

## KP-3C

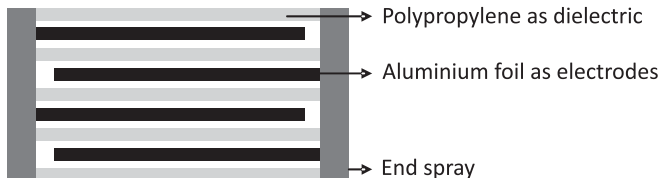


### Highlights

- High DV/DT
- Low ESR
- Low loss polypropylene dielectric
- Impregnated elements eliminate corona
- Flame retardant UL94 - V0, ROHS compliant

### Construction

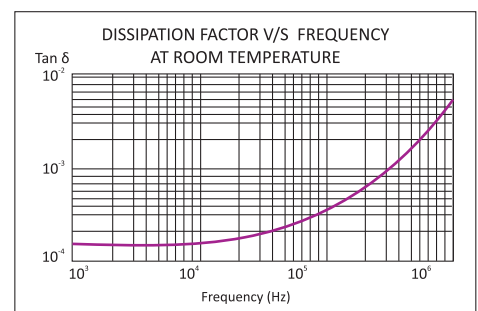
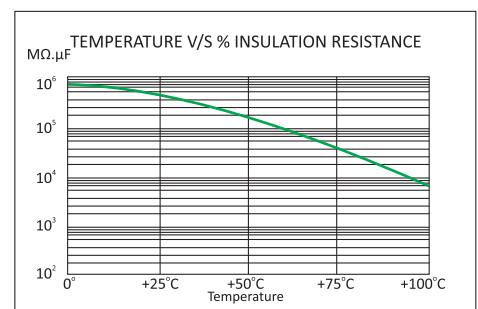
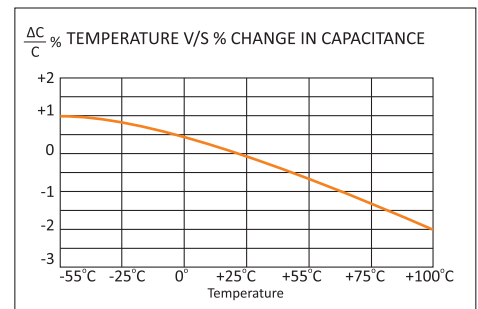
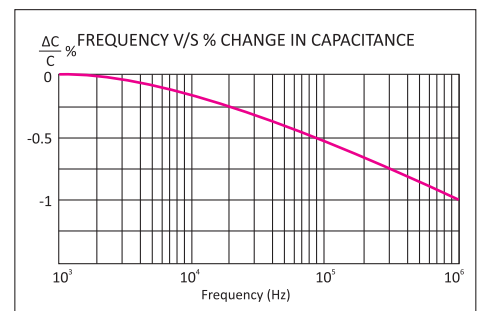
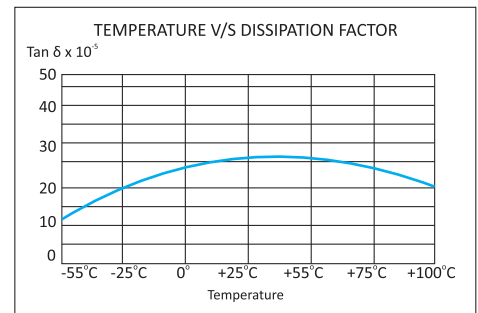
Extended foil electrodes and polypropylene film dielectric impregnated



### Applications

These capacitors are used in high voltage, high current and high pulse applications such as:

- IGBT protection circuits
- Snubber networks
- Low frequency tuning circuits



## KP-3C

### Technical Specifications

#### Physical Characteristics

|                        |                                                                        |
|------------------------|------------------------------------------------------------------------|
| ▪ Dielectric material  | Polypropylene film.                                                    |
| ▪ Electrode material   | Aluminium foil                                                         |
| ▪ Winding construction | Extended foil electrodes and polypropylene film dielectric impregnated |
| ▪ Enclosure            | Preformed UL 94 V-0 plastic case with thermosetting resin-fill         |

#### Electrical Characteristics

|                                                                                     |                                                                                                                          |              |            |              |           |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------|------------|--------------|-----------|
| ▪ Capacitance range                                                                 | 0.1 MFD to 3.0 MFD                                                                                                       |              |            |              |           |
| ▪ Capacity tolerance                                                                | ±5%(J), ±10%(K)                                                                                                          |              |            |              |           |
| ▪ Rated voltage VDC                                                                 | 1000, 1250, 1500, 2000                                                                                                   |              |            |              |           |
| ▪ Rated voltage VAC                                                                 | 480, 550, 630, 750                                                                                                       |              |            |              |           |
| ▪ Test voltage between terminals                                                    | 2.5x rated voltage VDC for 10 seconds                                                                                    |              |            |              |           |
| ▪ Test voltage terminal to case                                                     | 3KVAC at 50Hz for 60 seconds                                                                                             |              |            |              |           |
| ▪ Dissipation factor (Tan d)                                                        | ≤0.0005 at 1 KHz and 25°C                                                                                                |              |            |              |           |
| ▪ Temperature range                                                                 | -40°C to +85°C                                                                                                           |              |            |              |           |
| ▪ Insulation resistance at 25°C & at a test voltage of 500 VDC applied for 1 minute | <table> <tr> <td>C ≤ 0.33 MFD</td><td>≥100,000MΩ</td></tr> <tr> <td>C &gt; 0.33 MFD</td><td>≥30,000MΩ</td></tr> </table> | C ≤ 0.33 MFD | ≥100,000MΩ | C > 0.33 MFD | ≥30,000MΩ |
| C ≤ 0.33 MFD                                                                        | ≥100,000MΩ                                                                                                               |              |            |              |           |
| C > 0.33 MFD                                                                        | ≥30,000MΩ                                                                                                                |              |            |              |           |

