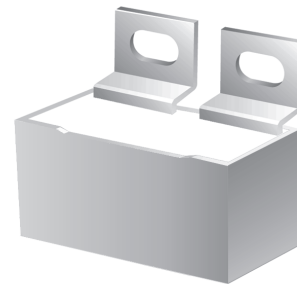


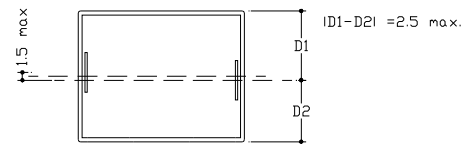
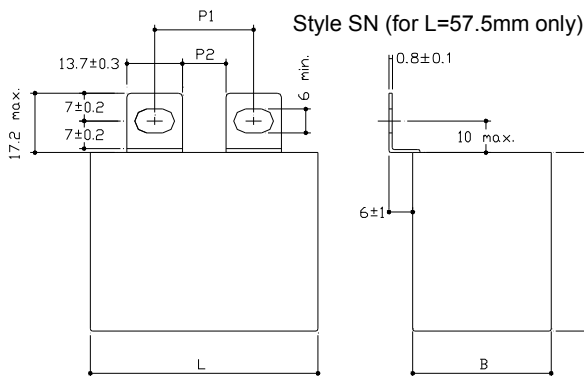
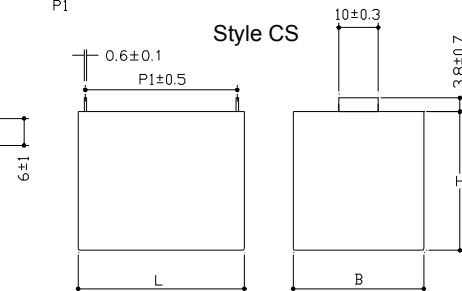
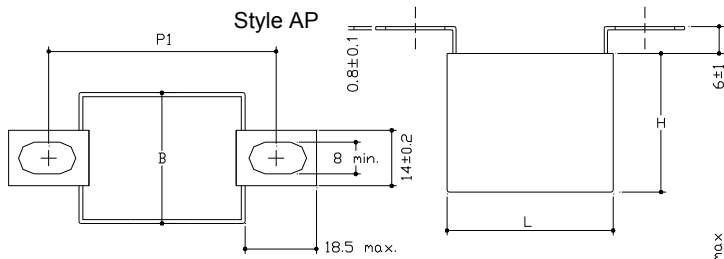
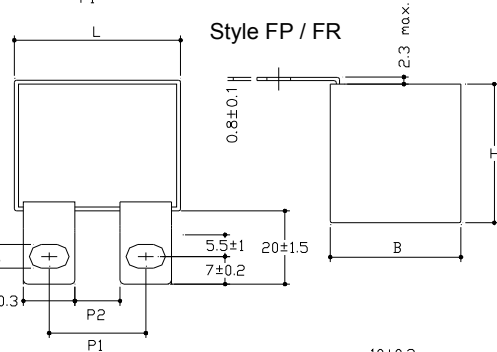
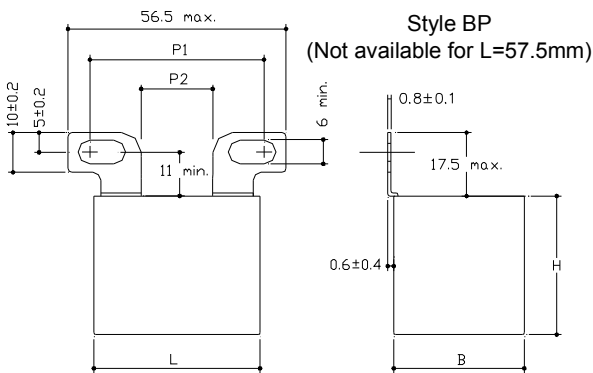
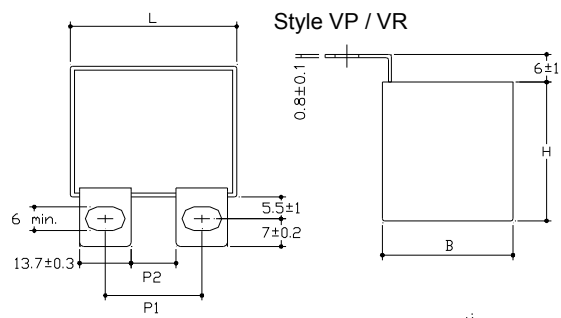
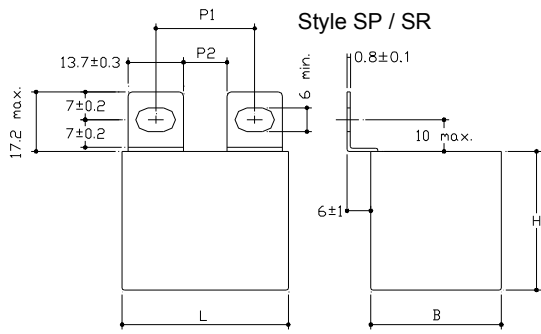
## Metallized polypropylene film capacitor MKP - Switching - High current

