

GaAs Broadband Optical Modulator

Product code: MZM02130



Features

- Low drive voltage $V_{\pi} = 3V$, optimized for both telecom and RF over fiber applications
- Velocity matched traveling wave design
- Flat frequency response over 30 GHz
- Negligible bias voltage drift

Applications

- Broadband digital communications
- RF over fiber
- Defense Systems

The MZM02130 is a low loss, high integrity Mach-Zehnder optical modulator based on gallium arsenide designed for general-purpose applications over the frequency range DC to 30 GHz. The die is fabricated using well proven and exercised high volume gallium arsenide processes used in the telecommunications industry that offers market leading performance optimized for optical applications.

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Operation Conditions

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Operating case temperature range	T_{case}		0		+70	°C
Relative humidity range	RH	Non condensing	5		85	%
Operating wavelength range	λ		1520	1550	1580	nm
Substrate bias voltage	V_{sub}		5	10	12	V
Quadrature control bias voltage	V_Q		-5	± 1.5	5	V
RF input power	P_{in}				30	dBm
Optical input power (CW)	P_{opt}				23	dBm

Optical and Electrical Specifications

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Optical insertion loss	IL	Room temperature		5.8	7.0	dB
Drive voltage	V_{π}	to 10 Gbit/s		3.0	3.2	V
Electrical to optical response	E/O S_{21}	S_{21} , 3 dB point	28	30		GHz
Extinction ratio	ER	Low frequency	18	20		dB

Typical Performance and Mechanical Dimensions

