Drop-In Replacement Chips for TI TMS9914A Controller

NI NAT9914

- Register and pin compatible with TI TMS9914A (40-pin DIP, 44-pin PLCC, and 44-pin QFP versions)
- Meets all IEEE 488.2 requirements
  - Bus-line monitoring
  - Preferred implementation of requesting service
  - No messages sent when there are no Listeners
- 20 MHz maximum programmable clock rate
- Low-power CMOS design with TTL-compatible inputs
- Automatic EOS and/or NL message detection
- Handles DMA transfers

- Programmable data transfer rate with T1 delays of 350 ns, 500 ns, 1.1 μs, and 2 μs
- Programmably compatible with GPIB transceivers (TI, National Semiconductor, and Motorola)

Overview

The National Instruments NAT9914BPD, NAT9914BPL, and NAT9914BPQ are drop-in replacement parts for the Texas Instruments TMS9914A 40-pin DIP, 44-pin PLCC, and 44-pin QFP packages, respectively. The NI NAT9914 is 100 percent register and pin compatible with the 9914 on power-up and has additional features present in the NAT4882 IEEE 488.2 Controller chip. Thus, the NAT9914 can perform all interface functions defined by ANSI/IEEE Standard 488.1-1987 and meets the additional requirements and recommendations of ANSI/IEEE Standard 488.2-1992. The NAT9914 performs complete IEEE 488 Talker, Listener, and Controller functions.

The NAT9914 has the complete register set and the identical pin configuration of the TI TMS9914A on power-up, but has complete IEEE 488.2 Controller functionality through software. You can take advantage of IEEE 488.2 with minimal software changes. Although the default clock input is 5 MHz, the NAT9914 can use clock input values up to 20 MHz for increased performance. The NAT9914 can also run in NEC 7210 register-compatible mode with a software command.
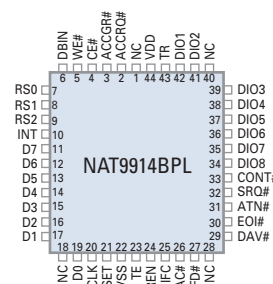

Figure 3. NAT9914BPL

If you are looking for alternatives to existing TI TMS9914A chip suppliers or planning to upgrade your designs to IEEE 488.2 without hardware changes, you should consider using the NAT9914. Furthermore, because the NAT9914 can accept faster clock inputs, performance increases without substantial firmware changes.

Ordering Information

NAT9914 ASIC
- BPD version (40-pin DIP) – 9 ASICs NAT9914BPD-9
- BPL version (44-pin PLCC) – 27 ASICs NAT9914BPL-27
- BPQ version (44-pin QFP) – 84 ASICs........NAT9914BPQ-84
- Sample kit 776730-0Y

Contact National Instruments or visit *ni.com* for a detailed NAT9914 data sheet and additional part number information.

Y=1 for BPD, 2 for BPL (2 ASICs), and 3 for BPQ samples (4 ASICs).
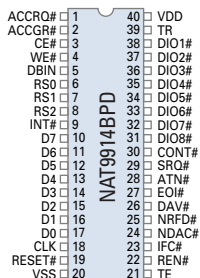
BUY ONLINE!
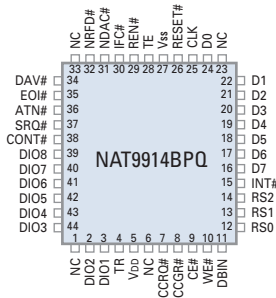Visit *ni.com/info* and enter nat9914.

Figure 1. NAT9914BPD

Figure 2. NAT9914BPQ