Choice of 'C' and 'Pi' Filters • Various Capacitance Values in Stock • In-stock, small qty like 5 pcs welcome

We stock and supply Hi-Reliability filtered D38999 connectors. We use ONLY MIL-38999 Series III QPL listed connectors for this purpose. Filter types include 'C' and 'Pi' filters in a range of capacitance values. We not only offer standard products but also custom filtered connectors for application specific needs.





#### FEATURES OF Hi-REL FILTERED D38999 Connectors from us

- We use only MIL-38999 Series III QPL listed connectors for our filtered connectors from suppliers like Deutsch, Aero Inc amongst others
- Wide variety of capacitance values include 100pF, 330pF, 470pF, 1000pF, 4000pF. Other values on request.
- Plug, Receptacles, PC Mount Filtered types available
- Shell sizes include B, C, D, E amongst others.



#### **ADVANTAGES OF Hi-Rel Filtered Connectors from us:**

- Many capacitance values & filters available from stock
- Free samples possible for projects
- Small quantities like 5 pieces welcome
- Available in cash purchase for small quantity

### **Specifications of D38999 Series III series connectors**

| Parameter             | Specifications                     |
|-----------------------|------------------------------------|
| MIL Qualification     | MIL-DTL-38999 Series III Qualified |
| Shell Material        | Aluminium Alloy                    |
| Shell Plating         | Olive drab cadmium                 |
| Insulator             | Thermoplastic or thermoset         |
| Contacts              | Copper Alloy                       |
| Contacts Plating      | Gold over Nickel plated            |
| Endurance             | 500 mating / unmating operations   |
| Shock                 | 300G for 3 ms                      |
| Vibration             | 60G sine, 44G random               |
| Temperature Range     | -65 to +200°C                      |
| Insulation Resistance | >5000 MOhms (at 500Vdc)            |

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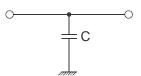




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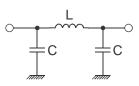
### Types of Filters - 'C' filters

We offer capacitive filters utilizing SMD chip caps to filter higher frequency noise. Capacitance values are selectable on a pin-by-pin basis. These chip cap filter solutions provide upto 45dB of insertion loss and are selectable from a variety of capacitance values.



### Types of Filters - 'Pi' filters

For higher levels of filtering, we also offer Pi filters utilizing SMD chip technology. These types offer upto 70dB of insertion loss across the frequency spectrum and come in various capacitance values to meet specific filtering needs of customer applications



### Insertion Loss Versus Frequency for 'C' Filters

| Filter | Capacitance | Working<br>Voltage<br>VDC | Insertion Loss (dB) |          |           |           |           |            |            |            |          |  |
|--------|-------------|---------------------------|---------------------|----------|-----------|-----------|-----------|------------|------------|------------|----------|--|
| Туре   | Value (pF)  |                           | 1<br>MHz            | 5<br>MHz | 10<br>MHz | 30<br>MHz | 50<br>MHz | 100<br>MHz | 300<br>MHz | 500<br>MHz | 1<br>GHz |  |
| ,C,    | 330         | 100V                      | -                   | -        | 1         | 2         | 6         | 13         | 50         | 41         | 34       |  |
| 'C'    | 470         | 100V                      | -                   | -        | -         | 3         | 8         | 15         | 42         | 33         | 30       |  |
| 'C'    | 820         | 100V                      | -                   | -        | 2         | 8         | 13        | 22         | 37         | 36         | 30       |  |
| 'C'    | 1000        | 100V                      | -                   | -        | 5         | 13        | 17        | 23         | 33         | 37         | 43       |  |
| 'C'    | 4000        | 100V                      | -                   | 8        | 14        | 23        | 27        | 31         | 39         | 44         | 46       |  |

#### Insertion Loss Versus Frequency for 'Pi' Filters

| Filter | Capacitance | Working<br>Voltage<br>VDC | Insertion Loss (dB) |          |           |           |           |            |            |            |          |  |  |
|--------|-------------|---------------------------|---------------------|----------|-----------|-----------|-----------|------------|------------|------------|----------|--|--|
| Туре   | Value (pF)  |                           | 1<br>MHz            | 5<br>MHz | 10<br>MHz | 30<br>MHz | 50<br>MHz | 100<br>MHz | 300<br>MHz | 500<br>MHz | 1<br>GHz |  |  |
| 'Pi'   | 100         | 100V                      | -                   | -        | -         | -         | -         | 1          | 25         | 43         | 55       |  |  |
| 'Pi'   | 330         | 100V                      | -                   | -        | -         | 5         | 8         | 14         | 26         | 37         | 44       |  |  |
| 'Pi'   | 1000        | 100V                      | -                   | -        | 1         | 9         | 15        | 27         | 59         | 50         | 43       |  |  |
| 'Pi'   | 2500        | 100V                      | -                   | 3        | 7         | 18        | 28        | 46         | 61         | 53         | 49       |  |  |
| 'Pi'   | 4000        | 100V                      | -                   | 7        | 12        | 24        | 34        | 47         | 65         | 75         | 78       |  |  |

### STEPS TO CHOOSE THE CORRECT FILTERED CONNECTOR

#### Step 1: Choose Filter

From the insertion loss tables select filter that meets your target suppression frequency range. The chosen filter should not suppress the passband signal frequency by more than 4 dB.

