energy conversion and control in power semiconductor circuits, IGBT modules protection and SMPS protection circuits, high voltage, high current and high pulse applications

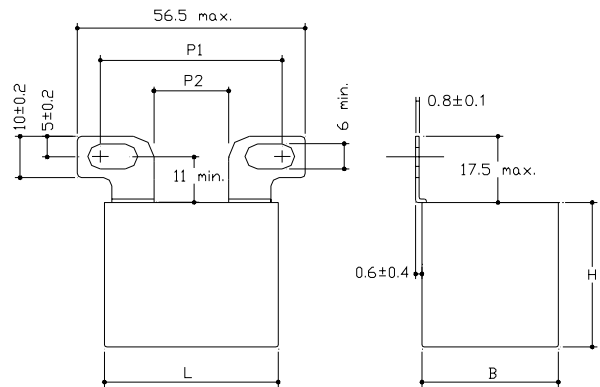


|   |   |  |                  |
|---|---|--|------------------|
| <b>Dielectric</b>                                       | Polypropylene   |  |                  |
| <b>Electrodes</b>                                       | Vacuum deposited metal layers   |  |                  |
| <b>Coating</b>  | Solvent resistant plastic case with resin sealing. Flame retardant execution (UL 94 V-0)  |  |                  |
| <b>Construction</b>                                     | Extended double side metallized carrier film with internal series connection and metallized film (refer to general technical information)   |  |                  |
| <b>Leads</b>  | Tinned copper lugs for screw fixing or soldering on PCBs (please refer to article table)  |  |                  |
| <b>Degree of protection</b>                             | IP00  |  |                  |
| <b>Installation</b>                                     | Whatever position assuring correct heat dissipation. Arrangement of many components with box walls in contact not admitted; suggested minimum distance between side by side elements $\geq 1/8$ of the box thickness. |  |                  |
| <b>Reference standard</b>                               | IEC 61071, IEC 60068  |  |                  |
| <b>Climatic category</b>                                | 40/85/56 (IEC 60068/1), GPD (DIN40040)  |  |                  |
| <b>Operating temperature range(case)</b>                | -40°...+85°C  |  |                  |
| <b>Max. permissible ambient temperature</b>             | +70°C (operation at rated power, rated current and natural cooling)   |  |                  |
| <b>Rated capacitance (Cr)</b>                           | 0,047 $\mu$ F to 5,6 $\mu$ F. Refer to article table  |  |                  |
| <b>Capacitance tolerance (at 1kHz)</b>                  | $\pm 10\%$ (code=K), $\pm 5\%$ (code=J) and $\pm 20\%$ (code=M). Other tolerances upon request  |  |                  |
| <b>Capacitance temperature coefficient</b>              | Refer to graphs in general technical information  |  |                  |
| <b>Long term stability (at 1kHz)</b>                    | Capacitance variation $\leq \pm 1\%$ after a period of 2 years at standard environmental conditions   |  |                  |
| <b>Rated voltage (Ur)</b>                               | 700, 850, 1000, 1200, 1500, 2000, 2500, 3000 Vdc  |  |                  |
| <b>Non Recurrent Surge Voltage (Upk)</b>                | 1000, 1200, 1400, 1600, 2000, 2400, 3000, 3500 Vdc  |  |                  |
| <b>Self inductance</b>                                  | $\leq 1$ nH/mm of fixing pitch  |  |                  |
| <b>Maximum pulse rise time</b>                          | Refer to article table  |  |                  |
| <b>Maximum peak current (Ipeak)</b>                     | Refer to article table. Max. non repetitive Ipk = 1,5 x Ipeak   |  |                  |
| <b>Dissipation factor (DF), max.</b>                    | (tg $\delta \times 10^{-4}$ , measured at 25 $\pm 5^\circ$ C)   |  |                  |
|   | Freq.   | Cr $\leq 1,0\mu$ F   | Cr > 1,0 $\mu$ F |
|   | 1kHz  | 4  | 6                |
| <b>Insulation resistance (IR)</b>                       | 30000s but need not exceed 30G $\Omega$ (typical value), after 1 minute of electrification at 100Vdc (25 $\pm$ 5°C).  |  |                  |
| <b>Test voltage between terminals (Ut)</b>              | 2xUr (DC) applied for 10s at 25 $\pm 5^\circ$ C (1 minute for type test)  |  |                  |
| <b>Test voltage between terminals and case (Utc)</b>    | 3kV 50+60Hz applied for 60s at 25 $\pm 5^\circ$ C   |  |                  |
| <b>Damp heat test (steady state)</b>                    | <b>Test conditions:</b><br>Temperature= +40 $\pm 2^\circ$ C<br>Relative humidity= 93 $\pm 2\%$<br>Test Duration= 56 days  | <b>Performance:</b><br>Capacitance change $\leq \pm 2\%$<br>DF change $\leq 0,0010$ at 1kHz<br>IR $\geq 50\%$ of initial limit value |                  |
| <b>Typical capacitance change versus operating time</b> | -3% after 30'000 hours at Urms or after 100'000 hours at Ur   |  |                  |
| <b>Life expectancy</b>                                  | $\geq 30'000$ hours   |  |                  |
| <b>Failure quota</b>                                    | 300/10 <sup>9</sup> component hours   |  |                  |

