



## MODULATOR BIAS CONTROLLER - SINGLE SIDEBAND

**PRELIMINARY**

### Features

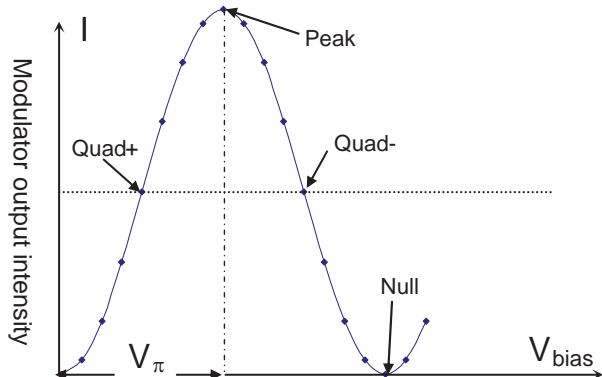
- For DPMZ modulator SSB applications
- Two operation modes: calibration mode and locking mode
- Three modulators can be controlled by one controller
- User adjustable pilot tone amplitude
- Locking points around null, quad can be fine-tuned
- Calibration off mode for quick system setup in locking mode
- One PD is integrated
- USB interface
- GUI is included, user can stop pilot tone in manual mode
- For single sideband application
- RS232 interface provided
- Low profile (2.53" x 2.57" x 0.65")
- Access for external photo-detector

### Product Description

The SSB (Single Sideband) Modulator Bias Controller is designed to be used with DPMZ modulators for single sideband applications.



**MBC-SSB**



**Figure 1. MZ modulator working function**

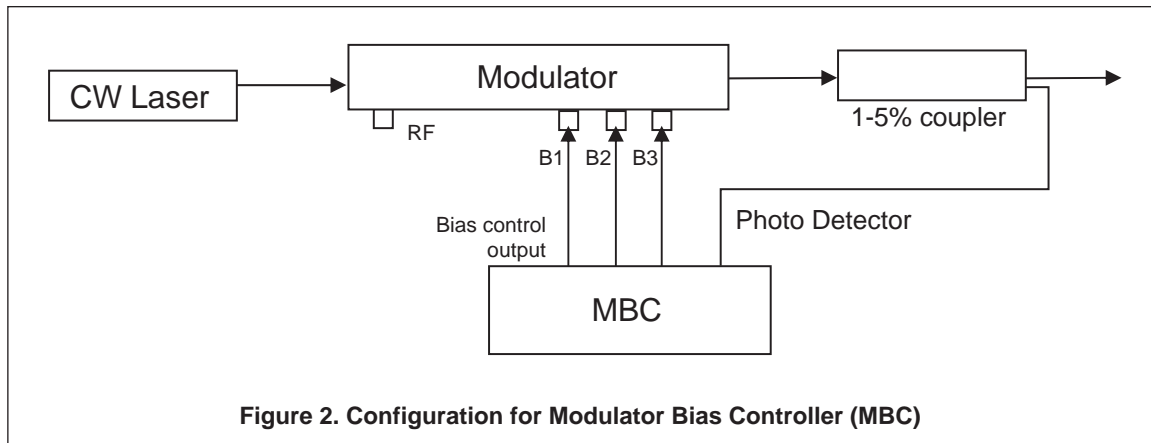


Figure 2. Configuration for Modulator Bias Controller (MBC)

## Specifications

Parameters	Min.	Typ.	Max.
<b>Optical Performance</b>			
Detector Input Power <sup>1</sup> (dBm)	-25		-10
Optical Wavelength (nm)	1000–1650		
<b>Electrical Performance</b>			
Bias Voltage (V)	-12		12
Null Mode Extinction Ratio <sup>2</sup> (dB)		25	40
Locking Slope	Positive or Negative		
Locking Mode	Two Null (Peak) positions, one Quad+ or (Quad-) position		
<b>Pilot Tone</b>			
Modulation Depth (NULL) (%)	Adjustable		
Pilot Tone Frequency (QUAD) (Hz)		500, 1000	

Parameters	Min.	Typ.	Max.
<b>Power Supplies</b>			
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	
<b>General</b>			
Operating Temperature (°C)	0–70		
Storage Temperature (°C)	-40–85		
Dimension (inch)	2.53 x 2.57 x 0.65		
Weight (lb)	0.2		

- <sup>1</sup> For a given input, detection power refers to the coupled optical power to the photodiode of DPMZi-MBC when the modulator output is at its minimum attenuation (The detection power does not describe the detected power at locking status).
- <sup>2</sup> In this case, the modulator output power was greater than 0 dBm. 1% coupler was used. The extinction ratio will be close to but not exceed the extinction ratio of the modulator.

## Part Number

**MBC-SSB-PP-X**

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

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