

iVOA™ INTEGRATED VARIABLE OPTICAL ATTENUATOR ARRAY

The iVOA™ product family provides a solid-state, single chip solution for variable optical attenuator (VOA) arrays. The integrated photonic chip is based on Enablence's library of proven, Telcordia-qualified, optical building blocks and planar lightwave circuit (PLC) integration technology. The iVOA™ is actuated with electrical power based on thermo-optics.



BENEFITS

- Hermetically packaged chip
- Input/Output fiber ribbons with optional connectors
- Electrical interface pins
- Optional control PCB and firmware

FEATURES

- Voltage controlled variable attenuation
- High dynamic range
- Low insertion loss, C & L bands
- Low polarization dependence loss
- Open loop operation with high accuracy
- Low power consumption
- Fast actuation
- Small footprint
- Scalable channel count (8-48)
- Normally open or normally dark
- No moving parts
- Telcordia GR-1209/GR-1221 qualified
- Optional integrated tap and switch

APPLICATIONS

- Dynamic load balancing at add/drop nodes
- Channel and band balancing
- Channel blocking
- Variable multiplexing & demultiplexing
- Dynamic gain equalization
- Dynamic attenuation at receivers

[DATA SHEET](#)

The iVOA™ family of VOA arrays provides a scalable solution for variable optical attenuation with low cost, high performance, small size, and low power dissipation. The family comprises of both “normally open” and “normally dark” VOA arrays. They allow for high accuracy attenuation in open loop operation, eliminating the need for dedicated optical power monitors. The iVOA™ products are ideal for reconfigurable add drop multiplexer (ROADM), wavelength blocker, VMUX, and dynamic gain equalizer (DGE) applications. They can provide variable optical attenuation for WDM, SONET, optical Ethernet, and other optical networking systems.

Parameter	Unit	Standard	High Attenuation	Normally Dark
Channel Count	ch	8 ~ 48	8 ~ 20	8 ~ 32
Operating Band	nm	1528 ~ 1610	1528 ~ 1610	1528 ~ 1610
Insertion Loss	dB	1.3	1.5	1.7
Variable Attenuation Dynamic Range	dB	0 ~ 15	0 ~ 22	0 ~ 20
Max Power-On Attenuation	dB	20	40	40
Power-Off Attenuation	dB	4.3	7.5	40
PDL (0-10dB)	dB	0.2	0.2	0.2
PDL (10-15dB)	dB	0.4	0.3	0.4
PDL (15-20dB)	dB	0.7	0.5	0.7
TDL (0-20dB)	dB	0.3	0.3	0.3
PMD	ps	0.01	0.01	0.01
Chromatic Dispersion	ps/nm	0.1	0.1	0.1
Optical Crosstalk	dB	45	45	45
Thermal Crosstalk	dB	0.1	0.1	0.1
Attenuation Resolution	dB/step	0.1	0.1	0.1
Return Loss	dB	40	40	40
Response Time (0-20 dB)	ms	3	3	3
Power Dissipation	mW/ch	40	80	120
Electrical Input (DC)	V	5	5	5
Operating Temperature Range	°C	-5 ~ +70	-5 ~ +70	-5 ~ +70
Storage Temperature Range	°C	-40 ~ +85	-40 ~ +85	-40 ~ +85
Relative Humidity Range	%	0 ~ 85	0 ~ 85	0 ~ 85
Package Dimensions	mm	85x28x7 (8~24ch) 100x33x7 (32~48ch)	85x28x7	85x28x7 (8 to 16ch) 100x33x7 (20 to 32ch)

For more information
visit www.enablence.com