**Main applications:** Switching capacitor for resonant circuits, industrial and motor speed controls, induction heaters, high frequency and high current applications.

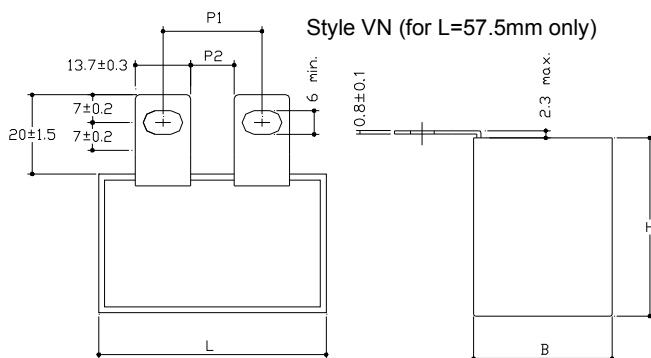


| <b>Dielectric</b>  | Polypropylene  |  |  |   |                             |      |   |   |    |
|--|--|--|--|---|-----------------------------|------|---|---|----|
| <b>Electrodes</b>  | Vacuum deposited metal layers  |  |  |   |                             |      |   |   |    |
| <b>Coating (flame retardant)</b>   | Solvent resistant plastic case with resin sealing (UL 94 V-0)  |  |  |   |                             |      |   |   |    |
| <b>Construction</b>  | Extended metallized film (refer to general technical information)  |  |  |   |                             |      |   |   |    |
| <b>Terminals</b>   | Tinned copper lugs (lead-free) 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, RoHS compliant   |  |  |   |                             |      |   |   |    |
| <b>Climatic category</b>   | 40/85/56 (IEC 60068/1), GPD (DIN40040)   |  |  |   |                             |      |   |   |    |
| <b>Operating temperature range(case)</b>   | -40°...+85°C (+100°C observing voltage and current de-rating)  |  |  |   |                             |      |   |   |    |
| <b>Max. permissible ambient temperature</b>  | +70°C, operation at rated power, current, voltage and natural cooling (+85°C observing voltage and current de-rating)  |  |  |   |                             |      |   |   |    |
| <b>Rated capacitance (Cr)</b>  | 1,5µF to 60µF. 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>  | 250, 330, 400, 600, 700 Vdc  |  |  |   |                             |      |   |   |    |
| <b>Temperature de-rated voltage</b>  | For operating temperature (case) $>+85^\circ\text{C}$ , Ur must be decreased 1,5% for every °C exceeding +85°C, Urms must be decreased 2,5% for every °C exceeding +85°C   |  |  |   |                             |      |   |   |    |
| <b>Non Recurrent Surge Voltage (Upk)</b>   | 400, 500, 600, 800, 1000 Vdc   |  |  |   |                             |      |   |   |    |
| <b>Self inductance</b>   | $\leq 1\text{nH/mm}$ 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>   | ( $\text{tg}\delta \times 10^{-4}$ , measured at $25\pm 5^\circ\text{C}$ )   |  |  |   |                             |      |   |   |    |
|  | <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="border: none;">Freq.</th> <th style="border: none;"><math>\text{Cr} \leq 5\mu\text{F}</math></th> <th style="border: none;"><math>5\mu\text{F} &lt; \text{Cr} \leq 25\mu\text{F}</math></th> <th style="border: none;"><math>\text{Cr} &gt; 25\mu\text{F}</math></th> </tr> </thead> <tbody> <tr> <td style="border: none;">1kHz</td> <td style="border: none;">5</td> <td style="border: none;">8</td> <td style="border: none;">10</td> </tr> </tbody> </table> | Freq.  | $\text{Cr} \leq 5\mu\text{F}$  | $5\mu\text{F} < \text{Cr} \leq 25\mu\text{F}$ | $\text{Cr} > 25\mu\text{F}$ | 1kHz | 5 | 8 | 10 |
| Freq.  | $\text{Cr} \leq 5\mu\text{F}$  | $5\mu\text{F} < \text{Cr} \leq 25\mu\text{F}$  | $\text{Cr} > 25\mu\text{F}$  |   |                             |      |   |   |    |
| 1kHz   | 5  | 8  | 10   |   |                             |      |   |   |    |
| <b>Insulation resistance (IR)</b>  | 30000s but need not exceed $30\text{G}\Omega$ (typical value), after 1 minute of electrification at 100Vdc ( $25 \pm 5^\circ\text{C}$ ).   |  |  |   |                             |      |   |   |    |
| <b>Test voltage between terminals (Ut)</b>   | 1,6xUr (DC) applied for 10s / 2xUr (DC) applied for 2s, at $25\pm 5^\circ\text{C}$   |  |  |   |                             |      |   |   |    |
| <b>Test voltage between terminals and case (Utc)</b>   | 3kV 50+60Hz applied for 60s at $25\pm 5^\circ\text{C}$   |  |  |   |                             |      |   |   |    |
| <b>Damp heat test (steady state)</b>   | <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top;"><b>Test conditions:</b><br/>Temperature= <math>+40\pm 2^\circ\text{C}</math><br/>Relative humidity= <math>93\pm 2\%</math><br/>Test Duration= 56 days</td> <td style="vertical-align: top;"><b>Performance:</b><br/>Capacitance change <math>\leq \pm 2\%</math><br/>DF change <math>\leq 0,0010</math> at 1kHz<br/>IR <math>\geq 50\%</math> of initial limit value</td> </tr> </table>   | <b>Test conditions:</b><br>Temperature= $+40\pm 2^\circ\text{C}$<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>Test conditions:</b><br>Temperature= $+40\pm 2^\circ\text{C}$<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>  | -5% after 30'000 hours at Urms or after 100'000 hours at Ur  |  |  |   |                             |      |   |   |    |
| <b>Life expectancy</b>   | $\geq 100'000$ hours (Un); 30'000 hours (Urms)   |  |  |   |                             |      |   |   |    |
| <b>Failure quota</b>   | 300/10 <sup>9</sup> component hours  |  |  |   |                             |      |   |   |    |

