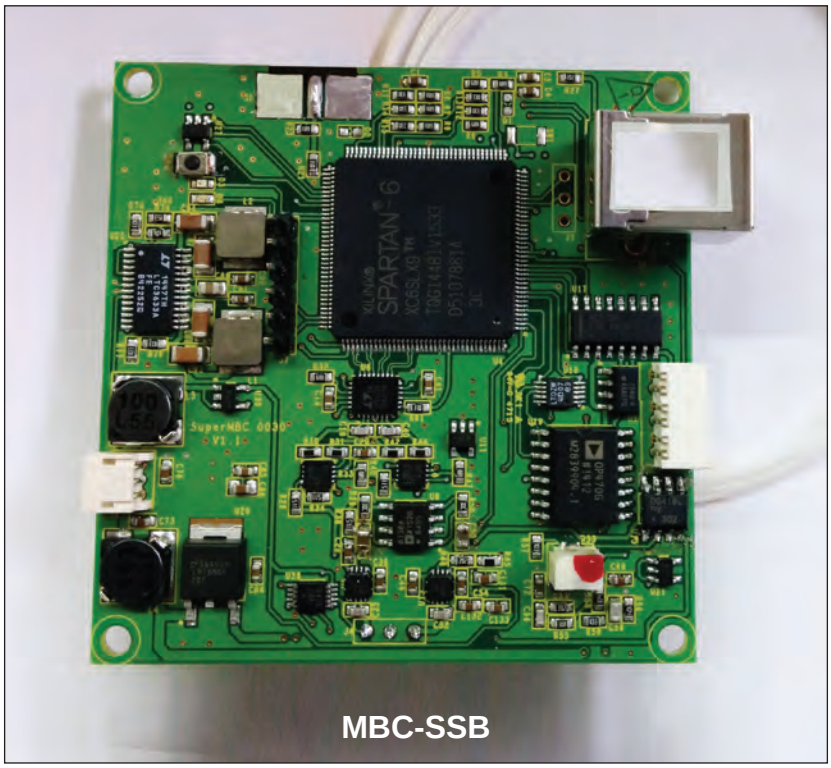
MODULATOR BIAS CONTROLLER - SINGLE SIDEBAND

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.

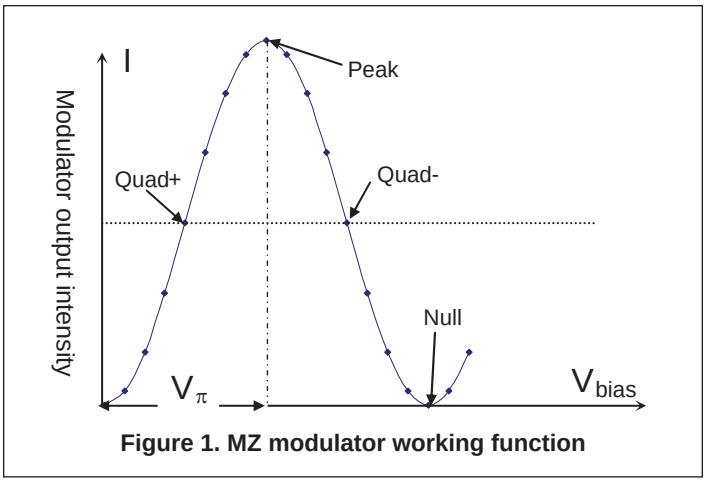


Figure 1. MZ modulator working function

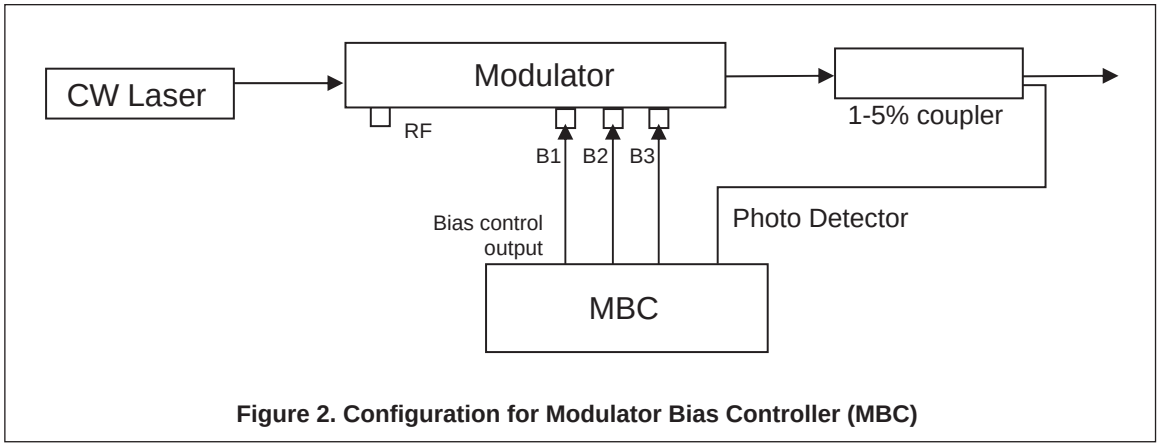


Figure 2. Configuration for Modulator Bias Controller (MBC)

Specifications

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

Parameters	Min.	Typ.	Max.
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)		0–70	
Storage Temperature (°C)		-40–85	
Dimension (inch)		2.53 x 2.57 x 0.65	
Weight (lb)		0.2	

1 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).

2 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