#### • Step 2: Choose Connector

Choose connector type - PC Mount or Solder Cup type and furthur wallmount or jamnut. Choose the connector shell size and number of contacts needed for your application.

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Choice of 'C' and 'Pi' Filters • Various Capacitance Values in Stock • In-stock, small qty like 5 pcs welcome

#### FREQUENTLY ASKED QUESTIONS

### Q1) What is the need for filtered MIL-38999 Connectors?

A1) Filtered connectors are an effective means for EMI compliance because the cables act as antenna and pickup radiated signal which are then transmitted back conductively. The filtered connectors provide an effective solution against this since they block the high frequency noises and allow the signals to pass through. This also works in the other direction as well.

### Q2) What is the make of connectors you use for your MIL-38999 Filtered connectors?

A2) We use only MIL-38999 QPL suppliers like Deutsch, Aero Inc or equivalent

#### Q3) What are the types of filter technologies you can provide?

- A3) We offer 'C' and 'Pi' filters
  - Diodes for transient suppression

### Q4) What are the shell styles, insert patterns you can supply?

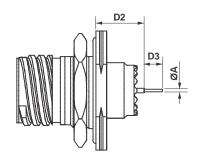
A4) Please see the following pages in this catalog

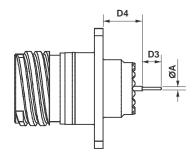
#### Q5) What does the customer need to specify to arrive at correct solution?

- A5) Frequency Band & accordingly choose capacitance and type of filter
  - Whether transient suppression is needed

#### Q6) Can you supply small quantities?

A6) We can provide small quantities like 3~10 pieces





# Dimensional Details of Various PC Tail Connectors - per Shell size

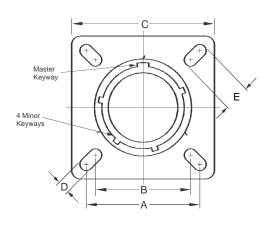
| Dimensions     | Shell si<br>Contact size | <b>ze</b><br>Type | 09<br>(A)               | 11<br>(B) | 13<br>(C)  | 15<br>(D) | 17<br>(E)   | 19<br>(F) | 21<br>(G) | 23<br>(H) | 25<br>(J) |
|----------------|--------------------------|-------------------|-------------------------|-----------|------------|-----------|-------------|-----------|-----------|-----------|-----------|
| A (mm)         | #22D                     | M & F             | 0.70                    |           |            |           |             |           |           |           |           |
| D2 (mm)        | #22D                     | М                 | 10.5 ~ 11.4 10.3 ~ 11.3 |           |            |           |             |           |           |           |           |
| <b>D2</b> (mm) | #22D                     | F                 | 10.2                    | ~11.5     |            |           | 10.0 ~ 11.3 |           |           |           |           |
| <b>D3</b> (mm) | #22D                     | M & F             |                         |           |            | 8         | 3.50        |           |           |           |           |
| "===   ""      |                          |                   |                         |           | 9.5 ~ 10.6 |           |             |           |           | 5 ~ 10    | .7        |
| <b>D4</b> (mm) | #22D                     | F                 |                         |           | 9.2 ~      | 10.6      |             |           | 9.        | 3 ~ 10    | .7        |

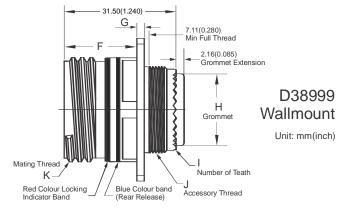
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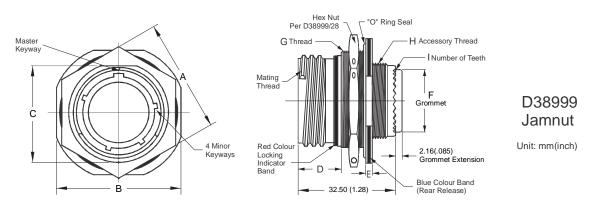








