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MODULATOR BIAS CONTROLLER - SUPER (GENERAL BIAS CONTROLLER WITH PULSE MODE APPLICATIONS)

Features

- User selectable locking mode (Quad+/Quad- \leftrightarrow Null/Peak)
- Two operation modes: calibration mode and locking mode
- Calibration off mode for quick system setup in locking mode
- Small size (2.53" x 2.57" x 0.65")
- Access for external photo-detector
- GUI computer interface via USB Type B as standard
- Pulse mode for more accurate null locking
- Fine tuning pilot tone parameters through the GUI
- Pulse mode for Null locking in dense pulse applications
- GUI is provided with multi-unit control capabilities
- RS232DB9 or RS232FW (Flywire) interface available as an option
- User may stop pilot tone, enter manual mode

Product Description

This compact super Modulator Bias Controller is a full-function miniature OEM version of the Modulator Bias Controller (MBC) family. With added feature for dense pulse applications, the Modulator Bias Controller can be used to lock the working point of the modulator at the positive slope quadrature (quad+), negative slope quadrature (quad-), null or peak points of its characteristic curve. The locking modes and slopes are selectable through the GUI. A pigtailed photo-detector is included. An external photo-detector may also be used. The digital technique reduces noise and pilot tone amplitude, while improving the performance. With the pulse mode, the Null locking accuracy has been increased.

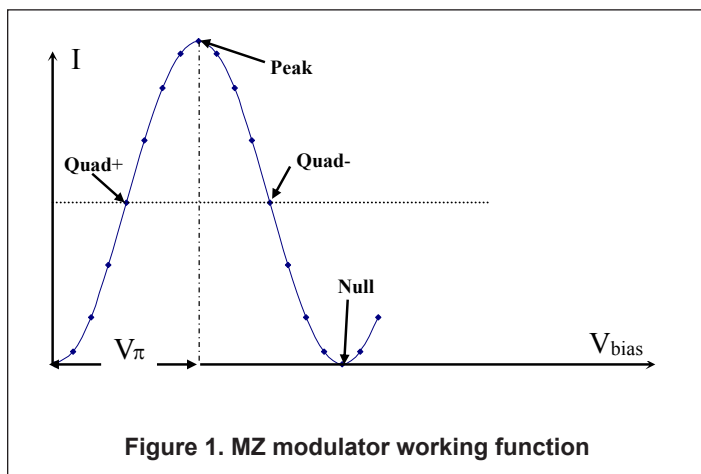
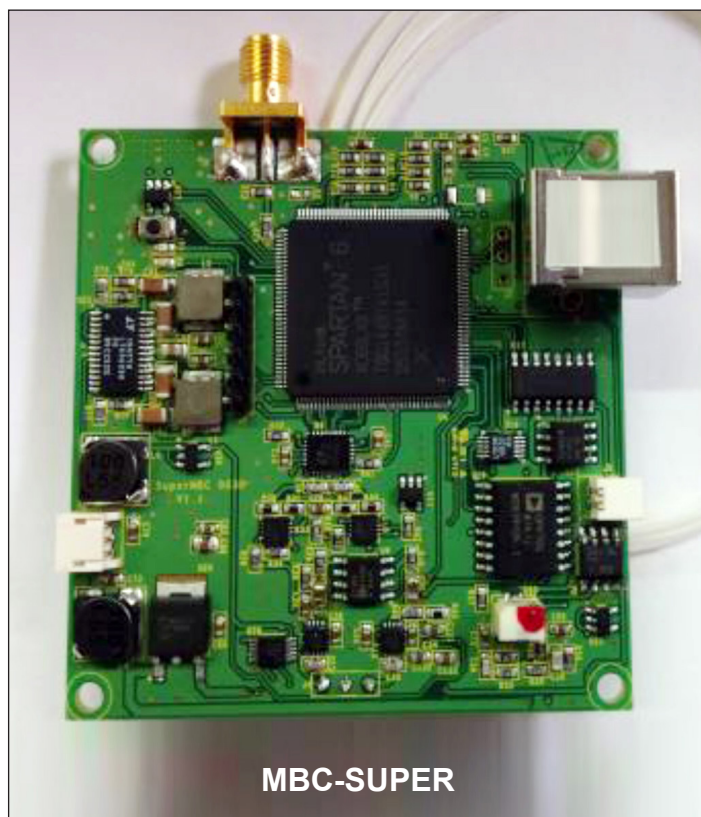
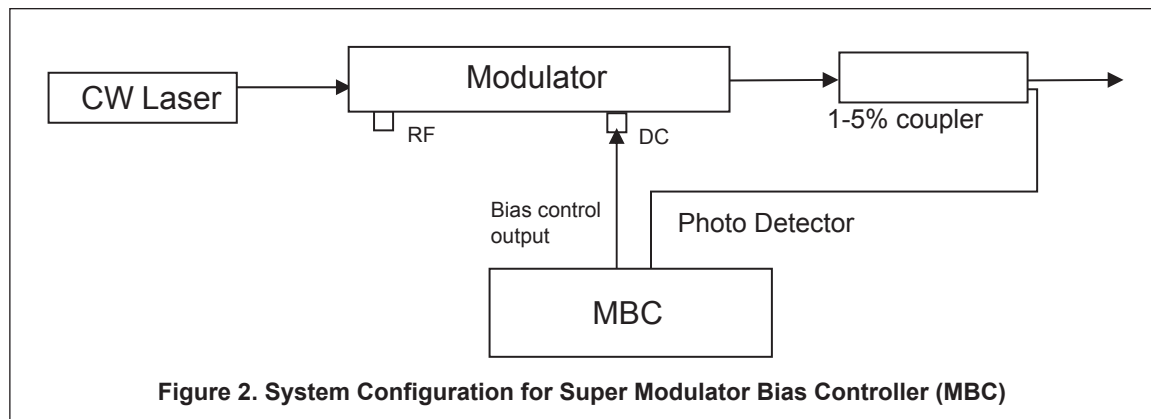


