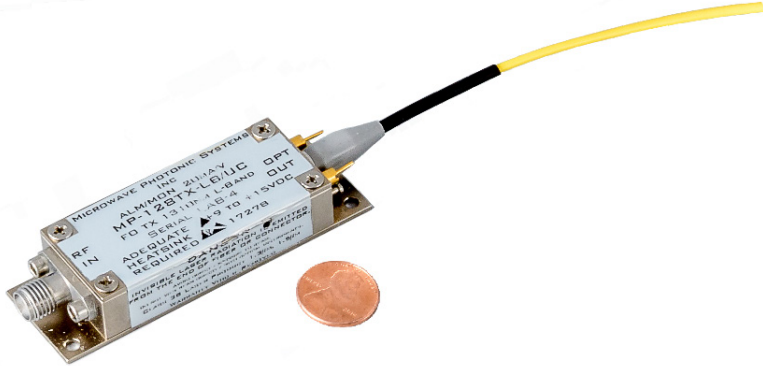


## MP-128TX Series Microwave Fiber Optic Transmitter

## 3.5 GHz RF Analog Fiber Optic Transmitter



## Ultra-Compact electrical-to-optical (E/O) conversion of broadband RF signals over the 1 MHz to 3500 MHz frequency range.

The MP-128TX is a comprehensive family of RF/Fiber Optic Transmitters that are designed to provide electrical-to-optical (E/O) conversion of broadband RF signals over a frequency range of 1.0 MHz to 3500 MHz.

This industry leading mechanical package is ideal for OEM fiber optic integration into legacy RF platforms and products.

The transmitter family can be optimized over a unique frequency range, as indicated in the part number generator tool on page two. Further system optimization can be achieved by using the integrated RF attenuators to satisfy almost any application.

The utilization of the MP-128TX, in conjunction with the appropriate MP-128RX RF/Fiber Optic Receiver, forms a broadband link capable of supporting the transmission of RF signals over singlemode optical fiber for use in a wide array of communication applications. The link applications include antenna remoting, time and frequency reference distribution, RF delay lines, telemetry tracking, and point-to-point RF transmission.

The transmitter utilizes a low noise, high dynamic range Distributed Feedback (DFB) laser with integrated temperature stability control. The unit provides the user with an open collector summary status pin.

Information: Call us toll-free at 888-868-8967 or email [info@b2bphotonics.com](mailto:info@b2bphotonics.com)

## Applications:

- Wideband RF Transmission
- Microwave Antenna Remoting
- L-Band SATCOM Links
- GPS Antenna Remoting
- Wireless / PCS
- Phased array Antenna Systems
- OEM Integration

## Features:

- 1.0 MHz to 3.5 GHz Bandwidth
- CWDM Compatible
- Low Noise Pre-amplifier
- High Dynamic Range
- Ultra Compact Form Factors
- Configurable Design
- Multiple Powering and Mounting Options



MP-128TX Series Microwave Fiber Optic Transmitter

## General Specifications

### Optical

Parameter	Min	Typ	Max	Unit	Notes
Operational Wavelength (1310nm)	1270	1310	1430	nm	CWDM Available
Operational Wavelength (1550nm)	1470	1550	1610		CWDM Available
Optical Output Power	2	3	5	mW	
Optical Connector Type	FC/APC, SC/APC, PC/APC, LC/APC, AVIM				Others Available
Optical Back Reflection		-40		dB	

### Electrical - RF

Parameter	Min	Typ	Max	Unit	Notes
Frequency Response	1		3500	MHz	
Input/Output RF Impedance	50			Ohms	
Input/Output Return Loss	-16	-20		dB	
RF Connector Type	SMA (f) female				Others Available
RF Link Gain	-30	0	+20	dB	Higher Link Gains Available
RF Link Gain Flatness		+/- 2		dB	1 MHz to 3.5 GHz Bandwidth
RF Link Noise Figure	16	+30		dB	
Input 1dB Compression Point		+10		dBm	IP1dB
Input Third Order Compression Point	+23			dBm	IIP3
Spur Free Dynamic Range	108	110		dB*Hz <sup>2/3</sup>	SFDR
Input Signal Range	-75		+5	dBm	
Intermod Products	-40			dBc	two-tone @ 0 dBm / tone
RF Input Power			+16.0	dBm	No Damage