|       |             | _           |             |            | _          | _          |           |             |        |
|-------|-------------|-------------|-------------|------------|------------|------------|-----------|-------------|--------|
|       | A           | В           | С           | D          | E          | F          | G         | H (dia)     | ı      |
| Shell | (TP)        | (TP)        | ±.012 ±.30  | ±.008 ±.20 | ±.008 ±.20 | Maximum    | Maximum   | Maximum     | No. of |
| Size  | inch mm     | inch mm     | inch mm     | inch mm    | inch mm    | inch mm    | inch mm   | inch mm     | Teath  |
| Α     | .719 18.26  | .594 15.09  | .937 23.80  | .128 3.25  | .216 5.49  | .820 20.83 | .098 2.50 | .299 7.59   | 12     |
| В     | .812 20.62  | .719 18.26  | 1.031 26.20 | .128 3.25  | .194 4.93  | .820 20.83 | .098 2.50 | .427 10.85  | 16     |
| С     | .906 23.01  | .812 20.62  | 1.126 28.60 | .128 3.25  | .194 4.93  | .820 20.83 | .098 2.50 | .541 13.74  | 20     |
| D     | .969 24.61  | .906 23.01  | 1.220 31.00 | .128 3.25  | .173 4.39  | .820 20.83 | .098 2.50 | .666 16.92  | 24     |
| Е     | 1.062 26.97 | .969 24.61  | 1.311 33.30 | .128 3.25  | .194 4.93  | .820 20.83 | .098 2.50 | .791 20.09  | 28     |
| F     | 1.156 29.36 | 1.062 26.97 | 1.437 36.50 | .128 3.25  | .194 4.93  | .820 20.83 | .098 2.50 | .897 22.78  | 32     |
| G     | 1.250 31.75 | 1.156 29.36 | 1.563 39.70 | .128 3.25  | .194 4.93  | .790 20.07 | .126 3.20 | 1.022 25.96 | 36     |
| Н     | 1.375 34.93 | 1.250 31.75 | 1.689 42.90 | .154 3.91  | .242 6.15  | .790 20.07 | .126 3.20 | 1.147 29.13 | 40     |
| J     | 1.500 38.10 | 1.375 34.93 | 1.811 46.00 | .154 3.91  | .242 6.15  | .790 20.07 | .126 3.20 | 1.272 32.31 | 44     |



|               |           | A          | E     | 3     | (            |            | [            | )          | E            |            | F (   | dia)  | G        | - 1             |
|---------------|-----------|------------|-------|-------|--------------|------------|--------------|------------|--------------|------------|-------|-------|----------|-----------------|
| Shell<br>Size |           |            | ±.016 | ±.40  | +.004<br>006 | +.10<br>15 | +.024<br>000 | +.60<br>00 | +.035<br>004 | +.90<br>10 | Maxi  | mum   | Jam Nut  | No. of<br>Teeth |
|               | inch      | mm         | inch  | mm    | inch         | mm         | inch         | mm         | inch         | mm         | inch  | mm    | 0.100R   | 100111          |
| Α             | .94/.86   | 24.0/21.82 | 1.063 | 27.00 | .651         | 16.53      | .555         | 14.10      | .087         | 2.20       | .299  | 7.59  | M17x1-6g | 12              |
| В             | 1.063/.98 | 27.0/24.99 | 1.252 | 31.80 | .751         | 19.07      | .555         | 14.10      | .087         | 2.20       | .427  | 10.85 | M20x1-6g | 16              |
| С             | 1.25/1.17 | 32.0/29.77 | 1.374 | 34.90 | .938         | 23.82      | .555         | 14.10      | .087         | 2.20       | .541  | 13.74 | M25x1-6g | 20              |
| D             | 1.42/1.29 | 36.0/32.91 | 1.500 | 38.10 | 1.062        | 26.97      | .555         | 14.10      | .087         | 2.20       | .666  | 16.92 | M28x1-6g | 24              |
| Е             | 1.45/1.42 | 37.0/36.12 | 1.626 | 41.30 | 1.187        | 30.15      | .555         | 14.10      | .087         | 2.20       | .791  | 20.09 | M32x1-6g | 28              |
| F             | 1.61/1.54 | 41.0/39.26 | 1.811 | 46.00 | 1.312        | 33.32      | .555         | 14.10      | .118         | 3.00       | .897  | 22.78 | M35x1-6g | 32              |
| G             | 1.81/1.67 | 46.0/42.47 | 1.937 | 49.20 | 1.437        | 36.50      | .555         | 14.10      | .118         | 3.00       | 1.022 | 25.96 | M38x1-6g | 36              |
| Н             | 1.97/1.79 | 50.0/45.61 | 2.063 | 52.40 | 1.562        | 39.67      | .555         | 14.10      | .118         | 3.00       | 1.147 | 29.13 | M41x1-6g | 40              |
| J             | 2.02/1.94 | 51.2/49.25 | 2.189 | 55.60 | 1.687        | 42.85      | .555         | 14.10      | .118         | 3.00       | 1.272 | 32.31 | M44x1-6g | 44              |