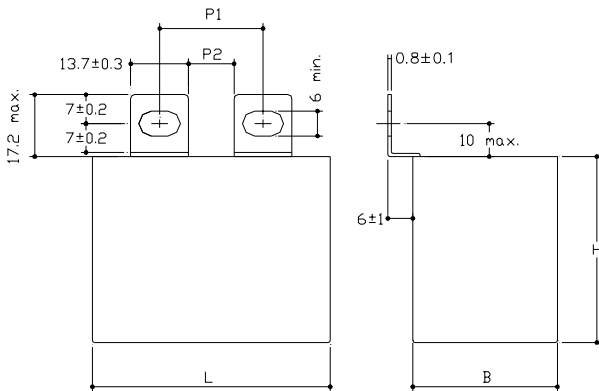
Style SP / SR



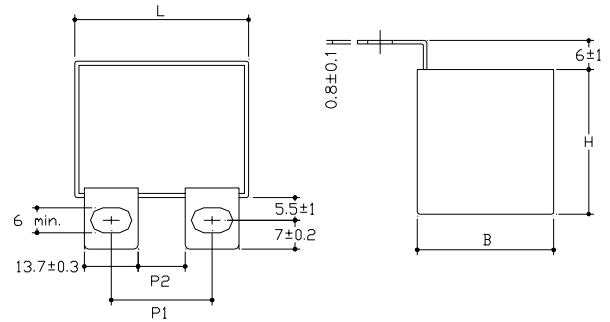
Style BP (Not available for L=57.5mm box)



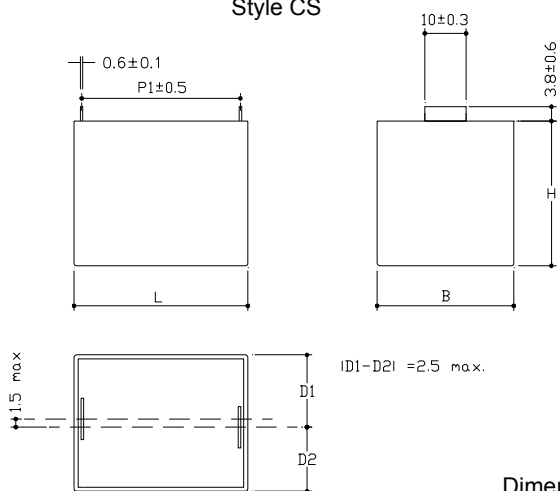
Style SN (for L=57.5mm box only)