### Mechanical and Environmental

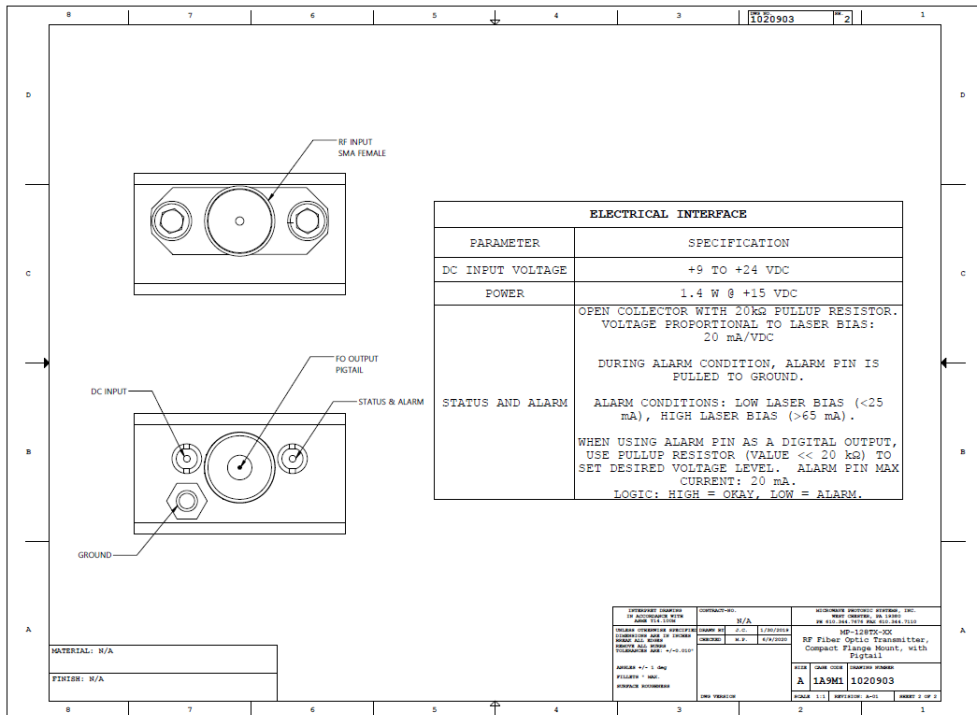
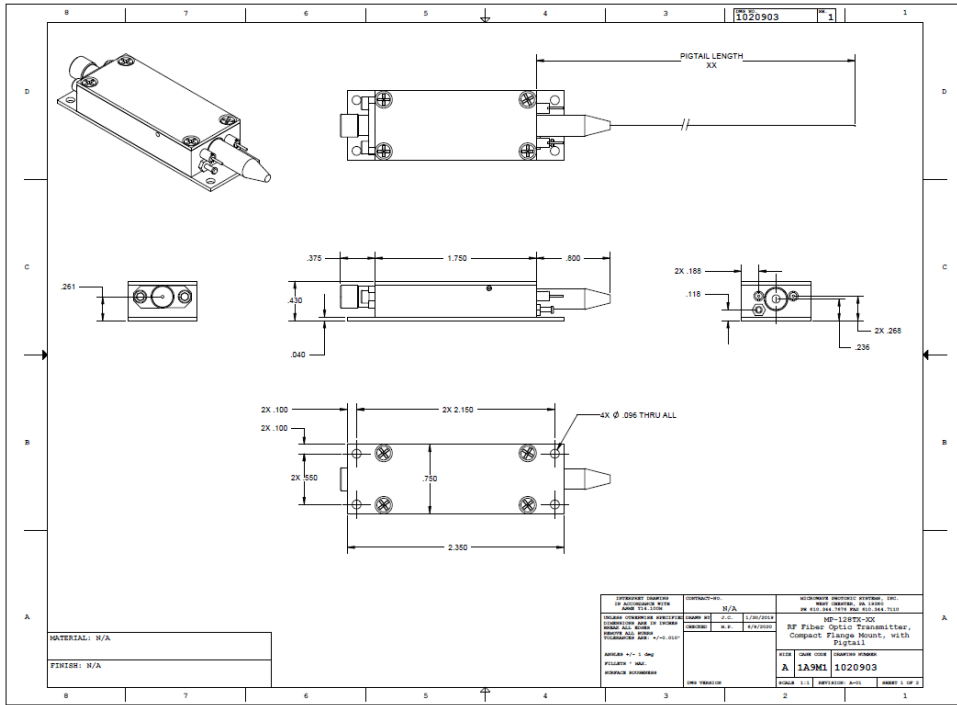
Parameter	Min	Typ	Max	Unit	Notes
Power Supply	+8	+15	+24	VDC	1.4 Watts max.
Operating Temperature	-20		+60	°C	
Storage Temperature	-45		+85	°C	
Operating Humidity			95	%	Non-Condensing
Operating Altitude			50,000	ft	
Dimensions	2.35 x 0.75 x 0.43 65 x 19 x 12			in mm	Varies with Case Style
Local Alarms	Open Collector				
Power & I/O Connector	Solder Pin				

