

APPLICATION NOTE 3953

Side-by-Side Comparison of Fiber-Monitoring and Control ICs

This application note presents parts designed for fiber monitoring and optical control. Although the products have a broad range of capabilities, some of those features are most important for the optical control and monitoring markets. This note charts those features for easy comparison.

Introduction

Dallas Semiconductor offers a variety of products for fiber optical control and monitoring. These devices are suitable for applications using fiber-optic standards such as SFP, XFP, SFF, GBIC, and PON, and are compatible with various drivers. The products have a broad range of features optimized to best suit the customer's application requirements.

Side-by-Side Comparison

Tables 1 and **2** list the important features of each fiber-monitoring and control product. These tables allow the engineer to easily view which options are important to an application, and to choose the best device for their project. To learn more about these devices and to download their data sheets, visit the [Fiber Monitoring and Control Products page](#).

The products in Table 1 can be used in fiber-optic applications that meet the SFF-8472 MSA, XFP (DS1862), and PON (DS1863) standards.

Table 1. Comparison of Products for SFF, XFP, and PON Standards

Features		DS1866		DS1859		DS1862		DS1863		DS1864		DS1865	
Fault Management and Eye-Safety Features	SFF-8472 Compliant	●	●	-	-	●	●	-	-				
	Burst Mode	-	-	-	-	●	●	-	-				
	Fast Trip Comparators	-	-	●	●	●	●	●	●				
	Alarm Flags	●	●	●	●	●	●	●	●				
	Warning Flags	●	●	●	●	●	●	●	●				
	FETG Driver	-	-	●	●	●	●	●	●				
	Rx Power Monitor	●	●	●	●	●	●	●	●				
	Rx Power Monitor with Extended Range	-	-	-	-	●	●	-	-				
	Analog Monitoring Inputs	●	●	●	●	●	●	●	●				
	Laser Bias Automatic Power Control (APC)	-	-	●	●	-	-	●	●				
	Extinction Ratio Control	-	-	●	●	-	-	-	-				
	Internal Calibration	●	●	●	●	●	●	●	●				
	Internal Temperature Sensor	●	●	●	●	●	●	●	●				
	V _{CC} A/D Converter (ADC)	●	●	●	●	●	●	●	●				
	User EEPROM	●	●	●	●	●	●	●	●				
	A0h EEPROM	-	-	-	-	●	●	-	-				
	Pin-Controlled Write Protection	-	●	-	-	-	-	-	-				
	Password-Controlled Write Protection	●	-	●	●	●	●	●	●				
Software-Selectable I ² C Address	●	●	-	●	●	●	●	●					
Temperature-Controlled Resistors	●	●	N/A	N/A	N/A	N/A	N/A	N/A					
Manual Resistor Control	●	●	N/A	N/A	N/A	N/A	N/A	N/A					
Temperature-Controlled DACs	N/A	N/A	●	●	●	●	●	●					
Manual DAC Control	N/A	N/A	●	●	●	●	●	●					
High-Impedance Control	●	●	-	-	●	●	-	-					

The products in Table 2 can be used to control bias and modulation current.

Table 2. Comparison of Products for Bias Control and Modulation Current

Features		DS1847		DS1848		DS1855		DS3901		DS3902	
	Internal Temperature Sensor	●	●	-	-	-	-	-	-		
	User EEPROM	-	●	●	●	●	●	●	●		
	Pin-Controlled Write Protection	-	●	●	-	-	-	-	-		
	Password-Controlled Write Protection	-	-	●	●	●	●	●	●		
	I ² C Address Pins	●	●	●	-	-	-	-	-		
	Hardware-Selectable I ² C Address	-	-	-	●	●	●	●	●		
	Software-Selectable I ² C Address	●	●	-	●	●	●	●	●		
	Temperature-Controlled Resistors	●	●	-	-	-	-	-	-		
	Manual Resistor Control	●	●	●	●	●	●	●	●		
	High-Impedance Control	-	-	-	●	●	●	●	●		

Questions/comments/suggestions concerning this application note can be sent to: MixedSignal.Apps@dalsemi.com.

Application Note 3953: <http://www.maxim-ic.com/an3953>

More Information

For technical questions and support: <http://www.maxim-ic.com/support>

For samples: <http://www.maxim-ic.com/samples>

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Related Parts

DS1847: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS1848: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS1855: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS1856: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS1859: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS1862: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS1863: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

DS1864: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

DS1865: [QuickView](#)

DS3901: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

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