### Marking on Capacitors

Each capacitor will have the following information printed on it, sequentially:

- The Company's symbol  followed by the words ALCON
- The capacitor grade viz KP-3C
- The capacitance value MFD
- The rated voltage VDC
- Capacity tolerance and manufacturing code
- Part number on non-standard capacitors

## KP-3C

### Standard Capacitor Values

#### Working Voltage 1000 VDC (480 VAC)

| Rated Capacitance MFD | Case Code | DV/DT V/ $\mu$ Sec | I Peak Amps | Irms Max at 100KHz & 55°C Amps | ESR Max at 100KHz m $\Omega$ | Ordering Code*       |
|-----------------------|-----------|--------------------|-------------|--------------------------------|------------------------------|----------------------|
| 0.100                 | K2        | 900                | 90.00       | 5.60                           | 11.20                        | SI00U101000AGOK2_K01 |
| 0.150                 | K2        | 900                | 135.00      | 5.70                           | 10.80                        | SI00U151000AGOK2_K01 |
| 0.220                 | K3        | 900                | 198.00      | 6.80                           | 10.40                        | SI00U221000AGOK3_K01 |
| 0.220                 | B1,C1     | 900                | 198.00      | 18.20                          | 4.20                         | SI00U221000AG_K01    |
| 0.270                 | B1,C1     | 900                | 243.00      | 18.70                          | 4.00                         | SI00U271000AG_K01    |
| 0.330                 | B1,C1     | 900                | 297.00      | 19.70                          | 3.70                         | SI00U331000AG_K01    |
| 0.390                 | B1        | 900                | 351.00      | 20.60                          | 3.70                         | SI00U391000AGOB1_K01 |
| 0.390                 | C1        | 900                | 351.00      | 20.60                          | 3.50                         | SI00U391000AGOC1_K01 |
| 0.470                 | B5        | 900                | 423.00      | 21.10                          | 3.50                         | SI00U471000AGOB5_K01 |
| 0.560                 | B5        | 800                | 392.00      | 21.30                          | 3.50                         | SI00U561000AGOB5_K01 |
| 0.680                 | B5        | 800                | 476.00      | 21.30                          | 3.20                         | SI00U681000AGOB5_K01 |
| 0.750                 | B5,B2     | 800                | 525.00      | 25.60                          | 3.00                         | SI00U751000AG_K01    |
| 0.820                 | B5        | 800                | 574.00      | 26.00                          | 3.00                         | SI00U821000AGOB5_K01 |
| 1.000                 | B5        | 900                | 900.00      | 26.00                          | 3.00                         | SI000011000AGOB5_K01 |
| 1.000                 | B3        | 800                | 900.00      | 26.00                          | 3.00                         | SI000011000AGOB3_K01 |
| 1.200                 | B3        | 800                | 960.00      | 26.00                          | 2.50                         | SI001U21000AGOB3_K01 |
| 1.500                 | B3        | 800                | 1200.00     | 26.00                          | 2.50                         | SI01U501000AGOB3_K01 |
| 1.750                 | B4        | 500                | 875.00      | 28.00                          | 2.50                         | SI01U751000AGOB4_K01 |
| 2.000                 | B4        | 500                | 1000.00     | 28.20                          | 2.50                         | SI000021000AGOB4_K01 |
| 2.200                 | C2        | 400                | 880.00      | 28.50                          | 2.40                         | SI002U21000AGOC2_K01 |
| 2.500                 | C2        | 400                | 1000.00     | 29.00                          | 2.20                         | SI002U51000AGOC2_K01 |
| 3.000                 | C2        | 400                | 1200.00     | 30.00                          | 2.00                         | SI000031000AGOC2_K01 |