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Choice of 'C' and 'Pi' Filters • Various Capacitance Values in Stock • In-stock, small qty like 5 pcs welcome

### D38999 Filtered Circular Connectors, Wallmount, Solder Cups

| Ordering Code<br>(Filtered Connector) | Туре       | Filter<br>Type | Capacit.<br>pF | No of Contacts | Contact<br>Size | Insert Pattern |
|---------------------------------------|------------|----------------|----------------|----------------|-----------------|----------------|
| D38999/20WB35PN-Pi-100                | Solder Cup | Pi             | 100            | 13             | 22D             |                |
| D38999/20WB35PN-Pi-330                | Solder Cup | Pi             | 330            | 13             | 22D             |                |
| D38999/20WB35PN-Pi-1000               | Solder Cup | Pi             | 1000           | 13             | 22D             |                |
| D38999/20WB35PN-Pi-2500               | Solder Cup | Pi             | 2500           | 13             | 22D             | 100 41 0 2     |
| D38999/20WB35PN-Pi-4000               | Solder Cup | Pi             | 4000           | 13             | 22D             | 9 3            |
| D38999/20WB35PN-C-330                 | Solder Cup | С              | 330            | 13             | 22D             | 8 13 12 4      |
| D38999/20WB35PN-C-470                 | Solder Cup | С              | 470            | 13             | 22D             | 7 6 5          |
| D38999/20WB35PN-C-820                 | Solder Cup | С              | 820            | 13             | 22D             |                |
| D38999/20WB35PN-C-1000                | Solder Cup | С              | 1000           | 13             | 22D             |                |
| D38999/20WB35PN-C-4000                | Solder Cup | С              | 4000           | 13             | 22D             |                |
| D38999/20WC35PN-Pi-100                | Solder Cup | Pi             | 100            | 22             | 22D             |                |
| D38999/20W C35PN-Pi-330               | Solder Cup | Pi             | 330            | 22             | 22D             |                |
| D38999/20WC35PN-Pi-1000               | Solder Cup | Pi             | 1000           | 22             | 22D             |                |
| D38999/20W C35PN-Pi-2500              | Solder Cup | Pi             | 2500           | 22             | 22D             | 210 015        |
| D38999/20W C35PN-Pi-4000              | Solder Cup | Pi             | 4000           | 22             | 22D             |                |
| D38999/20W C35PN-C-330                | Solder Cup | С              | 330            | 22             | 22D             | 22             |
| D38999/20W C35PN-C-470                | Solder Cup | С              | 470            | 22             | 22D             |                |
| D38999/20WC35PN-C-820                 | Solder Cup | С              | 820            | 22             | 22D             |                |
| D38999/20WC35PN-C-1000                | Solder Cup | С              | 1000           | 22             | 22D             |                |
| D38999/20WC35PN-C-4000                | Solder Cup | С              | 4000           | 22             | 22D             |                |
| D38999/20WD35PN-Pi-100                | Solder Cup | Pi             | 100            | 37             | 22D             |                |
| D38999/20WD35PN-Pi-330                | Solder Cup | Pi             | 330            | 37             | 22D             |                |
| D38999/20WD35PN-Pi-1000               | Solder Cup | Pi             | 1000           | 37             | 22D             |                |
| D38999/20WD35PN-Pi-2500               | Solder Cup | Pi             | 2500           | 37             | 22D             |                |
| D38999/20WD35PN-Pi-4000               | Solder Cup | Pi             | 4000           | 37             | 22D             | 31 21          |
| D38999/20WD35PN-C-330                 | Solder Cup | С              | 330            | 37             | 22D             |                |
| D38999/20WD35PN-C-470                 | Solder Cup | С              | 470            | 37             | 22D             |                |
| D38999/20WD35PN-C-820                 | Solder Cup | С              | 820            | 37             | 22D             |                |
| D38999/20WD35PN-C-1000                | Solder Cup | С              | 1000           | 37             | 22D             |                |
| D38999/20WD35PN-C-4000                | Solder Cup | С              | 4000           | 37             | 22D             |                |
| D38999/20WE35PN-Pi-100                | Solder Cup | Pi             | 100            | 55             | 22D             |                |
| D38999/20WE35PN-Pi-330                | Solder Cup | Pi             | 330            | 55             | 22D             |                |
| D38999/20WE35PN-Pi-1000               | Solder Cup | Pi             | 1000           | 55             | 22D             | 10 170 2 032   |
| D38999/20WE35PN-Pi-2500               | Solder Cup | Pi             | 2500           | 55             | 22D             | 4 4 47         |
| D38999/20WE35PN-Pi-4000               | Solder Cup | Pi             | 4000           | 55             | 22D             | 1 53           |
| D38999/20WE35PN-C-330                 | Solder Cup | С              | 330            | 55             | 22D             | 3- 55          |
| D38999/20WE35PN-C-470                 | Solder Cup | С              | 470            | 55             | 22D             |                |
| D38999/20WE35PN-C-820                 | Solder Cup | С              | 820            | 55             | 22D             | 31 039 40      |
| D38999/20WE35PN-C-1000                | Solder Cup | С              | 1000           | 55             | 22D             | '              |
| D38999/20WE35PN-C-4000                | Solder Cup | С              | 4000           | 55             | 22D             |                |