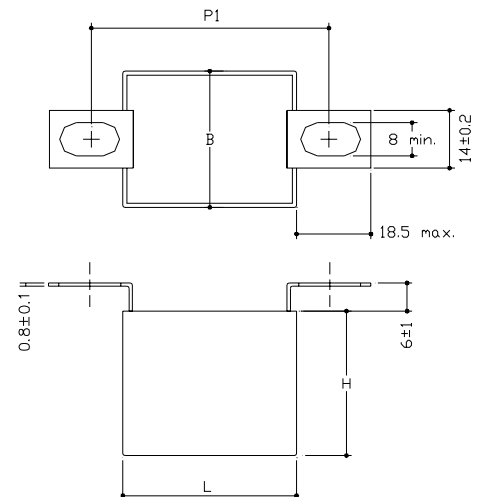
Style VP / VR



Style CS



Style AP



Dimensions in mm

| Fixing pitch and distance between lugs (mm) |            |    |            |    |            |    |            |    |               |    |               |    |            |          |
|---|------------|----|------------|----|------------|----|------------|----|---------------|----|---------------|----|------------|----------|
| L   | Style SP   |    | Style SR   |    | Style VP   |    | Style VR   |    | Style SN      |    | Style BP      |    | Style AP   | Style CS |
|   | P1         | P2 | P1         | P2 | P1         | P2 | P1         | P2 | P1            | P2 | P1            | P2 | P1         | P1       |
| 42.5  | 23+28 (M6) | 11 | 20+25 (M6) | 8  | 23+28 (M6) | 11 | 20+25 (M6) | 8  | Not available |    | 32+45 (M6)    | 17 | 51+64 (M8) | 38.5     |
| 57.5  | 37+42 (M6) | 24 | 34+39 (M6) | 21 | 37+42 (M6) | 24 | 34+39 (M6) | 21 | 23+28 (M6)    | 11 | Not available |    | 65+78 (M8) | 52.5     |