Note (1) : Performance stated with TX Output applied to MP-128RX Receiver Module

MP-128TX Series Microwave Fiber Optic Transmitter

# Outline Drawings

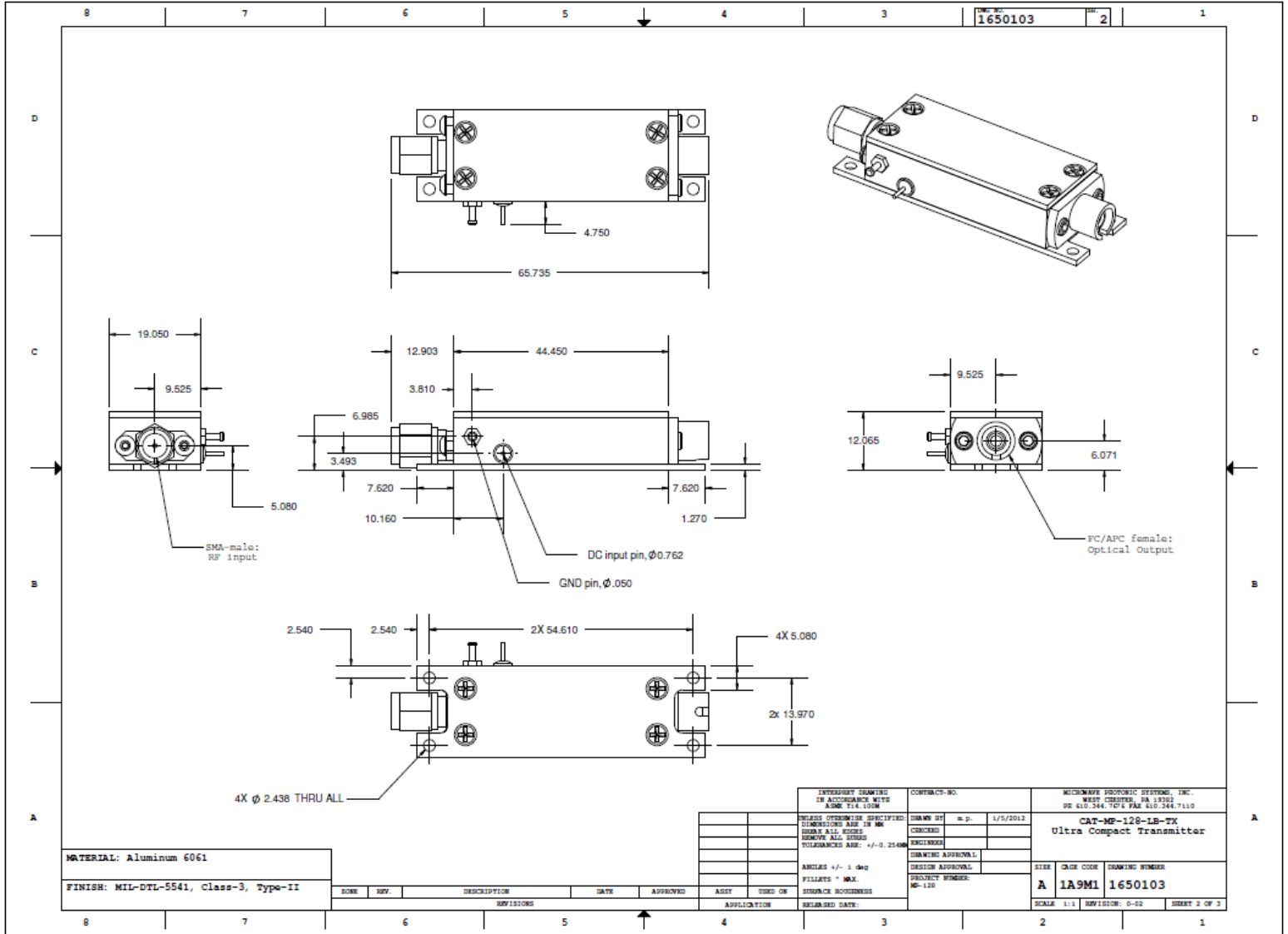
## Case Type 1



MP-128TX Series Microwave Fiber Optic Transmitter

Outline Drawings

Case Type 2



MP-128TX Series Microwave Fiber Optic Transmitter

Part Number Generator

MP128TX	F	W	G	P1	PT	CN	CT
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Example PN: **MP128TX-E-06-P00-P10-3-2-1**

- 100 to 3000 MHz Frequency Range
- 1550nm Optical Wavelength
- 0 dB Gain
- 10 dBm Input P1dB
- 10" long 1.8mm kevlar reinforced pigtail
- FC/APC Optical Connector
- Case Style 1

<b>F</b> Frequency Range	<b>W</b> Wavelength	<b>G</b> Gain
A = 1.0 MHz to 300 MHz	01 = 1310 nm	N20 = -20 dB
B = 50 MHz to 1000 MHz	02 = 1470 nm	N10 = -10 dB