**Warning:** this specification must be completed with the data given in the "General technical information" chapter



Dimensions in mm



| Fixing pitch and distance between lugs (mm) |      |               |    |
|---|------|---------------|----|
| Lugs style                                  | L    | P1            | P2 |
| SP, VP, FP                                  | 42,5 | 23±28 (M6)    | 11 |
|   | 57,5 | 37±42 (M6)    | 24 |
| SR, VR, FR                                  | 42,5 | 20±25 (M6)    | 8  |
|   | 57,5 | 34±39 (M6)    | 21 |
| SN, VN                                      | 42,5 | Not available |    |
|   | 57,5 | 23±28 (M6)    | 11 |
| AP  | 42,5 | 51±64 (M8)    | -  |
|   | 57,5 | 65±78 (M8)    | -  |
| BP  | 42,5 | 32±45 (M6)    | 17 |
|   | 57,5 | Not available |    |
| Style CS<br>(not for new design)            | 42,5 | 38,5          | -  |
|   | 57,5 | 52,5          | -  |

PMC 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    |               |            |                          |                          |                          |
| 250       | 160                        | 400        | 10         | 17              | 28   | 42,5 | 25            | 250        | 17,5                     | 2,6                      | PMC1255100*##B           |
| 250       | 160                        | 400        | 10         | 24,5            | 27,5 | 42,5 | 25            | 250        | 19                       | 2,6                      | PMC1255100*##            |
| 250       | 160                        | 400        | 15         | 22              | 33,5 | 42,5 | 25            | 375        | 22                       | 2,2                      | PMC1255150*##B           |
| 250       | 160                        | 400        | 15         | 33,5            | 35,5 | 42,5 | 25            | 375        | 24,5                     | 2,2                      | PMC1255150*##            |
| 250       | 160                        | 400        | 20         | 33,5            | 35,5 | 42,5 | 25            | 500        | 27                       | 1,9                      | PMC1255200*##            |
| 250       | 160                        | 400        | 22         | 33,5            | 35,5 | 42,5 | 25            | 550        | 27,5                     | 1,9                      | PMC1255220*##            |
| 250       | 160                        | 400        | 25         | 33,5            | 35,5 | 42,5 | 25            | 625        | 28                       | 1,8                      | PMC1255250*##            |
| 250       | 160                        | 400        | 30         | 33              | 45   | 42,5 | 25            | 750        | 30                       | 1,7                      | PMC1255300*##            |
| 250       | 160                        | 400        | 33         | 33              | 45   | 42,5 | 25            | 825        | 31                       | 1,7                      | PMC1255330*##            |
| 250       | 160                        | 400        | 35         | 33              | 45   | 42,5 | 25            | 875        | 31                       | 1,7                      | PMC1255350*##            |
| 250       | 160                        | 400        | 40         | 30              | 45   | 57,5 | 15            | 600        | 28,5                     | 2,4                      | PMC1255400*##            |
| 250       | 160                        | 400        | 50         | 35              | 50   | 57,5 | 15            | 750        | 33                       | 2,1                      | PMC1255500*##            |
| 250       | 160                        | 400        | 60         | 35              | 50   | 57,5 | 15            | 900        | 34,5                     | 1,9                      | PMC1255600*##            |
| 330       | 220                        | 500        | 4,7        | 17              | 28   | 42,5 | 30            | 141        | 15                       | 3,6                      | PMC1334470*##            |
| 330       | 220                        | 500        | 6,8        | 24,5            | 27,5 | 42,5 | 30            | 204        | 18,5                     | 2,8                      | PMC1334680*##            |
| 330       | 220                        | 500        | 10         | 22              | 33,5 | 42,5 | 30            | 300        | 21                       | 2,4                      | PMC1335100*##            |
| 330       | 220                        | 500        | 15         | 33,5            | 35,5 | 42,5 | 30            | 450        | 26,5                     | 2                        | PMC1335150*##            |
