

# 2133 & 4133 Series

## Front-End Filters: 10.0MHz to 220 MHz

- Fixed bandwidth ( $\pm 6.75$  kHz) 2-pole and 4-pole crystal filters
- Applications where filtering incoming radio signals is required to reduce or eliminate interference

**Ordering Information**

2133/4133    VBB    00.000  
MHz

**Product Series** \_\_\_\_\_

**Designator** \_\_\_\_\_

Blank=F (Through Hole)  
See chart for correct designator or  
contact the factory for additional connector types

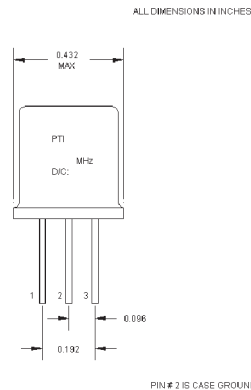
**Frequency** \_\_\_\_\_

(Customer Specified)  
See Frequency Range Chart

The ordering convention for a connectorized 2133/4133 Series filters with SMA-Female connectors on both the input and output would be 4133VBM @ 100.00MHz. For other, most popular connector types, reference the table and for others not listed consult the factory.

| Designator | Connector Set (Input & Output) | Designator | Connector Set (Input & Output) |
|------------|--------------------------------|------------|--------------------------------|
| VBB        | BNC-Female & BNC-Female        | VBP        | RCA- Female & RCA- Female      |
| VBC        | UHF- Female & UHF- Female      | VBR        | N- Female & N-Male             |
| VBI        | OSM-212 & OSM-212              | VBU        | F- Female & F- Female          |
| VBL        | TNC- Female & TNC- Female      | VBV        | SMC- Female & SMC- Female      |
| VBM        | SMA- Female & SMA- Female      | VBW        | UHF- Female & S)-239           |
| VBN        | N- Female & N- Female          | VBX        | N-Male & N-Male                |
| VBO        | BNC-Male & BNC- Female         | VBZ        | PL-259 and SO-239              |

**2133/4133**  
**2-pole or**  
**4-pole**  
**tandem set**  
**F case**  
**package**



**2133/4133**  
**50  $\Omega$  terminated**  
**connectorized**  
**package**

| Family Designation | Frequency Range (MHz) | Stopband              | Insertion Loss (dB) | Amplitude Ripple (dB) | Ultimate Attenuation (dB) | Operating Temperature |
|--------------------|-----------------------|-----------------------|---------------------|-----------------------|---------------------------|-----------------------|
| 2133               | 10.0 to 35.99         | $\pm 40.0$ kHz @ 20dB | 3                   | 1.0                   | 30                        | -20°C to +70°C        |
|                    | 36.0 to 89.99         | $\pm 40.0$ kHz @ 20dB | 4                   |                       | 30                        |                       |
|                    | 90.0 to 137.99        | $\pm 60.0$ kHz @ 20dB | 4                   |                       | 30                        |                       |
|                    | 138.0 to 220.0        | $\pm 60.0$ kHz @ 20dB | 5                   |                       | 30                        |                       |
| 4133               | 10.0 to 35.99         | $\pm 26.0$ kHz @ 20dB | 3                   |                       | 60                        |                       |
|                    |                       | $\pm 50.0$ kHz @ 40dB | 4                   |                       | 60                        |                       |
|                    | 36.0 to 89.99         | $\pm 26.0$ kHz @ 20dB | 4                   |                       | 50                        |                       |
|                    |                       | $\pm 50.0$ kHz @ 40dB | 5                   |                       | 60                        |                       |
|                    | 90.0 to 137.99        | $\pm 30.0$ kHz @ 20dB | 5                   |                       | 60                        |                       |
|                    |                       | $\pm 50.0$ kHz @ 40dB | 6                   |                       | 60                        |                       |
|                    | 138.0 to 220.0        | $\pm 30.0$ kHz @ 20dB | 6                   |                       | 60                        |                       |
|                    |                       | $\pm 50.0$ kHz @ 40dB | 7                   |                       | 60                        |                       |

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