#### Working Voltage 1250 VDC (550 VAC)

| Rated Capacitance MFD | Case Code | DV/DT V/ $\mu$ Sec | I Peak Amps | Irms Max at 100KHz & 55°C Amps | ESR Max at 100KHz m $\Omega$ | Ordering Code*       |
|-----------------------|-----------|--------------------|-------------|--------------------------------|------------------------------|----------------------|
| 0.100                 | K2        | 1000               | 100.00      | 5.60                           | 11.20                        | SI00U101250AGOK2_K01 |
| 0.150                 | K2        | 1000               | 150.00      | 5.70                           | 10.80                        | SI00U151250AGOK2_K01 |
| 0.220                 | K3        | 1000               | 220.00      | 6.80                           | 10.40                        | SI00U221250AGOK3_K01 |
| 0.220                 | B1,C1     | 1000               | 220.00      | 18.20                          | 4.20                         | SI00U221250AG_K01    |
| 0.270                 | B1,C1     | 1000               | 270.00      | 18.70                          | 4.00                         | SI00U271250AG_K01    |
| 0.330                 | B1,C1     | 1000               | 330.00      | 19.70                          | 3.70                         | SI00U331250AG_K01    |
| 0.390                 | B1,C1     | 1000               | 390.00      | 20.60                          | 3.70                         | SI00U391250AG_K01    |
| 0.470                 | B5        | 1000               | 470.00      | 21.10                          | 3.50                         | SI00U471250AGOB5_K01 |
| 0.560                 | B5        | 1000               | 560.00      | 21.30                          | 3.50                         | SI00U561250AGOB5_K01 |
| 0.680                 | B5        | 900                | 612.00      | 21.30                          | 3.20                         | SI00U681250AGOB5_K01 |
| 0.750                 | B5,B2     | 900                | 675.00      | 25.60                          | 3.00                         | SI00U751250AG_K01    |
| 0.820                 | B5        | 900                | 738.00      | 26.00                          | 3.00                         | SI00U821250AGOB5_K01 |
| 1.000                 | B5        | 900                | 900.00      | 26.00                          | 3.00                         | SI000011250AGOB5_K01 |
| 1.000                 | B3        | 1000               | 1000.00     | 26.00                          | 3.00                         | SI000011250AGOB3_K01 |

Custom-designed capacitors are available on request

Refer to "Capacitor Drawing" on page 5 to 8

## KP-3C

### Standard Capacitor Values

#### Working Voltage 1250 VDC (550 VAC)

| Rated Capacitance MFD | Case Code | DV/DT V/ $\mu$ Sec | I Peak Amps | Irms Max at 100KHz & 55°C Amps | ESR Max at 100KHz m $\Omega$ | Ordering Code*       |
|-----------------------|-----------|--------------------|-------------|--------------------------------|------------------------------|----------------------|
| 1.200                 | B3        | 900                | 1080.00     | 26.00                          | 2.50                         | SI001U21250AG0B3_K01 |
| 1.500                 | B3        | 900                | 1350.00     | 26.00                          | 2.50                         | SI01U501250AG0B3_K01 |
| 1.750                 | B4        | 600                | 1050.00     | 28.00                          | 2.50                         | SI01U751250AG0B4_K01 |
| 2.000                 | B4        | 600                | 1100.00     | 28.20                          | 2.50                         | SI000021250AG0B4_K01 |
| 2.200                 | C2        | 500                | 880.00      | 28.50                          | 2.40                         | SI002U21250AG0C2_K01 |
| 2.500                 | C2        | 500                | 1250.00     | 29.00                          | 2.20                         | SI002U51250AG0C2_K01 |
| 3.000                 | C2        | 500                | 1500.00     | 30.00                          | 2.00                         | SI000031250AG0C2_K01 |

#### Working Voltage 1500 VDC (630 VAC)

| Rated Capacitance MFD | Case Code | DV/DT V/ $\mu$ Sec | I Peak Amps | Irms Max at 100KHz & 55°C Amps | ESR Max at 100KHz m $\Omega$ | Ordering Code*       |
|-----------------------|-----------|--------------------|-------------|--------------------------------|------------------------------|----------------------|
| 0.100                 | K2        | 1100               | 110.00      | 5.60                           | 11.20                        | SI00U101500AG0K2_K01 |
| 0.150                 | K2        | 1100               | 165.00      | 5.70                           | 10.80                        | SI01U501500AG0K2_K01 |
| 0.220                 | K4        | 1100               | 242.00      | 6.80                           | 10.40                        | SI00U221500AG0K4_K01 |
| 0.220                 | B1,C1     | 1100               | 242.00      | 18.20                          | 4.20                         | SI00U221500AG0_K01   |
| 0.270                 | B1,C1     | 1100               | 297.00      | 18.70                          | 4.00                         | SI00U271500AG0_K01   |
| 0.330                 | B1,C1     | 1100               | 363.00      | 19.70                          | 3.70                         | SI00U331500AG0_K01   |
| 0.390                 | B1        | 1100               | 429.00      | 20.60                          | 3.70                         | SI00U391500AG0B1_K01 |
| 0.390                 | C1        | 1100               | 429.00      | 20.60                          | 3.50                         | SI00U391500AG0C1_K01 |
| 0.470                 | B5        | 1100               | 517.00      | 21.10                          | 3.50                         | SI00U471500AG0B5_K01 |
| 0.560                 | B5        | 1000               | 560.00      | 21.30                          | 3.50                         | SI00U561500AG0B5_K01 |
| 0.680                 | B5        | 1000               | 680.00      | 21.30                          | 3.20                         | SI00U681500AG0B5_K01 |
| 0.750                 | B5,B2     | 1000               | 750.00      | 25.60                          | 3.00                         | SI00U751500AG0_K01   |
| 0.820                 | B5        | 1000               | 820.00      | 26.00                          | 3.00                         | SI00U821500AG0B5_K01 |
| 1.000                 | B3        | 1000               | 1000.00     | 26.00                          | 3.00                         | SI000011500AG0B3_K01 |
| 1.200                 | B3        | 1000               | 1200.00     | 26.00                          | 2.50                         | SI001U21500AG0B3_K01 |
| 1.500                 | B3        | 1000               | 1500.00     | 26.00                          | 2.50                         | SI001U51500AG0B3_K01 |
| 1.750                 | B4        | 700                | 1225.00     | 28.00                          | 2.50                         | SI01U751500AG0B4_K01 |
| 2.000                 | B4        | 700                | 1400.00     | 28.20                          | 2.50                         | SI000021500AG0B4_K01 |
| 2.200                 | C2        | 600                | 1320.00     | 28.50                          | 2.40                         | SI002U21500AG0C2_K01 |
| 2.500                 | C2        | 600                | 1500.00     | 29.00                          | 2.20                         | SI002U51500AG0C2_K01 |
| 3.000                 | C2        | 600                | 1800.00     | 30.00                          | 2.00                         | SI000031500AG0C2_K01 |

