

Rapid Mate Connectors

Spectrum's Rapid Mate connectors offer the ease and reliability of hot shoe style mating with the added benefit of integral EMI filtering. By mating via spring loaded, compliant contacts, Rapid Mate connectors provide positive mating force to ensure a reliable connection. This method provides rapid connection with low mating force, allowing for some misalignment during mating.

Additionally, the EMI filter experts at Spectrum can design a filtered Rapid Mate connector built to your requirements, providing the advantages of hot shoe style mating while ensuring system functionality in EMI-prone applications.

Applications

- Military and commercial communications systems
- Thermal and ambient light imaging cameras
- Docking stations
- Scanners



EMI Filter Performance

The electrical characteristics table indicates the performance of feed-through capacitors and Pi type filters. Utilize this information to specify the EMI filtering components included in your connector. Selective loading and custom values can also be designed.

Features

- Custom filtering
- 100% tested before shipment
- Rugged and reliable
- Resists sand, dust and water
- Low, flexible mating force

| Filter Designation | Filter* Circuits | Capacitance | | 3 dB Max Cut-off Frequency (MHz) | Working Voltage DC -55°C to +125°C | Minimum Insertion Loss - Decibels (dB) 50 ohm system per MIL-STD-220 (no load) | | | | | | | |
|--------------------|------------------|-------------|-----------|----------------------------------|------------------------------------|--|--------|--------|--------|---------|---------|---------|-------|
| | | Value | Tolerance | | | 5 MHz | 10 MHz | 20 MHz | 50 MHz | 100 MHz | 200 MHz | 500 MHz | 1 GHz |
| A | C | 68 pF | ±20% | 77 | 100V | — | — | — | — | — | 3 | 10 | 16 |
| B | | 100 pF | ±20% | 53 | 100V | — | — | — | — | 1 | 6 | 14 | 19 |
| C | | 135 pF | +100/-0% | 23 | 100V | — | — | — | 1 | 5 | 10 | 16 | 20 |
| D | | 470 pF | ±20% | 11 | 100V | — | — | 2 | 7 | 13 | 19 | 25 | 27 |
| E | | 820 pF | ±20% | 6 | 100V | — | 2 | 6 | 12 | 18 | 24 | 30 | 33 |
| F | | 1000 pF | ±20% | 5 | 100V | — | 3 | 7 | 14 | 20 | 26 | 32 | 35 |
| G | | 1500 pF | ±20% | 3.5 | 100V | 1 | 4 | 10 | 16 | 22 | 29 | 36 | 37 |
| H | | 2500 pF | +100/-0% | 1.3 | 100V | 5 | 11 | 17 | 23 | 29 | 35 | 38 | 40 |
| I | | 4000 pF | +100/-0% | .8 | 100V | 9 | 15 | 21 | 27 | 34 | 38 | 42 | 46 |
| J | Insulated | 10 pF | Max. | 635 | 100V | — | — | — | — | — | — | — | — |
| K | Grounded Insert | | | | | — | — | — | — | — | — | — | — |
| L | Pi | 68 pF | ±20% | 65 | 100V | — | — | — | — | 1 | 6 | 17 | 23 |
| M | | 100 pF | ±20% | 46 | 100V | — | — | — | — | 2 | 9 | 22 | 28 |
| N | | 135 pF | +100/-0% | 25 | 100V | — | — | — | 1 | 6 | 17 | 26 | 34 |
| O | Pi | 470 pF | ±20% | 11 | 100V | — | — | — | 9 | 18 | 22 | 36 | 43 |
| P | | 820 pF | ±20% | 6 | 100V | — | — | 4 | 13 | 23 | 31 | 45 | 52 |
| Q | | 1000 pF | ±20% | 5 | 100V | — | 2 | 7 | 16 | 24 | 36 | 51 | 59 |
| R | Pi | 1700 pF | +100/-0% | 1.9 | 100V | 1 | 6 | 14 | 28 | 35 | 49 | 64 | 69 |
| S | | 2500 pF | +100/-0% | 1.3 | 50V | 4 | 9 | 16 | 28 | 41 | 54 | 70 | 70 |
| T | | 5000 pF | +100/-0% | .7 | 100V | 9 | 15 | 28 | 41 | 53 | 66 | 70 | 70 |

* For Hi-Density centers (2 mm) only C style filters are available, to a maximum of 4000pF.

All high density capacitors are 50 volts @ 125°C.