Reed Relays Are a Key Component in Testing Functional PCBs

Functional PCB testers test printed circuit boards as large as 600 mm by 600 mm (or 2 foot square). These boards are in some cases, up to 20 layers thick, requiring 1000s of test points for functional verification. Each one of these test points may require as many as 6 switches each to provide the various voltages and currents for proper measurement. Because of size restrictions, isolation, relatively fast acting and good RF characteristics, reed relays are often chosen as the testing switch. A fully loaded tester can therefore, house over 20,000 reed relays. If there is one relay failure, this is equivalent to a failure level of 50 part per million (PPM). So the quality and reliability must reign supreme. MEDER’s reed relays have stepped up to meet these requirements; and their relays have become an accepted standard in the Automatic Test Equipment (ATE) industry.

**Features**
- High quality and reliability
- Very small size
- Ability to switch up to 1 amp
- Insulation resistance > 10^{12} Ohms
- Capable of switching and carrying up to 2 GHz
- Dielectric strength across the contacts 200 volts
- Low offset voltage < 1µV
- Contacts dynamically tested
- Low stable contact resistance
- Long life with up to a billion reliable operations

**Applications**
- Ideal for use in testers and Automatic Test Equipment that test the functionality of all sizes of printed circuit boards.

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**Figure 1. CRR physical layout**

**Figure 2. Reed relay signals pass/fail test results on functional PCB test.**
MEDER offers both standard through hole and surface mount in very small packages. All relays come with magnetic shielding allowing for very close packaging. Our surface mount CRR series can switch and carry DC to 2 GHz signals for use in high frequency requirements or fast digital pulses. Our standard SIL and MS in-line pin layouts are both considered standards in the industry and meet the stringent conditions for high quality and reliability. All series can carry up to 1 amp and hold off 200 Volts across the contacts.

MEDER’s reed relays use hermetically sealed reed switches that are further packaged in strong high strength thermoset molding compound, and can therefore be subject to various environments without any loss of reliability.

The reed relay is an excellent choice because it can operate reliably over a wide temperature range, and represents an economical way to carry out billions of switching operations.

**Consult the factory for more options not listed above.**