#### Working Voltage 2000 VDC (750 VAC)

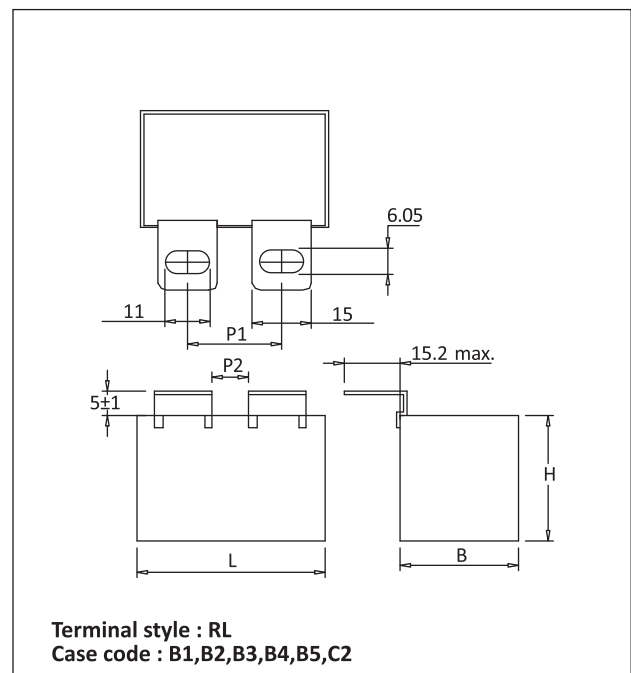
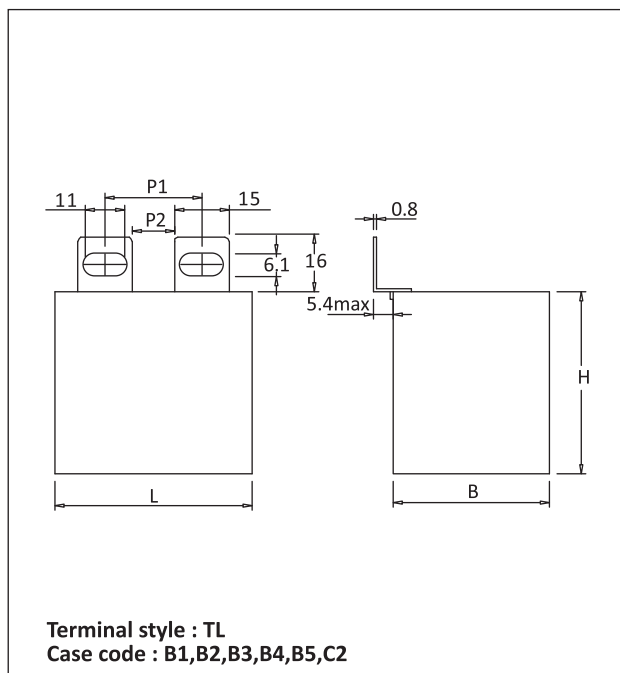
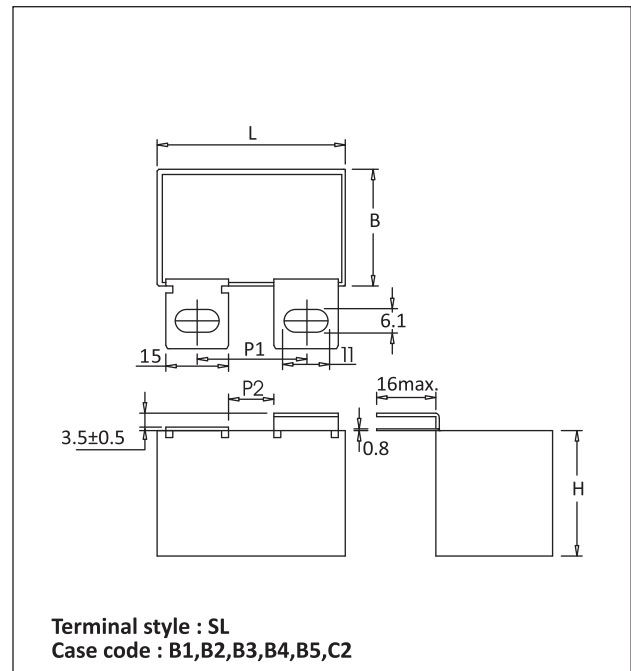
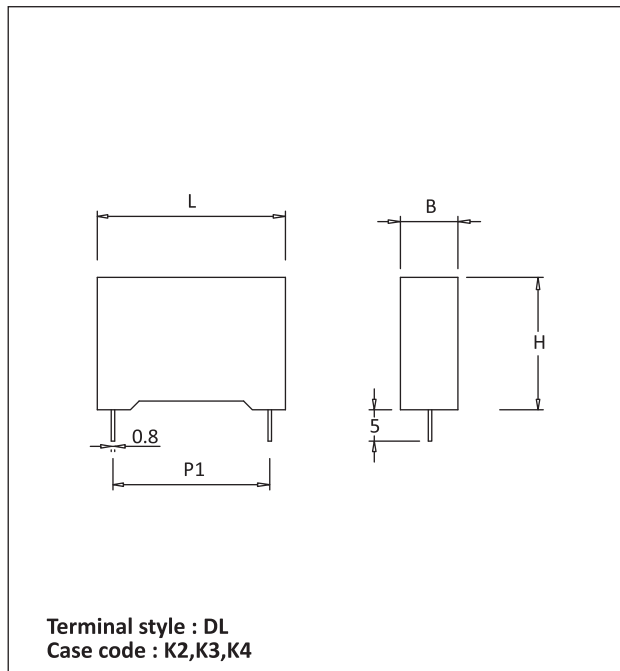
| Rated Capacitance MFD | Case Code | DV/DT V/ $\mu$ Sec | I Peak Amps | Irms Max at 100KHz & 55°C Amps | ESR Max at 100KHz m $\Omega$ | Ordering Code*       |
|-----------------------|-----------|--------------------|-------------|--------------------------------|------------------------------|----------------------|
| 0.100                 | B1        | 1300               | 130.00      | 13.20                          | 8.40                         | SI00U102000AG0B1_K01 |
| 0.150                 | B5        | 1200               | 180.00      | 15.11                          | 7.00                         | SI01U502000AG0B5_K01 |
| 0.220                 | B5        | 1200               | 264.00      | 19.80                          | 4.50                         | SI00U222000AG0B5_K01 |
| 0.270                 | B5        | 1200               | 324.00      | 21.70                          | 4.30                         | SI00U272000AG0B5_K01 |
| 0.330                 | B3        | 1200               | 396.00      | 22.20                          | 4.10                         | SI00U332000AG0B3_K01 |
| 0.390                 | B3        | 1200               | 468.00      | 22.50                          | 4.00                         | SI00U392000AG0B3_K01 |
| 0.470                 | B3        | 1200               | 564.00      | 22.50                          | 4.00                         | SI00U472000AG0B3_K01 |
| 0.560                 | B4        | 1000               | 560.00      | 22.70                          | 3.80                         | SI00U562000AG0B4_K01 |
| 0.680                 | B4        | 1000               | 680.00      | 22.80                          | 3.70                         | SI00U682000AG0B4_K01 |
| 0.750                 | C2        | 800                | 600.00      | 23.20                          | 3.40                         | SI00U752000AG0C2_K01 |
| 0.820                 | C2        | 800                | 656.00      | 23.20                          | 3.30                         | SI00U822000AG0C2_K01 |
| 1.000                 | C2        | 800                | 800.00      | 23.30                          | 3.20                         | SI000012000AG0C2_K01 |

