

40 Channel MUX/DEMUX with Internal Temperature Controller

V23845-A/Bwxyz

Preliminary Data

Features

- Small housing
- Internal temperature controller
- UL-94 listed

Compliance

- EN 181 00
- Telcordia GR-1209, GR-1221
- ETSI ES 300 671



Types of Components

	MUX	DEMUX-LL	DEMUX-FT
C-Band (first channel 192.0 THz)	X	X	X
L-Band (first channel 186.7 THz)	X	X	X

			Part Number				Description				
	Type of Component		V23845-	A			DEMUX				
				B			MUX				
w	Wavelength Range				1			C-Band			
					4			L-Band			
x	Number of Channels					1			8		
						2			16		
						3			24		
						4			32		
						5			40		
						6			> 40 on request		
y	Channel Spacing						1			200	
							2			100	
							3			50 on request	
z	Design Options						1			Low Loss	
							2			Flat Top	

Pin Configuration

Pin Configuration

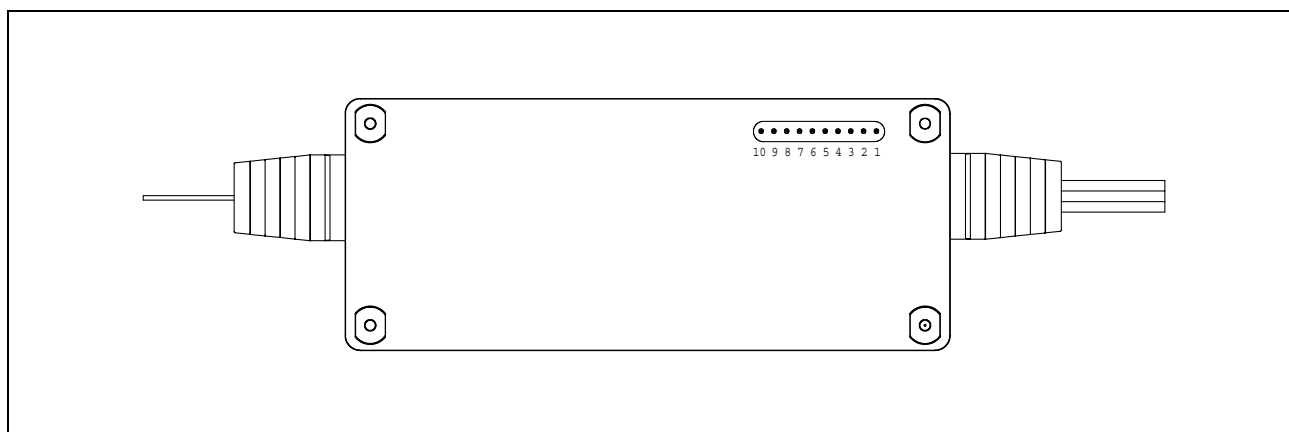


Figure 1

Pin Description

Pin No.	Description
1	Controller Power +5 V
2	To be left open
3	Variable resistor
4	RTD H2
5	RTD H1
6	RTD L1
7	RTD L2
8	To be left open
9	Controller GND
10	To be left open

Description

Description

This specification describes a dense wavelength division multiplexer / demultiplexer to multiplex / demultiplex a signal consisting of 40 optical channels with a channel spacing of 100 GHz. The component is realized by a 40-Channel-Arrayed-Waveguide Grating (AWG).