| 330       | 220                        | 500        | 20         | 33              | 45   | 42,5 | 30            | 600        | 29,5                     | 1,8                      | PMC1335200*##            |
| 330       | 220                        | 500        | 22         | 33              | 45   | 42,5 | 30            | 660        | 30,5                     | 1,7                      | PMC1335220*##            |
| 330       | 220                        | 500        | 25         | 30              | 45   | 57,5 | 17            | 425        | 26,5                     | 2,7                      | PMC1335250*##            |
| 330       | 220                        | 500        | 30         | 30              | 45   | 57,5 | 17            | 510        | 27,5                     | 2,5                      | PMC1335300*##            |
| 330       | 220                        | 500        | 35         | 35              | 50   | 57,5 | 17            | 595        | 31                       | 2,3                      | PMC1335350*##            |
| 330       | 220                        | 500        | 40         | 35              | 50   | 57,5 | 17            | 680        | 32,5                     | 2,1                      | PMC1335400*##            |
| 400       | 275                        | 600        | 4          | 17              | 28   | 42,5 | 40            | 160        | 15,5                     | 3,2                      | PMC1404400*##B           |
| 400       | 275                        | 600        | 4          | 24,5            | 27,5 | 42,5 | 40            | 160        | 17                       | 3,2                      | PMC1404400*##            |
| 400       | 275                        | 600        | 5          | 24,5            | 27,5 | 42,5 | 40            | 200        | 18,5                     | 2,8                      | PMC1404500*##            |
| 400       | 275                        | 600        | 6,8        | 22              | 33,5 | 42,5 | 40            | 272        | 21                       | 2,4                      | PMC1404680*##B           |
| 400       | 275                        | 600        | 6,8        | 33,5            | 35,5 | 42,5 | 40            | 272        | 23,5                     | 2,4                      | PMC1404680*##            |
| 400       | 275                        | 600        | 10         | 33,5            | 35,5 | 42,5 | 40            | 400        | 26,5                     | 2                        | PMC1405100*##            |
| 400       | 275                        | 600        | 12,5       | 33              | 45   | 42,5 | 40            | 500        | 29                       | 1,9                      | PMC1405125*##            |
| 400       | 275                        | 600        | 15         | 33              | 45   | 42,5 | 40            | 600        | 30                       | 1,8                      | PMC1405150*##            |
| 400       | 275                        | 600        | 20         | 30              | 45   | 57,5 | 20            | 400        | 26,5                     | 2,8                      | PMC1405200*##            |
| 400       | 275                        | 600        | 22         | 35              | 50   | 57,5 | 20            | 440        | 29                       | 2,7                      | PMC1405220*##            |
| 400       | 275                        | 600        | 25         | 35              | 50   | 57,5 | 20            | 500        | 30                       | 2,5                      | PMC1405250*##            |
| 600       | 350                        | 800        | 2,2        | 17              | 28   | 42,5 | 55            | 121        | 14                       | 4,1                      | PMC1604220*##            |
| 600       | 350                        | 800        | 2,5        | 24,5            | 27,5 | 42,5 | 55            | 137        | 16                       | 3,8                      | PMC1604250*##            |
| 600       | 350                        | 800        | 3          | 24,5            | 27,5 | 42,5 | 55            | 165        | 17                       | 3,4                      | PMC1604300*##            |
| 600       | 350                        | 800        | 3,3        | 24,5            | 27,5 | 42,5 | 55            | 181,5      | 17                       | 3,3                      | PMC1604330*##            |
| 600       | 350                        | 600        | 4          | 22              | 33,5 | 42,5 | 55            | 220        | 20                       | 2,6                      | PMC1604400*##B           |