Custom-designed capacitors are available on request

Refer to "Capacitor Drawing" on page 5 to 8

## KP-3C

### Capacitor Drawings and Terminal Styles

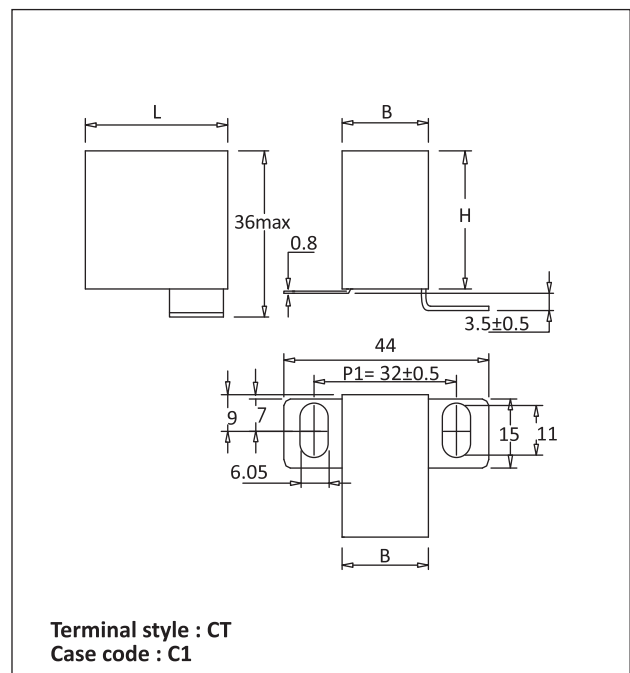
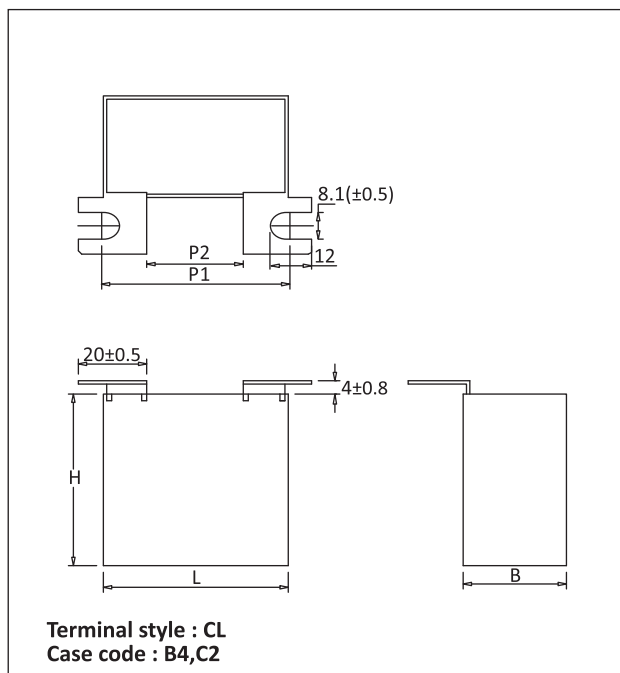
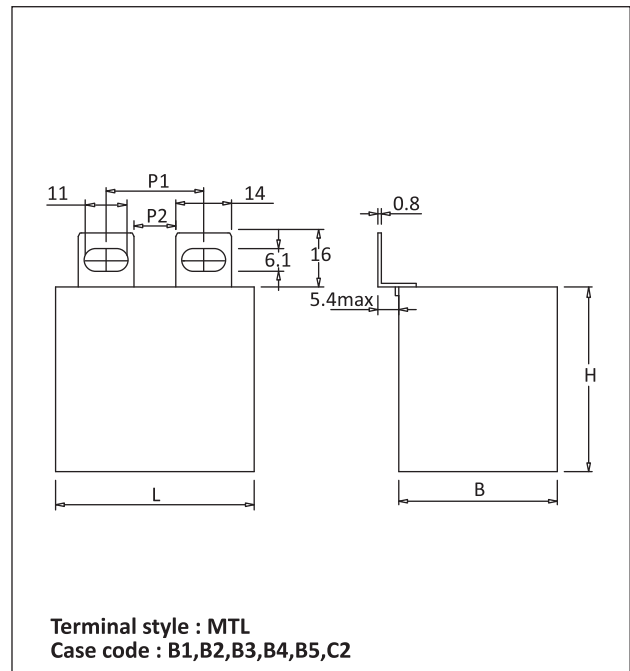
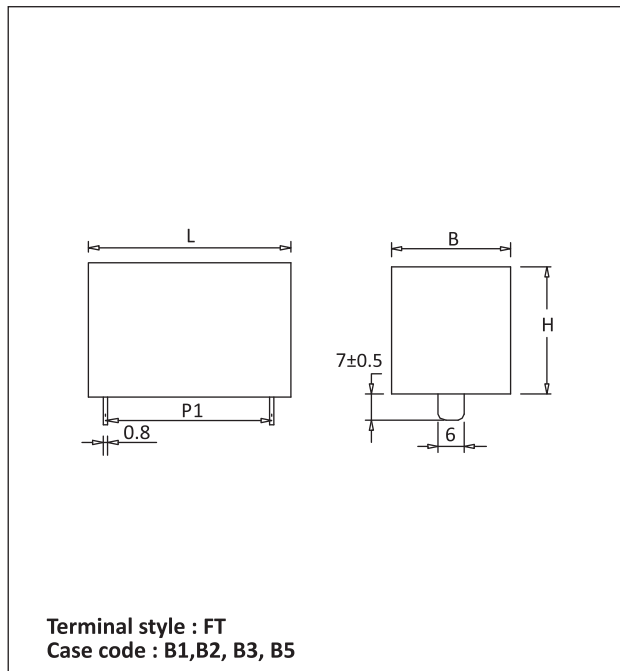


