UltraVOA Single-Channel

K100-3210-8x-xx

LinkX™ CABLES TRANSCEIVERS COMPONENTS †

Mellanox® LinkX UltraVOA uses silicon photonics to deliver reliable solid-state current controlled optical attenuation enabling ultra-fast control of signal levels in optical networks. The Variable Optical Attenuator (VOA) consists of a reliable silicon p-i-n diode structure built across a silicon optical waveguide. As current is applied through the diodes, the free carriers in the waveguide absorb photons, creating a current-controlled variable attenuation.

Because the physical effect is based on electronic control, the response time of the VOA is fast—less than 1 µs in typical situations. This VOA is well suited to the most demanding applications in metro and long-haul transmission applications. The high speed of these VOAs makes them particularly useful for optical transient suppression and analog signal modulation applications.

Table 1 - Optical Specifications

Specification	Min	Typical	Max	Units	Notes
Operating Wavelengths	1525	--	1565	nm	L-Band available
Insertion Loss	--	1.6	1.8	dB	Without connectors
Operational Attenuation	0	--	25	dB	Default attenuation is 0 dB at no applied current
Response Time (0-25 dB)	--	1.0	2.0	µs	10-90% step response
PDL (0-10 dB Attenuation)	--	0.2	0.4	dB	
PDL (10-25 dB Attenuation)	--	--	0.5	dB	
Wavelength Dependence of Attenuation	--	--	1.0	dB	At 10 dB attenuation
Optical Return Loss	40	--	--	dB	
Chromatic Dispersion	-0.05	--	0.05	ps/nm	
PMD	--	0.05	0.1	ps	
Optical Input Power/Ch	--	--	23	dBm	
Attenuation Variation with Temperature	--	--	0.10	dB/°C	At 10 dB attenuation
Attenuation Stability	-0.25	--	0.25	dB	Constant temperature and wavelength over 1 hour

Table 2 - Electrical Specifications

Specification	Min	Typical	Max	Units	Notes
Operating Current	--	55	65	mA	At 25 dB attenuation
Forward Voltage	--	--	4.5	V	At 25 dB attenuation

HIGHLIGHTS

KEY FEATURES

- High speed <1µs
- Attenuation range >25dB
- Solid State Design
- Internal Monitoring Photodiode
- SFP MSA package

APPLICATIONS

- Channel power equalization
- Optical transient suppression
- Analog signal modulation
- Power control in WDM and agile networks

COMPLIANCE

- Telcordia qualified, based on GR468
- RoHS 6/6 compliant

† For illustration only. Actual products may vary.

Table 3 - Environmental Specifications

Specification	Min	Typical	Max	Units	Notes
Operating Temperature	0	--	75	°C	Case temperature
Storage Temperature	-40	--	85	°C	Ambient
Operating Relative Humidity	--	--	85	%	

Table 4 - Maximum Ratings

Specification	Min	Typical	Max	Units	Notes
Optical Input Power/Ch	--	--	25	dBm	
Electrical Power Dissipation	--	--	500	mW	
Current	--	--	100	mA	
Reverse Bias Voltage	--	--	20	V	
Soldering Temperature	--	--	240	°C	
Soldering Time	--	--	5	sec	

Package Drawing

Package Dimensions:
- Length: 32mm
- Width: 5.5mm
- Height: 5mm

Fiber Length:
- 1 meter on each side

Fiber Type:
- SMF 28E Ribbon Fiber

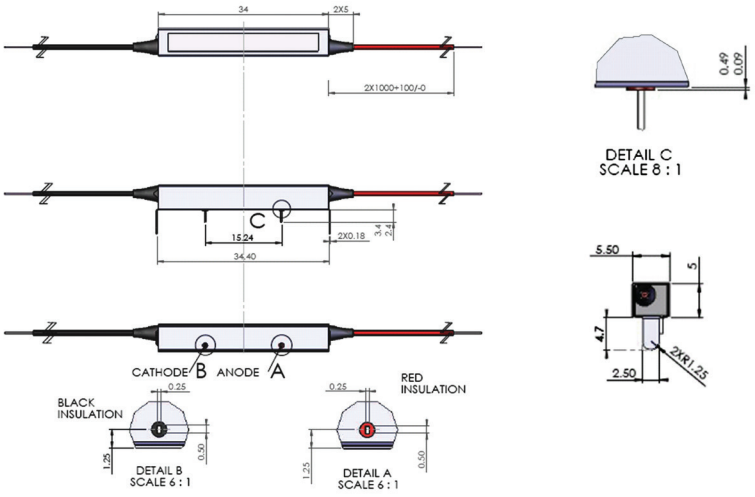

Table 5 - Part Numbers and Descriptions

OPN	Description
K100-3210-80-00	VOA, 1ch 250µ coating SMF, 1m pigtail, no connectors
K100-3210-81-11	VOA, 1ch 900µ loose-tube jacket, SMF, 1m pigtail with LC/UPC optical connectors
K100-3210-81-15	VOA, 1ch 900µ loose-tube jacket, SMF, 1m pigtail with LC/APC optical connectors
K100-3210-81-21	VOA, 1ch 900µ loose-tube jacket, SMF, 1m pigtail with FC/UPC optical connectors
K100-3210-81-25	VOA, 1ch 900µ loose-tube jacket, SMF, 1m pigtail with FC/APC optical connectors
K100-3210-81-41	VOA, 1ch 900µ loose-tube jacket, SMF, 1m pigtail with SC/UPC optical connectors
K100-3210-81-45	VOA, 1ch 900µ loose-tube jacket, SMF, 1m pigtail with SC/APC optical connectors

Warranty Information

Mellanox LinkX modules include a 1-year limited hardware warranty, which covers parts repair or replacement.

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