Module Specifications¹⁾

Parameter	Symbol	MUX	DEMUX-LL	DEMUX-FT	Unit
Number of channels	N	40			
Channel spacing	Δf	100			GHz
Nominal center wavelength	λ_c	ITU-T grid			
Accuracy of channel center frequency	δf	± 3			GHz
Bandwidth @ 1 dB	PB1	≥ 40	≥ 25	≥ 40	dB
Bandwidth @ 3 dB	PB3	≥ 50	≥ 50	≥ 75	
Insertion loss	IL	≤ 5.5	≤ 5.5	≤ 8.0	
Insertion loss uniformity	ΔIL	≤ 1.5			
Isolation (adjacent channel)	ISO _a		≥ 25	≥ 24	
Isolation (non-adjacent channel)	ISO _n		≥ 32	≥ 30	
Passband ripple	R		≤ 1	≤ 0.5	
Polarization Dependant Loss	PDL	≤ 0.5			
Optical return loss	ORL	≥ 50			
Max. opt. power	P_{\max}	20			
Storage temperature	T_s	−40...85			°C
Operation temperature	T_{op}	0...70			
Type of temperature stabilization		Heater			
Heater Power	P_H	6			W
Set point of Heater	T_{set}	75 ±4			°C
Type of temperature sensor	RTD	PT 100			Ω/°C
Weight		60			g
Optical interface		connectors upon request			n.a.
Electronic interface		10 pins			n.a.

¹⁾ All values are specified for all polarizations and operating temperatures in a clear window of 200 pm.

Description

Definitions

Number of channels	N	
Channel Spacing	δf	Frequency difference between adjacent channels
Clear Window	CW	Centred at ITU and equal to 200 pm
1 dB Bandwidth	PB1	Width of port n at $IL_{peak} - 1$ dB
Insertion Loss	IL	Maximum channel loss in Clear Window
IL Uniformity	ΔIL	Difference between highest and lowest IL
Polarization Dependant Loss	PDL	Maximum loss variation in Clear Window due to change of state of polarization
Optical Return Loss	ORL	Ratio of reflected power to incident power
Isolation	ISO	Figure 2