#### Dimensions in mm

For details see Case Code table on page 9

## KP-3C

### Capacitor Drawings and Terminal Styles

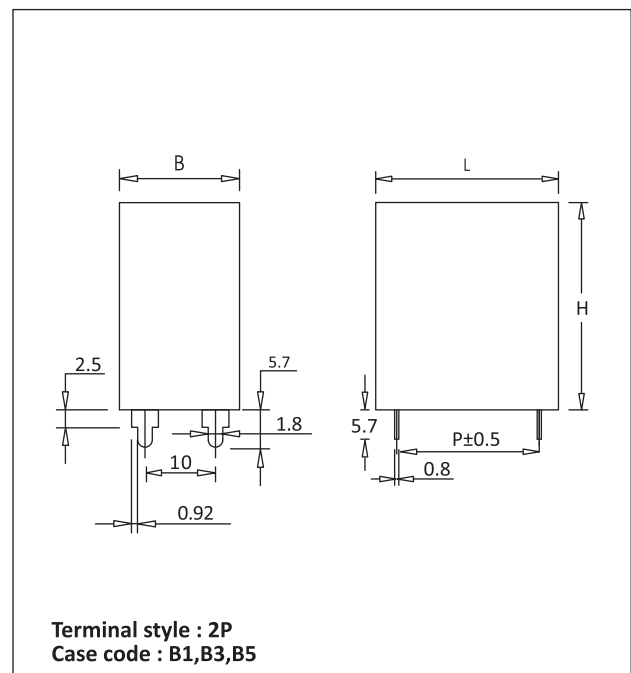
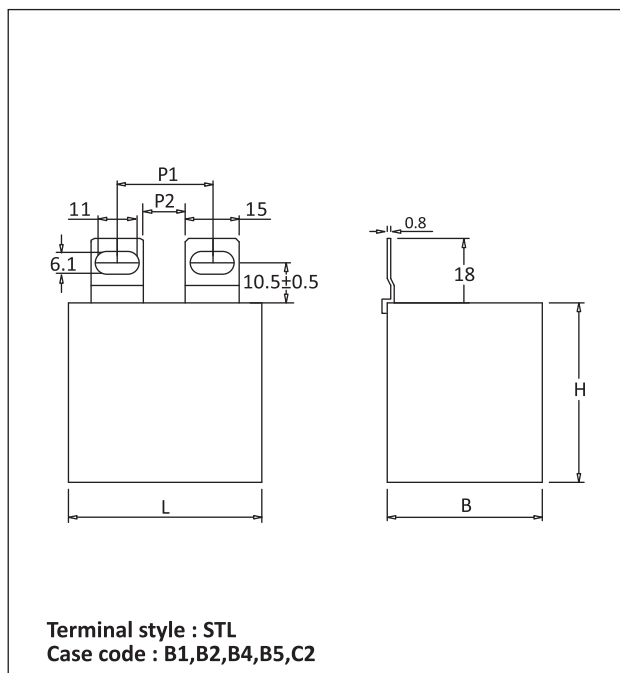
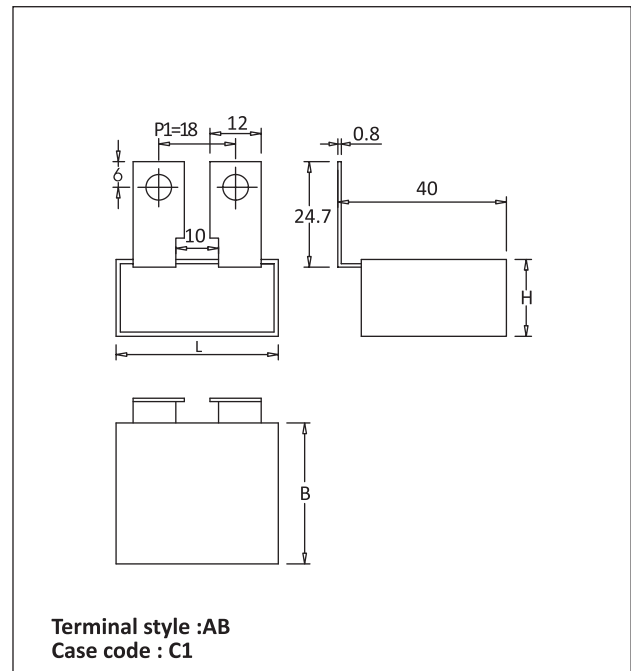
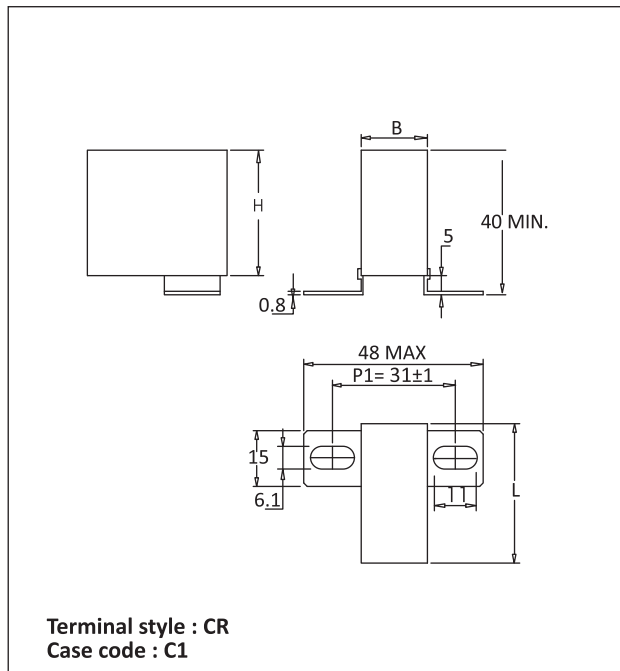


**Dimensions in mm**

For details see Case Code table on page 9

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### Capacitor Drawings and Terminal Styles