Figure 1. MZ modulator working function



Specification Table

Parameters	Min	Typ	Max
Optical Performance			
Detector Input Power ¹ (dBm)	-25		-10
Optical Wavelength ² (nm)	1000–1650		
Electrical Performance			
Bias Voltage (single ended) (V)	-12		12
Null Mode Extinction Ratio ³ (dB)		36	40
Locking Slope	Positive or Negative		
Locking Mode	Null, Peak, +Quad, -Quad		
Pilot Tone			
Modulation Depth ¹ (Null) %	Adjustable		
Pilot Tone Amplitude ¹ (mV) Vpp	0–250		
Pilot Tone Frequency (kHz)	1, 5, 10, 40		
Power Supplies			
DC Positive Power Voltage (V)	14.5	15	15.5
DC Negative Power Voltage (V)	-15.5	-15	-14.5
DC Positive Power Current (mA)		145	
DC Negative Power Current (mA)		80	
General			
Operating Temperature (°C)	0–40		
Storage Temperature (°C)	-40–85		
Dimension (inch)	2.53 x 2.57 x 0.65		
Weight (lb)	0.2		

¹ Modulation Depth (Null) and Pilot Tone Amplitude are adjustable through the GUI.

² With PD of other wavelength, the Range of the wavelength can be expanded.

³ Limited by modulator extinction ratio.

Part Number

MBC-SUPER-PP-X-Y

PP = Pigtailed Photodiode code:
 PD = Pigtailed photodiode included
 00 = Pigtailed photodiode not included
 Leave connector code blank

Y = Comm code:
 W/O-Y = USB Type B (Standard)
 RS232DB9 = RS232 DB9 (Optional)
 RS232FW = RS232 with flywire (Optional)

X = Connector code:
 3U = FC/UPC
 3A = FC/APC
 SCU = SC/UPC
 SCA = SC/APC
 LCU = LC/UPC
 LCA = LC/APC

Kit Part Number MBC-SUPER-RS232-KIT