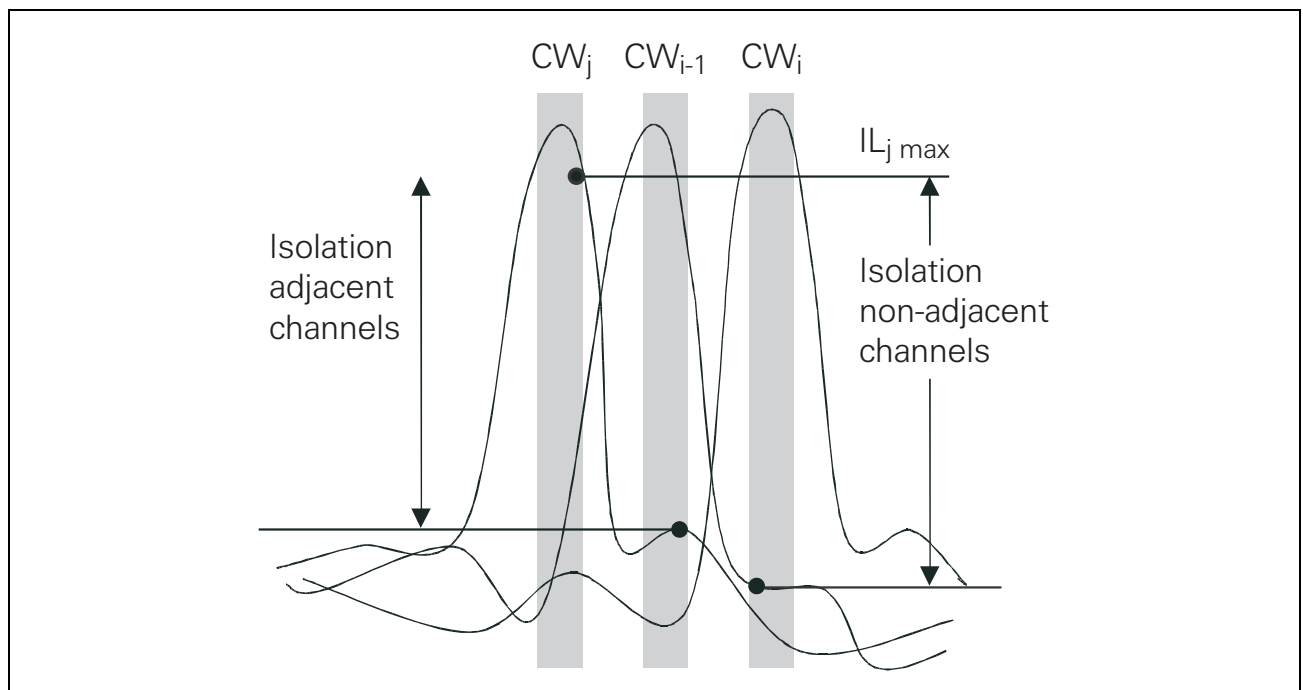


Figure 2 Isolation

Housing Dimensions

Dimension	Typ.	Unit
Length	120	mm
Width	50	
Height	11.5	

Package Outlines

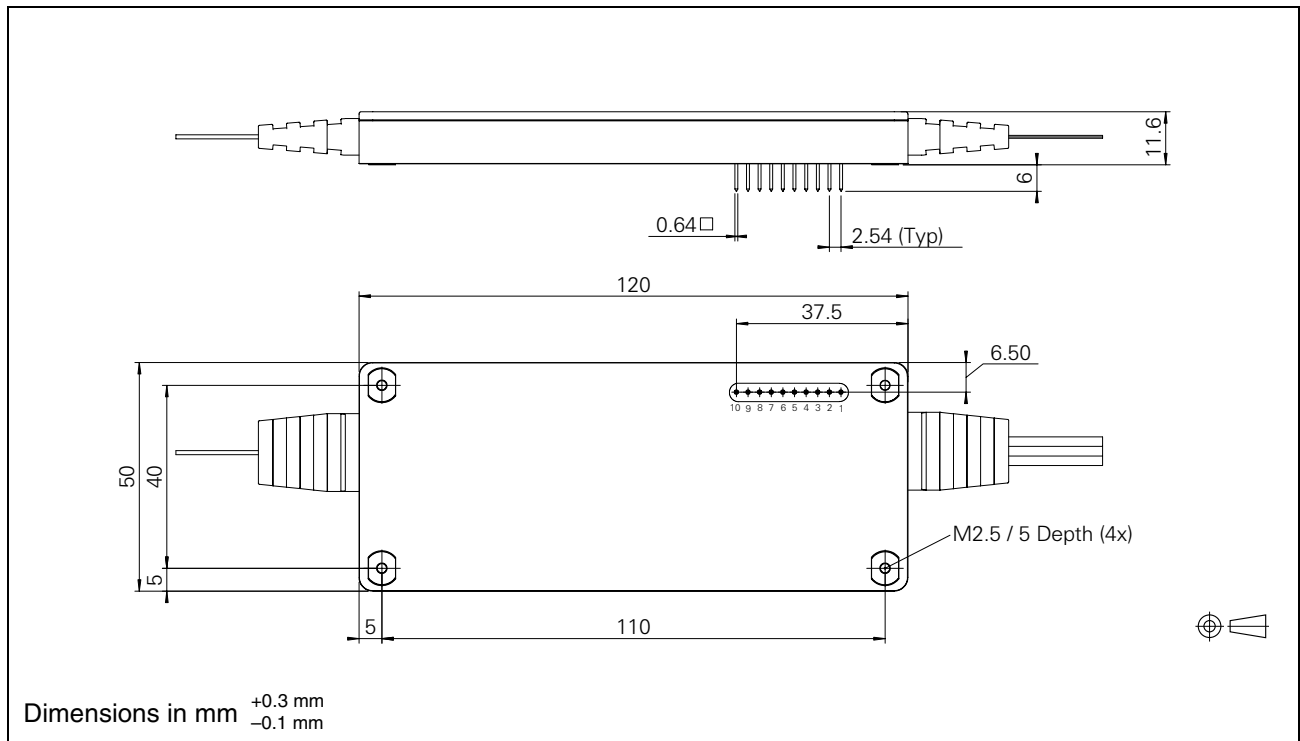


Figure 3

Previous Version:

Page	Subjects (major changes since last revision)
	Document's layout has been changed: 2002-Aug.

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