**PMB article table** (different values available upon request)

| Ur<br>Vdc | Urms<br>Vac <sup>(4)</sup> | Upk<br>Vdc | Cap.<br>µF | Dimension in mm |      |      | du/dt<br>V/µs | Ipeak<br>A | Irms <sup>(2)</sup><br>A | ESR <sup>(3)</sup><br>mΩ | ICEL Code <sup>(1)</sup> |
|-----------|----------------------------|------------|------------|-----------------|------|------|---------------|------------|--------------------------|--------------------------|--------------------------|
|           |                            |            |            | B               | H    | L    |               |            |                          |                          |                          |
| 700       | 380                        | 1000       | 1,2        | 24,5            | 27,5 | 42,5 | 325           | 390        | 16,5                     | 3,1                      | PMB1704120*##            |
| 700       | 380                        | 1000       | 2          | 33,5            | 35,5 | 42,5 | 325           | 650        | 22                       | 2,5                      | PMB1704200*##            |
| 700       | 380                        | 1000       | 2,2        | 33,5            | 35,5 | 42,5 | 325           | 715        | 22,5                     | 2,4                      | PMB1704220*##            |
| 700       | 380                        | 1000       | 2,5        | 33,5            | 35,5 | 42,5 | 325           | 812        | 23                       | 2,2                      | PMB1704250*##            |
| 700       | 380                        | 1000       | 3          | 33              | 45   | 42,5 | 325           | 975        | 26                       | 2,1                      | PMB1704300*##            |
| 700       | 380                        | 1000       | 3,3        | 33              | 45   | 42,5 | 325           | 1072       | 26,5                     | 2,1                      | PMB1704330*##            |
| 700       | 380                        | 1000       | 3,5        | 33              | 45   | 42,5 | 325           | 1140       | 27                       | 2                        | PMB1704350*##            |
| 700       | 380                        | 1000       | 4          | 30              | 45   | 57,5 | 200           | 800        | 27                       | 2,3                      | PMB1704400*##            |
| 700       | 380                        | 1000       | 4,7        | 35              | 50   | 57,5 | 200           | 940        | 31                       | 2,1                      | PMB1704470*##            |
| 700       | 380                        | 1000       | 5          | 35              | 50   | 57,5 | 200           | 1000       | 31                       | 2,1                      | PMB1704500*##            |
| 700       | 380                        | 1000       | 5,6        | 35              | 50   | 57,5 | 200           | 1120       | 32                       | 2                        | PMB1704560*##            |
| 850       | 450                        | 1200       | 0,82       | 24,5            | 27,5 | 42,5 | 400           | 328        | 15,5                     | 3,1                      | PMB1853820*##            |
| 850       | 450                        | 1200       | 1          | 24,5            | 27,5 | 42,5 | 400           | 400        | 17,5                     | 2,7                      | PMB1854100*##            |
| 850       | 450                        | 1200       | 1,5        | 33,5            | 35,5 | 42,5 | 400           | 600        | 23                       | 2,2                      | PMB1854150*##            |
| 850       | 450                        | 1200       | 1,75       | 33,5            | 35,5 | 42,5 | 400           | 700        | 23,5                     | 2,2                      | PMB1854175*##            |
| 850       | 450                        | 1200       | 2          | 33              | 45   | 42,5 | 400           | 800        | 26,5                     | 2                        | PMB1854200*##            |
| 850       | 450                        | 1200       | 2,2        | 33              | 45   | 42,5 | 400           | 880        | 27                       | 2                        | PMB1854220*##            |
| 850       | 450                        | 1200       | 2,5        | 33              | 45   | 42,5 | 400           | 1000       | 28                       | 1,9                      | PMB1854250*##            |
| 850       | 450                        | 1200       | 3          | 30              | 45   | 57,5 | 275           | 825        | 28,5                     | 2,2                      | PMB1854300*##            |
| 850       | 450                        | 1200       | 3,3        | 30              | 45   | 57,5 | 275           | 907        | 29,5                     | 2,1                      | PMB1854330*##            |
| 850       | 450                        | 1200       | 4          | 35              | 50   | 57,5 | 275           | 1100       | 32                       | 1,9                      | PMB1854400*##            |
| 1000      | 480                        | 1400       | 0,68       | 24,5            | 27,5 | 42,5 | 500           | 340        | 15                       | 3,3                      | PMB2103680*##            |
| 1000      | 480                        | 1400       | 0,75       | 24,5            | 27,5 | 42,5 | 500           | 375        | 15,5                     | 3,2                      | PMB2103750*##            |
| 1000      | 480                        | 1400       | 1,2        | 33,5            | 35,5 | 42,5 | 500           | 600        | 22                       | 2,5                      | PMB2104120*##            |
| 1000      | 480                        | 1400       | 1,5        | 33,5            | 35,5 | 42,5 | 500           | 750        | 23,5                     | 2,2                      | PMB2104150*##            |
| 1000      | 480                        | 1400       | 1,75       | 33              | 45   | 42,5 | 500           | 875        | 25,5                     | 2,1                      | PMB2104175*##            |
| 1000      | 480                        | 1400       | 2          | 33              | 45   | 42,5 | 500           | 1000       | 26,5                     | 2                        | PMB2104200*##            |
| 1000      | 480                        | 1400       | 2,2        | 30              | 45   | 57,5 | 320           | 704        | 26,5                     | 2,5                      | PMB2104220*##            |
| 1000      | 480                        | 1400       | 3          | 35              | 50   | 57,5 | 320           | 960        | 31                       | 2,1                      | PMB2104300*##            |