Note 1) Unless and otherwise specified, connectors are aluminium shell, olive drab

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Note 2) Above part numbers show normal keying. Other keying options like 'A', 'B' etc available. Pls substitute in P/N instead of 'N'

Note 3) In addition to above insert patterns other customer specified patterns available on request.





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### D38999 Filtered Circular Connectors, Jamnut, Solder Cups

| Ordering Code<br>(Filtered Connector) | Туре       | Filter<br>Type | Capacit.<br>pF | No of Contacts | Contact<br>Size | Insert Pattern         |
|---------------------------------------|------------|----------------|----------------|----------------|-----------------|------------------------|
| D38999/24WB35PN-Pi-100                | Solder Cup | Pi             | 100            | 13             | 22D             |                        |
| D38999/24WB35PN-Pi-330                | Solder Cup | Pi             | 330            | 13             | 22D             |                        |
| D38999/24WB35PN-Pi-1000               | Solder Cup | Pi             | 1000           | 13             | 22D             |                        |
| D38999/24WB35PN-Pi-2500               | Solder Cup | Pi             | 2500           | 13             | 22D             | 10 11 2                |
| D38999/24WB35PN-Pi-4000               | Solder Cup | Pi             | 4000           | 13             | 22D             | $+\frac{9}{3}$         |
| D38999/24WB35PN-C-330                 | Solder Cup | С              | 330            | 13             | 22D             | 8 13   12 4            |
| D38999/24WB35PN-C-470                 | Solder Cup | С              | 470            | 13             | 22D             | 7 6 3                  |
| D38999/24WB35PN-C-820                 | Solder Cup | С              | 820            | 13             | 22D             | '                      |
| D38999/24WB35PN-C-1000                | Solder Cup | С              | 1000           | 13             | 22D             |                        |
| D38999/24WB35PN-C-4000                | Solder Cup | С              | 4000           | 13             | 22D             |                        |
| D38999/24WC35PN-Pi-100                | Solder Cup | Pi             | 100            | 22             | 22D             |                        |
| D38999/24WC35PN-Pi-330                | Solder Cup | Pi             | 330            | 22             | 22D             |                        |
| D38999/24WC35PN-Pi-1000               | Solder Cup | Pi             | 1000           | 22             | 22D             | 14.                    |
| D38999/24WC35PN-Pi-2500               | Solder Cup | Pi             | 2500           | 22             | 22D             | 21 15                  |
| D38999/24WC35PN-Pi-4000               | Solder Cup | Pi             | 4000           | 22             | 22D             |                        |
| D38999/24WC35PN-C-330                 | Solder Cup | С              | 330            | 22             | 22D             |                        |
| D38999/24WC35PN-C-470                 | Solder Cup | С              | 470            | 22             | 22D             |                        |
| D38999/24WC35PN-C-820                 | Solder Cup | С              | 820            | 22             | 22D             |                        |
| D38999/24WC35PN-C-1000                | Solder Cup | С              | 1000           | 22             | 22D             |                        |
| D38999/24WC35PN-C-4000                | Solder Cup | С              | 4000           | 22             | 22D             |                        |
| D38999/24WD35PN-Pi-100                | Solder Cup | Pi             | 100            | 37             | 22D             |                        |
| D38999/24WD35PN-Pi-330                | Solder Cup | Pi             | 330            | 37             | 22D             |                        |
| D38999/24WD35PN-Pi-1000               | Solder Cup | Pi             | 1000           | 37             | 22D             |                        |
| D38999/24WD35PN-Pi-2500               | Solder Cup | Pi             | 2500           | 37             | 22D             |                        |
| D38999/24WD35PN-Pi-4000               | Solder Cup | Pi             | 4000           | 37             | 22D             | <del>(•(•(•)•)•)</del> |
| D38999/24WD35PN-C-330                 | Solder Cup | С              | 330            | 37             | 22D             |                        |
| D38999/24WD35PN-C-470                 | Solder Cup | С              | 470            | 37             | 22D             |                        |
| D38999/24WD35PN-C-820                 | Solder Cup | С              | 820            | 37             | 22D             | T                      |
| D38999/24WD35PN-C-1000                | Solder Cup | С              | 1000           | 37             | 22D             |                        |
| D38999/24WD35PN-C-4000                | Solder Cup | С              | 4000           | 37             | 22D             |                        |
| D38999/24WE35PN-Pi-100                | Solder Cup | Pi             | 100            | 55             | 22D             |                        |
| D38999/24WE35PN-Pi-330                | Solder Cup | Pi             | 330            | 55             | 22D             |                        |
| D38999/24WE35PN-Pi-1000               | Solder Cup | Pi             | 1000           | 55             | 22D             | 100170 # 032/40        |
| D38999/24WE35PN-Pi-2500               | Solder Cup | Pi             | 2500           | 55             | 22D             |                        |
| D38999/24WE35PN-Pi-4000               | Solder Cup | Pi             | 4000           | 55             | 22D             |                        |
| D38999/24WE35PN-C-330                 | Solder Cup | С              | 330            | 55             | 22D             |                        |
| D38999/24WE35PN-C-470                 | Solder Cup | С              | 470            | 55             | 22D             | 16/20 31               |
| D38999/24WE35PN-C-820                 | Solder Cup | С              | 820            | 55             | 22D             | 393                    |
| D38999/24WE35PN-C-1000                | Solder Cup | С              | 1000           | 55             | 22D             |                        |
| D38999/24WE35PN-C-4000                | Solder Cup | С              | 4000           | 55             | 22D             |                        |