D = 100 MHz to 2500 MHz	03 = 1490 nm	P00 = 0dB
E = 100 MHz to 3000 MHz	04 = 1510 nm	P10 = 10 dB
F = 500 MHz to 3500 MHz	05 = 1530 nm	P20 = 20 dB
G = 50 MHz to 3500 MHz	06 = 1550nm	XXX = Custom
H = 50 MHz to 3000 MHz	07 = 1610nm	

- P1** IP1dB
- N05 = -5 dBm
  - P00 = 0 dBm
  - P05 = 5 dBm
  - P10 = 10 dBm
  - P15 = 15 dBm
  - XXX = Custom

- PT** Fiber Pigtail
- 1 = 0.5m long 900u loose-tube pigtail
  - 2 = 18" long 1.8mm kevlar reinforced pigtail
  - 3 = 10" long 1.8mm kevlar reinforced pigtail
  - 4 = 24" long 1.8mm kevlar reinforced pigtail
  - 5 = 24" long 900u loose-tube pigtail
  - NF = None, Case 2 only
  - XX = Custom

- CN** Connector
- 0 = None
  - 2 = FC/APC
  - 4 = SC/APC
  - 6 = Special
  - 7 = LC/APC
  - 8 = AVIM / APC

- CT** Case Type
- 1 = Case Style 1
  - 2 = Case Style 2