| 1000      | 480                        | 1400       | 3,3        | 35              | 50   | 57,5 | 320           | 1060       | 32                       | 2                        | PMB2104330*##            |
| 1200      | 500                        | 1600       | 0,33       | 24,5            | 27,5 | 42,5 | 650           | 210        | 12                       | 5,1                      | PMB2123330*##            |
| 1200      | 500                        | 1600       | 0,39       | 24,5            | 27,5 | 42,5 | 650           | 254        | 13                       | 4,6                      | PMB2123390*##            |
| 1200      | 500                        | 1600       | 0,47       | 24,5            | 27,5 | 42,5 | 650           | 306        | 14                       | 4,1                      | PMB2123470*##            |
| 1200      | 500                        | 1600       | 0,56       | 24,5            | 27,5 | 42,5 | 650           | 365        | 14,5                     | 3,7                      | PMB2123560*##            |
| 1200      | 500                        | 1600       | 0,68       | 33,5            | 35,5 | 42,5 | 650           | 442        | 19                       | 3,3                      | PMB2123680*##            |
| 1200      | 500                        | 1600       | 0,82       | 33,5            | 35,5 | 42,5 | 650           | 533        | 20                       | 3                        | PMB2123820*##            |
| 1200      | 500                        | 1600       | 1          | 33,5            | 35,5 | 42,5 | 650           | 650        | 20,5                     | 2,7                      | PMB2124100*##            |
| 1200      | 500                        | 1600       | 1,2        | 33              | 45   | 42,5 | 650           | 780        | 23,5                     | 2,4                      | PMB2124120*##            |
| 1200      | 500                        | 1600       | 1,5        | 33              | 45   | 42,5 | 650           | 975        | 25                       | 2,1                      | PMB2124150*##            |
| 1200      | 500                        | 1600       | 2          | 30              | 45   | 57,5 | 350           | 700        | 27                       | 2,4                      | PMB2124200*##            |
| 1200      | 500                        | 1600       | 2,2        | 35              | 50   | 57,5 | 350           | 770        | 30                       | 2,3                      | PMB2124220*##            |
| 1200      | 500                        | 1600       | 2,5        | 35              | 50   | 57,5 | 350           | 875        | 31                       | 2,1                      | PMB2124250*##            |
| 1500      | 575                        | 2000       | 0,33       | 24,5            | 27,5 | 42,5 | 800           | 264        | 13,5                     | 4,6                      | PMB2153330*##            |
| 1500      | 575                        | 2000       | 0,39       | 24,5            | 27,5 | 42,5 | 800           | 312        | 14                       | 4,3                      | PMB2153390*##            |
| 1500      | 575                        | 2000       | 0,47       | 33,5            | 35,5 | 42,5 | 800           | 376        | 18                       | 3,7                      | PMB2153470*##            |
| 1500      | 575                        | 2000       | 0,68       | 33,5            | 35,5 | 42,5 | 800           | 544        | 19,5                     | 3,1                      | PMB2153680*##            |
| 1500      | 575                        | 2000       | 0,75       | 33,5            | 35,5 | 42,5 | 800           | 600        | 20,5                     | 2,8                      | PMB2153750*##            |
| 1500      | 575                        | 2000       | 1,0        | 33              | 45   | 42,5 | 800           | 800        | 23                       | 2,5                      | PMB2154100*##            |
| 1500      | 575                        | 2000       | 1,2        | 30              | 45   | 57,5 | 500           | 600        | 25                       | 2,8                      | PMB2154120*##            |
| 1500      | 575                        | 2000       | 1,5        | 35              | 50   | 57,5 | 500           | 750        | 28                       | 2,5                      | PMB2154150*##            |
| 1500      | 575                        | 2000       | 1,8        | 35              | 50   | 57,5 | 500           | 900        | 29,5                     | 2,3                      | PMB2154180*##            |
| 2000      | 630                        | 2400       | 0,1        | 24,5            | 27,5 | 42,5 | 1000          | 100        | 8                        | 13                       | PMB2203100*##            |
| 2000      | 630                        | 2400       | 0,15       | 24,5            | 27,5 | 42,5 | 1000          | 150        | 10,5                     | 7,5                      | PMB2203150*##            |
| 2000      | 630                        | 2400       | 0,22       | 24,5            | 27,5 | 42,5 | 1000          | 220        | 12                       | 5,1                      | PMB2203220*##            |
| 2000      | 630                        | 2400       | 0,33       | 33,5            | 35,5 | 42,5 | 1000          | 330        | 16,5                     | 4,1                      | PMB2203330*##            |
| 2000      | 630                        | 2400       | 0,39       | 33,5            | 35,5 | 42,5 | 1000          | 390        | 17,5                     | 3,6                      | PMB2203390*##            |
| 2000      | 630                        | 2400       | 0,47       | 33              | 45   | 42,5 | 1000          | 470        | 20,5                     | 3,2                      | PMB2203470*##            |
| 2000      | 630                        | 2400       | 0,56       | 33              | 45   | 42,5 | 1000          | 560        | 21,5                     | 3                        | PMB2203560*##            |
| 2000      | 630                        | 2400       | 0,68       | 30              | 45   | 57,5 | 580           | 394        | 22,5                     | 3,5                      | PMB2203680*##            |
| 2000      | 630                        | 2400       | 0,82       | 30              | 45   | 57,5 | 580           | 475        | 24                       | 3,1                      | PMB2203820*##            |
| 2000      | 630                        | 2400       | 1          | 35              | 50   | 57,5 | 580           | 580        | 27                       | 2,8                      | PMB2204100*##            |
| 2000      | 630                        | 2400       | 1,2        | 35              | 50   | 57,5 | 580           | 696        | 29                       | 2,4                      | PMB2204120*##            |