Note 1) Unless and otherwise specified, connectors are aluminium shell, olive drab

Note 2) Above part numbers show normal keying. Other keying options like 'A', 'B' etc available. Pls substitute in P/N instead of 'N'

Note 3) In addition to above insert patterns other customer specified patterns available on request.

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Choice of 'C' and 'Pi' Filters • Various Capacitance Values in Stock • In-stock, small qty like 5 pcs welcome

### D38999 Filtered Circular Connectors, Wallmount, PC Tails

| Ordering Code<br>(Filtered Connector) | Туре    | Filter<br>Type | Capacit.<br>pF | No of Contacts | Contact<br>Size | Insert Pattern   |
|---------------------------------------|---------|----------------|----------------|----------------|-----------------|--|
| D38999/20WB35PN-PCL-Pi-100            | PC Tail | Pi             | 100            | 13             | 22D             |  |
| D38999/20WB35PN-PCL-Pi-330            | PC Tail | Pi             | 330            | 13             | 22D             |  |
| D38999/20WB35PN-PCL-Pi-1000           | PC Tail | Pi             | 1000           | 13             | 22D             | •1   |
| D38999/20WB35PN-PCL-Pi-2500           | PC Tail | Pi             | 2500           | 13             | 22D             | 10 11 2  |
| D38999/20WB35PN-PCL-Pi-4000           | PC Tail | Pi             | 4000           | 13             | 22D             |  |
| D38999/20WB35PN-PCL-C-330             | PC Tail | С              | 330            | 13             | 22D             | 8 13 12 4  |
| D38999/20WB35PN-PCL-C-470             | PC Tail | С              | 470            | 13             | 22D             | 6  |
| D38999/20WB35PN-PCL-C-820             | PC Tail | С              | 820            | 13             | 22D             |  |
| D38999/20WB35PN-PCL-C-1000            | PC Tail | С              | 1000           | 13             | 22D             |  |
| D38999/20WB35PN-PCL-C-4000            | PC Tail | С              | 4000           | 13             | 22D             |  |
| D38999/20WC35PN-PCL-Pi-100            | PC Tail | Pi             | 100            | 22             | 22D             |  |
| D38999/20WC35PN-PCL-Pi-330            | PC Tail | Pi             | 330            | 22             | 22D             |  |
| D38999/20WC35PN-PCL-Pi-1000           | PC Tail | Pi             | 1000           | 22             | 22D             | 14.  |
| D38999/20WC35PN-PCL-Pi-2500           | PC Tail | Pi             | 2500           | 22             | 22D             | 21 15  |
| D38999/20WC35PN-PCL-Pi-4000           | PC Tail | Pi             | 4000           | 22             | 22D             |  |
| D38999/20WC35PN-PCL-C-330             | PC Tail | С              | 330            | 22             | 22D             |  |
| D38999/20WC35PN-PCL-C-470             | PC Tail | С              | 470            | 22             | 22D             |  |
| D38999/20WC35PN-PCL-C-820             | PC Tail | С              | 820            | 22             | 22D             |  |
| D38999/20WC35PN-PCL-C-1000            | PC Tail | С              | 1000           | 22             | 22D             |  |
| D38999/20WC35PN-PCL-C-4000            | PC Tail | С              | 4000           | 22             | 22D             |  |
| D38999/20WD35PN-PCL-Pi-100            | PC Tail | Pi             | 100            | 37             | 22D             |  |
| D38999/20WD35PN-PCL-Pi-330            | PC Tail | Pi             | 330            | 37             | 22D             |  |
| D38999/20WD35PN-PCL-Pi-1000           | PC Tail | Pi             | 1000           | 37             | 22D             |  |
| D38999/20WD35PN-PCL-Pi-2500           | PC Tail | Pi             | 2500           | 37             | 22D             |  |
| D38999/20WD35PN-PCL-Pi-4000           | PC Tail | Pi             | 4000           | 37             | 22D             | 31 21  |
| D38999/20WD35PN-PCL-C-330             | PC Tail | С              | 330            | 37             | 22D             |  |
| D38999/20WD35PN-PCL-C-470             | PC Tail | С              | 470            | 37             | 22D             |  |
| D38999/20WD35PN-PCL-C-820             | PC Tail | С              | 820            | 37             | 22D             |  |
| D38999/20WD35PN-PCL-C-1000            | PC Tail | С              | 1000           | 37             | 22D             |  |
| D38999/20WD35PN-PCL-C-4000            | PC Tail | С              | 4000           | 37             | 22D             |  |
| D38999/20WE35PN-PCL-Pi-100            | PC Tail | Pi             | 100            | 55             | 22D             |  |
| D38999/20WE35PN-PCL-Pi-330            | PC Tail | Pi             | 330            | 55             | 22D             |  |
| D38999/20WE35PN-PCL-Pi-1000           | PC Tail | Pi             | 1000           | 55             | 22D             |  |
| D38999/20WE35PN-PCL-Pi-2500           | PC Tail | Pi             | 2500           | 55             | 22D             | \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ |
| D38999/20WE35PN-PCL-Pi-4000           | PC Tail | Pi             | 4000           | 55             | 22D             |  |
| D38999/20WE35PN-PCL-C-330             | PC Tail | С              | 330            | 55             | 22D             | 53   |
| D38999/20WE35PN-PCL-C-470             | PC Tail | С              | 470            | 55             | 22D             |  |
| D38999/20WE35PN-PCL-C-820             | PC Tail | С              | 820            | 55             | 22D             |  |
| D38999/20WE35PN-PCL-C-1000            | PC Tail | С              | 1000           | 55             | 22D             | 31 339   |
| D38999/20WE35PN-PCL-C-4000            | PC Tail | С              | 4000           | 55             | 22D             |  |

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Note 2) Above part numbers show normal keying. Other keying options like 'A', 'B' etc available. Pls substitute in P/N instead of 'N'

Note 3) In addition to above insert patterns other customer specified patterns available on request.





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### D38999 Filtered Circular Connectors, Jamnut, PC Tails

