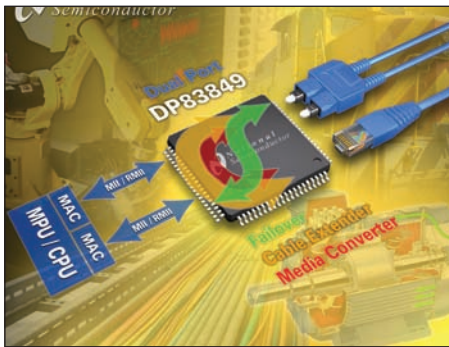


# PHYTER® Family of High-Speed Industrial Connectivity Devices

## Single/Dual Port 10/100 PHY Transceivers

### Introduction

The number of applications requiring Ethernet connectivity continues to expand. Along with this increased market demand is a change in application requirements. Where single channel Ethernet used to be sufficient, many applications such as wireless remote basestations and industrial networking now require dual port functionality for redundancy or system management.



With the PHYTER family of high-speed industrial connectivity products, National Semiconductor continues to build on its Ethernet expertise and leadership position by providing a powerful combination of features, flexibility, and robustness easing Ethernet implementation for system designers.

National's high-speed industrial connectivity devices feature the industry's highest Electrostatic Discharge (ESD) protection at 4000V and guarantee IEEE 802.3u compliance by testing every part that is shipped beyond the specification. National offers devices in commercial, industrial, and extreme temperature ranges for solutions that are geared for flawless performance even in the harshest of environments.

Additionally, National offers unique features such as flex-port switching which allows the DP83849 dual device to configure each port to provide fully integrated range extension, media conversion, hardware-based failover, and port monitoring. The DP83849 includes a powerful new diagnostic tool to ensure successful network cabling installation and dynamic link quality monitoring for continuous network operation.

### Target Applications

- Factory automation
- Motor and motion control
- Wireless remote basestations
- Medical instrumentation
- General embedded applications

### High-Speed 10/100 Industrial Connectivity Devices (Single)

Parameter	Commercial	Industrial	Extreme	Commercial
Product ID	DP83848CVV	DP83848IVV	DP83848VB	DP83848M/T/H
Temp Range (°C)	0 to 70	-40 to 85	-40 to 125	**
Interface	MII/RMII/SNI	MII/RMII/SNI	MII/RMII/SNI	MII
Power	265 mW	265 mW	265 mW	265 mW
Auto-MDIX	•	•	•	•
Interrupt Pin	•	•	•	
Software Utility Support	•	•	•	•
Error-Free Operation (m typ)	137	150	150	137
Supply Voltage (V)	3.3	3.3	3.3	3.3
Package	LQFP-48	LQFP-48	LQFP-48	LLP-40
Package Size (mm)	9 x 9 x 1.4	9 x 9 x 1.4	9 x 9 x 1.4	6 x 6 x 0.8
ESD HBM/CDE (kV)	4.0 / 2.0	4.0 / 2.0	4.0 / 2.0	4.0 / 2.0

\*\*M = Commercial Temperature (0°C +70°C)

\*\*T = Industrial Temperature (-40°C +85°C)

\*\*H = Extreme Temperature (-40°C +125°C)

# Technical Specifications

## High-Speed 10/100 Industrial Connectivity Devices (Dual)

Parameter	Commercial	Industrial	Fiber Support	Fiber Support
Product ID	DP83849C	DP83849I	DP83849ID	DP83849IF
Temp range (°C)	0 to 70	-40 to 85	-40 to 85	-40 to 85
Number of ports	Dual	Dual	Dual	Dual
Interface	MII/RMII	MII/RMII	MII/RMII	MII/RMII
Power	300 mW / Port	300 mW / Port	300 mW / Port	300 mW / Port
IEEE 802.3 compliant	•	•	•	•
UNH interoperability testing	•	•	•	•
Auto-MDIX	•	•	•	•
Smart power up/down	•	•	•	•
Extra 25 MHz clock output*	•	•	•	•
Energy detect	•	•	•	•
Real time Ethernet (Low latency)	•	•	•	•
Deterministic delay	•	•	•	•
Interrupt pin	•	•	•	•
Fiber support			•	•
Flexible port switching*		•		•
Cable health diagnostics*	•	•	•	•
System diagnostics	•	•	•	•
IEEE 1149.1 (JTAG)		•	•	•
Software utility support	•	•	•	•
Error-free operation (m typ)	137	137	137	137
Supply voltage (V)	3.3	3.3	3.3	3.3
Package	TQFP-80	TQFP-80	TQFP-80	TQFP-80
Package size (mm)	12 x 12 x 1.0	12 x 12 x 1.0	12 x 12 x 1.0	12 x 12 x 1.0
ESD HBM/CDE (kV)	4.0 / 2.0	4.0 / 2.0	4.0 / 2.0	4.0 / 2.0

\*Features Unique to National Products

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