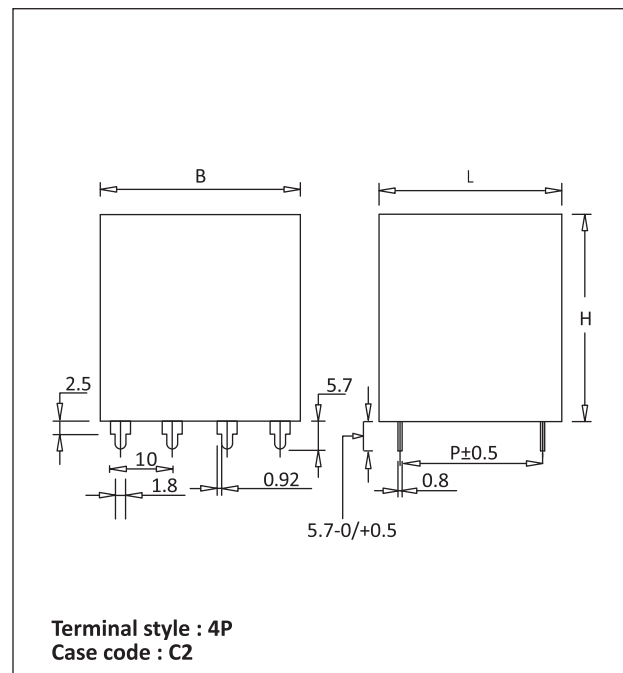
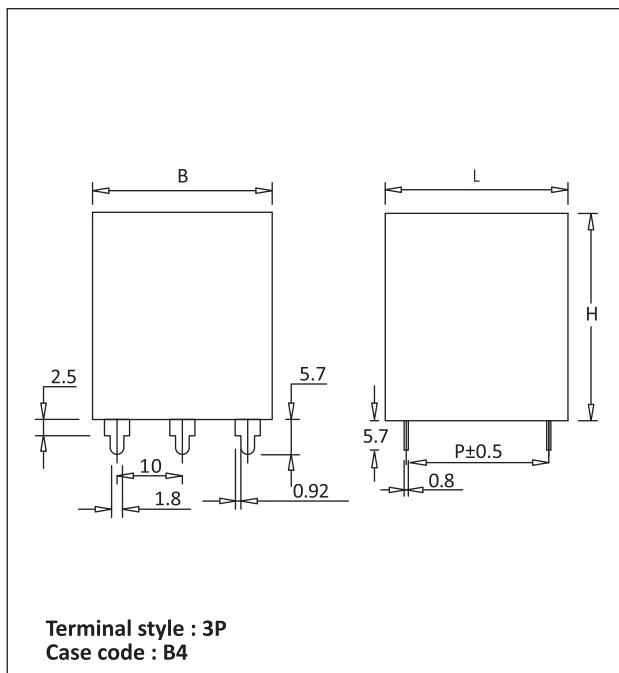


**Dimensions in mm**

For details see Case Code table on page 9

## KP-3C

### Capacitor Drawings and Terminal Styles



#### Dimensions in mm

For details see Case Code table on page 9

## KP-3C

**Table of Case Codes and Dimensions**

| Case Code | Dimensions in mm* |     |      | P1    | P2   | Terminal Styles |
|-----------|-------------------|-----|------|-------|------|-----------------|
|           | B±1               | H±1 | L±1  | P±0.5 |      |                 |
| K2        | 11                | 20  | 32.0 | 27.5  | --   | DL              |
| K3        | 13                | 22  | 32.0 | 27.5  | --   | DL              |
| K4        | 14                | 24  | 32.0 | 27.5  | --   | DL              |
| B1        | 17                | 29  | 41.5 | 32.5  | —    | DL,FT,2P        |
| B1        | 17                | 29  | 41.5 | 39.0  | —    | DL,FT,2P        |
| B1        | 17                | 29  | 41.5 | 23.5  | 8.5  | TL,RL,STL,SL    |
| B1        | 17                | 29  | 41.5 | 24.5  | 10.5 | MTL             |
| B2        | 24                | 38  | 45.0 | 23.5  | 8.5  | TL,RL,STL,SL    |
| B2        | 24                | 38  | 45.0 | 24.5  | 10.5 | MTL             |
| B3        | 30                | 45  | 45.0 | 39.0  | -    | FT,2P           |
| B3        | 30                | 45  | 45.0 | 27.0  | 13.0 | MTL             |
| B3        | 30                | 45  | 45.0 | 26.5  | 11.5 | TL,RL,STL,SL    |
| B4        | 30                | 50  | 54.0 | 27.0  | 11.5 | TL,RL,STL,SL    |
| B4        | 30                | 50  | 54.0 | 48.0  | —    | 3P              |
| B4        | 30                | 50  | 54.0 | 55.0  | 28.0 | CL              |
| B4        | 30                | 50  | 54.0 | 27.0  | 13.0 | MTL             |
| B5        | 28                | 30  | 45.0 | 27.0  | 11.5 | TL,RL,STL,SL    |
| B5        | 28                | 30  | 45.0 | 27.0  | 13.0 | MTL             |
| B5        | 28                | 30  | 45.0 | 39.0  | —    | FT,2P           |
| C1        | 18                | 33  | 38.0 | 33.0  | —    | CR              |
| C1        | 18                | 33  | 38.0 | 31.0  | —    | CT              |
| C1        | 18                | 33  | 38.0 | 18.0  | —    | AB              |
| C2        | 43                | 50  | 54.0 | 26.5  | 11.5 | TL,RL,STL,SL    |
| C2        | 43                | 50  | 54.0 | 27.0  | 13.0 | MTL             |
| C2        | 43                | 50  | 54.0 | 55.0  | 28.0 | CL              |
| C2        | 43                | 50  | 54.0 | 48.5  | —    | 4P              |

\* Refer to “Capacitor Drawings” on page 5 to 8

### Precaution

1. These capacitors are not suitable for ‘across the line’ applications
2. VAC(rated): Frequency should be less than 1000Hz
3. VDC(rated):  $1.4 \times V_{rms} + VDC$  should be less than rated VDC