

40 Gb/s RF modulator drivers

KGEOMDR-GA-40



Description

KGEOMDR-GA-40 is a family of high performance 40 Gb/s driver modules based on GaAs P-HEMT technology and designed to drive high speed LiNbO3 modulators such as MX-LN-40.

DR-GA-40 high breakdown voltage x cut-off-frequency product allows very high gain over large bandwidth : output voltage up to 7.5 Vpp are obtained at 40 Gbit/s.

The family includes different gain-voltages drivers (22, 26 and 30 dB) allowing compatibility with different multiplexing-circuit technologies (Silicon-Germanium or Gallium-Arsenide MUX based technologies) and LiNbO3 as well as electro-absorption modulator driving.

While offering cutting edge performance, DR-GA-40 is extremely easy to use and integrate : it requires just one bias voltage. AGC is available as an option.

Features

- choice of gain : 22 dB, 26 dB or 30 dB
- high output power : up to 7,5 V
- low group delay variation
- broadband driver : bandwidth ≥ 45 GHz
- 50 Ω /50 Ω in out impedances
- IN/OUT V-connectors
- compact package
- ease of use : single bias voltage
- compact coldstart card included to protect the circuit from electrical transients; it is mounted on a radiator for thermal dissipation.

Options

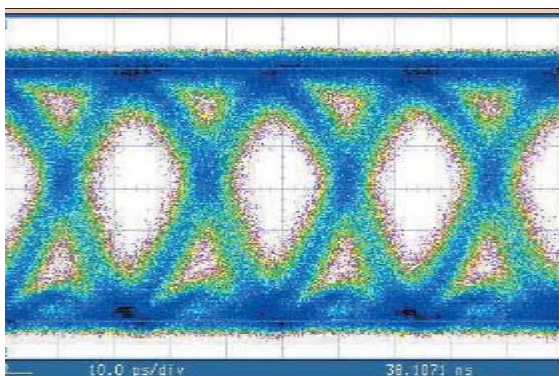
- Automatic Gain Control (AGC) version with crosspoint adjustment
- AC coupling

Specifications

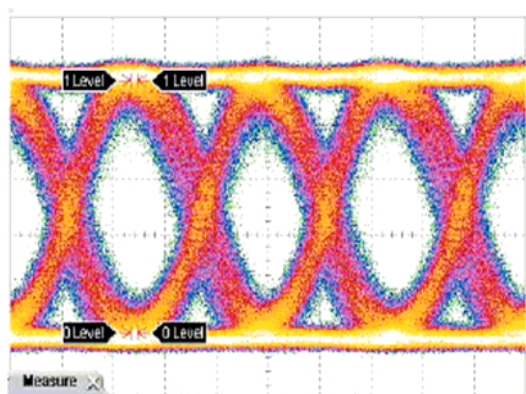
Specifications are given at 25°C case temperature

Parameter	Symbol	Conditions	Min	Typ.	Max	Units
Gain voltage	Gv	-15 dBm input power				
22 dB version			21	22	23	dB
26 dB version			25	26	27	dB
30 dB version			29	30	31	dB
Bandwidth (-3 dB)	BW	-15 dBm input power		26 kHz	– 45-	
Gain ripple	ΔGv	over 0.1 – 40 GHz	1	2	2.5	dB
Output power	P1dB	@ 1 dB compression		21	22	dBm
Input return loss	S11	-15 dBm input power		-10	-8	dB
Output return loss	S22	-15 dBm input power		-10	-8	dB
Maximum output voltage	Vopp	@ 15 V bias	6	7	7.5	V
Maximum input voltage	Vipp					
22 dB version				0.75	1	V
26 dB version				0.4	0.45	V
30 dB version				0.25	0.3	V
Bias voltage	Vb		12.5		15	V
Dimensions	lxWxL	with coldstart card		70 x 26 x 10		mm ³
Absolute maximum ratings						
Operating temperature	Tcase		0		80	°C
Input voltage	Vin					
22 dB version					1.0	V
26 dB version					0.45	V
30 dB version					0.3	V
DC bias voltage	Vb		12.5		15	V
DC bias consumption	Ib		290		330	mA

Eye Diagrams



40 Gb/s eye diagram at output of DR-GA-40



40 Gb/s output eye diagram of DR-GA-40 driver together with 40G intensity modulator