(1)Change the \* symbol with the needed capacitance tolerance code: J=±5%, K=±10%, M=±20% and the ## characters with the needed style code - (2) Maximum values at 100kHz, +70°C - (3) Typical values at 100kHz- (4)Not suitable for across the line application.

| Ur<br>Vdc | Urms<br>Vac <sup>(4)</sup> | Upk<br>Vdc | Cap.<br>μF | Dimension in mm |      |      | du/dt<br>V/μs | Ipeak<br>A | Irms <sup>(2)</sup><br>A | ESR <sup>(3)</sup><br>mΩ | ICEL Code <sup>(1)</sup> |
|-----------|----------------------------|------------|------------|-----------------|------|------|---------------|------------|--------------------------|--------------------------|--------------------------|
|           |                            |            |            | B               | H    | L    |               |            |                          |                          |                          |
| 2500      | 700                        | 3000       | 0,1        | 24,5            | 27,5 | 42,5 | 1350          | 135        | 9                        | 11,2                     | PMB2253100*##            |
| 2500      | 700                        | 3000       | 0,15       | 24,5            | 27,5 | 42,5 | 1350          | 202        | 11                       | 7,2                      | PMB2253150*##            |
| 2500      | 700                        | 3000       | 0,22       | 33,5            | 35,5 | 42,5 | 1350          | 297        | 15                       | 5,2                      | PMB2253220*##            |
| 2500      | 700                        | 3000       | 0,33       | 33,5            | 35,5 | 42,5 | 1350          | 445        | 18                       | 3,8                      | PMB2253330*##            |
| 2500      | 700                        | 3000       | 0,47       | 33              | 45   | 42,5 | 1350          | 634        | 22                       | 3                        | PMB2253470*##            |
| 2500      | 700                        | 3000       | 0,56       | 30              | 45   | 57,5 | 750           | 420        | 22,5                     | 3,5                      | PMB2253560*##            |
| 2500      | 700                        | 3000       | 0,68       | 35              | 50   | 57,5 | 750           | 510        | 25                       | 3,2                      | PMB2253680*##            |
| 2500      | 700                        | 3000       | 0,82       | 35              | 50   | 57,5 | 750           | 615        | 26                       | 2,9                      | PMB2253820*##            |
| 3000      | 750                        | 3500       | 0,047      | 24,5            | 27,5 | 42,5 | 1600          | 75         | 7,5                      | 16,5                     | PMB2302470*##            |
| 3000      | 750                        | 3500       | 0,068      | 24,5            | 27,5 | 42,5 | 1600          | 109        | 9                        | 11,5                     | PMB2302680*##            |
| 3000      | 750                        | 3500       | 0,1        | 33,5            | 35,5 | 42,5 | 1600          | 160        | 12                       | 8,5                      | PMB2303100*##            |
| 3000      | 750                        | 3500       | 0,15       | 33,5            | 35,5 | 42,5 | 1600          | 240        | 14,5                     | 6,1                      | PMB2303150*##            |
| 3000      | 750                        | 3500       | 0,22       | 33              | 45   | 42,5 | 1600          | 352        | 18                       | 4,3                      | PMB2303220*##            |
| 3000      | 750                        | 3500       | 0,33       | 30              | 45   | 57,5 | 875           | 288        | 20,5                     | 4,3                      | PMB2303330*##            |
| 3000      | 750                        | 3500       | 0,47       | 35              | 50   | 57,5 | 875           | 411        | 23                       | 3,8                      | PMB2303470*##            |

(1)Change the \* symbol with the needed capacitance tolerance code: J=±5%, K=±10%, M=±20% and the ## characters with the needed style code - (2) Maximum values at 100kHz, +70°C - (3) Typical values at 100kHz - (4)Not suitable for across the line application.

## Warning

This specification must be completed with the data given in the  
 “General technical information” chapter