| Ordering Code<br>(Filtered Connector) | Туре    | Filter<br>Type | Capacit.<br>pF | No of Contacts | Contact<br>Size | Insert Pattern     |
|---------------------------------------|---------|----------------|----------------|----------------|-----------------|--------------------|
| D38999/24WB35PN-PCL-Pi-100            | PC Tail | Pi             | 100            | 13             | 22D             |                    |
| D38999/24WB35PN-PCL-Pi-330            | PC Tail | Pi             | 330            | 13             | 22D             |                    |
| D38999/24WB35PN-PCL-Pi-1000           | PC Tail | Pi             | 1000           | 13             | 22D             | 1 0 1              |
| D38999/24WB35PN-PCL-Pi-2500           | PC Tail | Pi             | 2500           | 13             | 22D             | 9 10 11 2          |
| D38999/24WB35PN-PCL-Pi-4000           | PC Tail | Pi             | 4000           | 13             | 22D             |                    |
| D38999/24WB35PN-PCL-C-330             | PC Tail | С              | 330            | 13             | 22D             | 0 13 12 4<br>7 6 5 |
| D38999/24WB35PN-PCL-C-470             | PC Tail | С              | 470            | 13             | 22D             | 0                  |
| D38999/24WB35PN-PCL-C-820             | PC Tail | С              | 820            | 13             | 22D             |                    |
| D38999/24WB35PN-PCL-C-1000            | PC Tail | С              | 1000           | 13             | 22D             |                    |
| D38999/24WB35PN-PCL-C-4000            | PC Tail | С              | 4000           | 13             | 22D             |                    |
| D38999/24WC35PN-PCL-Pi-100            | PC Tail | Pi             | 100            | 22             | 22D             |                    |
| D38999/24WC35PN-PCL-Pi-330            | PC Tail | Pi             | 330            | 22             | 22D             |                    |
| D38999/24WC35PN-PCL-Pi-1000           | PC Tail | Pi             | 1000           | 22             | 22D             | 14 1               |
| D38999/24WC35PN-PCL-Pi-2500           | PC Tail | Pi             | 2500           | 22             | 22D             | 21 15              |
| D38999/24WC35PN-PCL-Pi-4000           | PC Tail | Pi             | 4000           | 22             | 22D             | 22)                |
| D38999/24WC35PN-PCL-C-330             | PC Tail | С              | 330            | 22             | 22D             |                    |
| D38999/24WC35PN-PCL-C-470             | PC Tail | С              | 470            | 22             | 22D             |                    |
| D38999/24WC35PN-PCL-C-820             | PC Tail | С              | 820            | 22             | 22D             | Т                  |
| D38999/24WC35PN-PCL-C-1000            | PC Tail | С              | 1000           | 22             | 22D             |                    |
| D38999/24WC35PN-PCL-C-4000            | PC Tail | С              | 4000           | 22             | 22D             |                    |
| D38999/24W D35PN-PCL-Pi-100           | PC Tail | Pi             | 100            | 37             | 22D             |                    |
| D38999/24WD35PN-PCL-Pi-330            | PC Tail | Pi             | 330            | 37             | 22D             |                    |