| 600       | 350                        | 800        | 4          | 33,5            | 35,5 | 42,5 | 55            | 220        | 23                       | 2,6                      | PMC1604400*##            |
| 600       | 350                        | 800        | 4,7        | 33,5            | 35,5 | 42,5 | 55            | 258,5      | 24                       | 2,4                      | PMC1604470*##            |
| 600       | 350                        | 800        | 5          | 33,5            | 35,5 | 42,5 | 55            | 275        | 24                       | 2,4                      | PMC1604500*##            |
| 600       | 350                        | 800        | 6,8        | 33              | 45   | 42,5 | 55            | 374        | 27,5                     | 2,1                      | PMC1604680*##            |
| 600       | 350                        | 800        | 9          | 33              | 45   | 42,5 | 55            | 495        | 30                       | 1,8                      | PMC1604900*##            |
| 600       | 350                        | 800        | 10         | 30              | 45   | 57,5 | 30            | 300        | 23,5                     | 3,6                      | PMC1605100*##            |
| 600       | 350                        | 800        | 12,5       | 35              | 50   | 57,5 | 30            | 375        | 26                       | 3,3                      | PMC1605125*##            |
| 600       | 350                        | 800        | 15         | 35              | 50   | 57,5 | 30            | 450        | 27,5                     | 3                        | PMC1605150*##            |
| 700       | 400                        | 1000       | 1,2        | 17              | 28   | 42,5 | 70            | 84         | 12                       | 5,3                      | PMC1704100*##            |
| 700       | 400                        | 1000       | 1,5        | 24,5            | 27,5 | 42,5 | 70            | 105        | 14,5                     | 4,6                      | PMC1704150*##            |
| 700       | 400                        | 1000       | 2          | 24,5            | 27,5 | 42,5 | 70            | 140        | 16                       | 3,8                      | PMC1704200*##            |
| 700       | 400                        | 1000       | 2,5        | 22              | 33,5 | 42,5 | 70            | 175        | 17,5                     | 3,3                      | PMC1704250*##            |
| 700       | 400                        | 1000       | 2,5        | 33,5            | 35,5 | 42,5 | 70            | 175        | 20,5                     | 3,3                      | PMC1704250*##            |
| 700       | 400                        | 1000       | 3          | 33,5            | 35,5 | 42,5 | 70            | 210        | 21,5                     | 3                        | PMC1704300*##            |
| 700       | 400                        | 1000       | 3,3        | 33,5            | 35,5 | 42,5 | 70            | 231        | 22                       | 2,9                      | PMC1704330*##            |
| 700       | 400                        | 1000       | 4          | 33              | 45   | 42,5 | 70            | 280        | 25,5                     | 2,5                      | PMC1704400*##            |
| 700       | 400                        | 1000       | 4,7        | 33              | 45   | 42,5 | 70            | 329        | 27                       | 2,2                      | PMC1704470*##            |
| 700       | 400                        | 1000       | 5          | 33              | 45   | 42,5 | 70            | 350        | 27                       | 2,2                      | PMC1704500*##            |
| 700       | 400                        | 1000       | 6,8        | 30              | 45   | 57,5 | 40            | 272        | 22,5                     | 3,8                      | PMC1704680*##            |
| 700       | 400                        | 1000       | 8          | 35              | 50   | 57,5 | 40            | 320        | 25,5                     | 3,5                      | PMC1704800*##            |
| 700       | 400                        | 1000       | 9          | 35              | 50   | 57,5 | 40            | 360        | 26,5                     | 3,2                      | PMC1704900*##            |

(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) Max. at 100kHz, +70°C for case operating T= +85°C (at T amb. >+70°C and T case>+85°C voltage and current de-rating must be observed), C tol. ≤±10% - (3) Typical values at 100kHz - (4)Not suitable for across the line application