| D38999/24WD35PN-PCL-Pi-1000           | PC Tail | Pi             | 1000           | 37             | 22D             |                    |
| D38999/24WD35PN-PCL-Pi-2500           | PC Tail | Pi             | 2500           | 37             | 22D             |                    |
| D38999/24WD35PN-PCL-Pi-4000           | PC Tail | Pi             | 4000           | 37             | 22D             |                    |
| D38999/24W D35PN-PCL-C-330            | PC Tail | С              | 330            | 37             | 22D             |                    |
| D38999/24WD35PN-PCL-C-470             | PC Tail | С              | 470            | 37             | 22D             |                    |
| D38999/24WD35PN-PCL-C-820             | PC Tail | С              | 820            | 37             | 22D             |                    |
| D38999/24WD35PN-PCL-C-1000            | PC Tail | С              | 1000           | 37             | 22D             |                    |
| D38999/24W D35PN-PCL-C-4000           | PC Tail | С              | 4000           | 37             | 22D             |                    |
| D38999/24WE35PN-PCL-Pi-100            | PC Tail | Pi             | 100            | 55             | 22D             |                    |
| D38999/24WE35PN-PCL-Pi-330            | PC Tail | Pi             | 330            | 55             | 22D             |                    |
| D38999/24WE35PN-PCL-Pi-1000           | PC Tail | Pi             | 1000           | 55             | 22D             | 10 170 9 032       |
| D38999/24WE35PN-PCL-Pi-2500           | PC Tail | Pi             | 2500           | 55             | 22D             |                    |
| D38999/24WE35PN-PCL-Pi-4000           | PC Tail | Pi             | 4000           | 55             | 22D             |                    |
| D38999/24WE35PN-PCL-C-330             | PC Tail | С              | 330            | 55             | 22D             | 3 55               |
| D38999/24WE35PN-PCL-C-470             | PC Tail | С              | 470            | 55             | 22D             |                    |
| D38999/24WE35PN-PCL-C-820             | PC Tail | С              | 820            | 55             | 22D             | 16 24 31 39 46     |
| D38999/24WE35PN-PCL-C-1000            | PC Tail | С              | 1000           | 55             | 22D             | T                  |
| D38999/24WE35PN-PCL-C-4000            | PC Tail | С              | 4000           | 55             | 22D             |                    |

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### **Specifications for Filtered MIL-38999 Connectors**

• Connector MIL Qualification : QPL listed

as per MIL-DTL-38999 Series III

• Connector Make : Reputed source like Deutsch, Aero Inc etc

• Filter Type : 'C' Filter

Capacitance : ??? pF (on each connector Contact)

• Contacts to be EMI Filtered : All connector Contacts

• Working Voltage : 50 VDC

• Shell Material : Aluminium Alloy

• Shell Plating : Olive drab cadmium

• Insulator : Thermoplastic or thermoset

• Contacts : Copper Alloy

Contacts Plating : Gold over Nickel plated

• Endurance : 500 mating / unmating operations

• Shock : 300G for 3 ms in 3 axes

• Vibration : Per MIL-38999

• Temperature Range : -65 to +200°C

• Insulation Resistance : >5000 MΩ (at 500Vdc)

Salt Spray : 500 hoursWithstanding Voltage (sea level) : > 1800 V

• Size : Should Match Standard D38999