

40G-PS-EAM-1550 - Optical Sampling Window Generator



Features

- 1.55µm C-band operation
- Up to 40GHz repetition rate
- High modulation depth
- Low drive voltage
- Available as packaged device or chip-on-carrier
- Customer defined specifications available

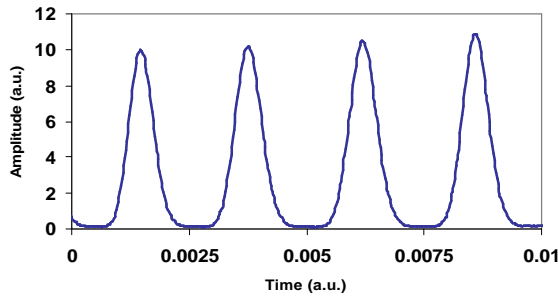


Figure: Autocorrelation trace at 40GHz

Applications

- High speed pulse generation
- High speed optical sampling
- 160Gbit/s to 40Gbit/s demultiplexing
- Microwave to optical conversion

Description

The 40G-PS-EAM is a high-speed, semiconductor device capable of generating <5ps (FWHM) temporal optical sampling windows with a repetition rate up to 40GHz. The device is based on a semiconductor Electro Absorption Modulator (EAM) and operates over the 1.55µm wavelength C-Band. Applications include optical pulse generation (up to 40GHz rates), 160Gb/s to 40Gb/s optical demultiplexing, high-speed optical sampling and microwave to optical conversion. The device features high modulation depth and low driving voltage.

The EAM is provided in a RF connectorised package suitable for use in the lab with external RF components and drivers. Customer specified variants of the product may be available upon request

Optical and electrical characteristics

All specifications are at case temperature = 20°C and 1550nm unless stated otherwise. P_{IN} = Input optical power V_{DC} = Bias voltage V_{PP} = Peak to Peak voltage

Parameter	Test condition	Min.	Typ.	Max.	Unit
Minimum insertion loss	$P_{IN} = -1\text{dBm}$, $V_{DC} = 0.6\text{V}$		8.2	9.6	dB
Modulation depth	$P_{IN} = -1\text{dBm}$, V_{DC} in [0;-3]V	25	30		dB
Polarisation dependent loss (rms)	$P_{IN} = -1\text{dBm}$, V_{DC} in [0;-1]V		0.75	1.75	dB
Small signal 3dBe RF bandwidth	$P_{IN} = 0\text{dBm}$, $V_{DC} \sim -1.5\text{V}$		30		GHz
Sample window duration (FWHM) with 40GHz electrical drive	$P_{IN} = +4\text{dBm}$, $V_{DC} \sim -2\text{V}$, $V_{PP} \sim 4\text{V}$			5	ps

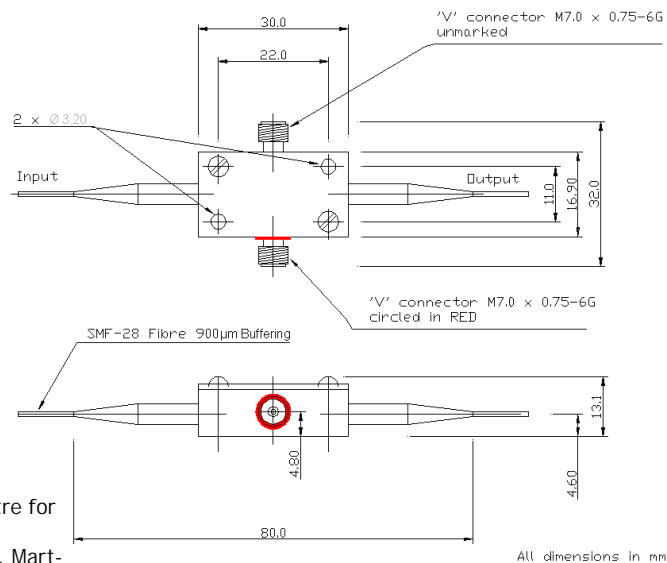
Absolute maximum ratings

Item	Rating	Unit
Maximum DC Reverse Bias to centre pin	4	V
Maximum DC Forward Bias to centre pin	0.6	V
Maximum RF Voltage (peak to peak)	7	V
Maximum Input Optical Power	+10	dBm
Case operating Temperature	15 - 50	°C
Storage temperature	10 - 70	°C
Fibre type	SMF-28 900µm tight buffer, >1m - PM fibre option available on request	

Ordering Information— Part Number 40G-PS-EAM-1550

For Custom products please contact CIP Sales on +44 1473 663210 or e-mail sales@ciphotonics.com.

For details of your local agent, visit www.ciphotonics.com

Wiring Diagram and Dimensions (V connector)

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Registered in England No: 4905488
VAT Reg No: 824 6260 36 GB

All dimensions in mm

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European 143000;384764;416879;531377;890129;156566;227783;218344;279680;261943;390614;174729;228435;228435;242084;245085;746887;767923;830721;1181591;93527.3;1183561;170457;225015;247834;292328;320305;537237;624257;647327;94905188.2;691044;772924;782713;822425;822426;813761;97900375.3;97908417.5;97908417.5;865124 **US** 4826295;5426312;5481397;5202897;6008926;4734387;4728628;4935936;4754459;4964134;5242857;53329542;4736164;4817207;4981814;5015964;844929;5852696;6188511;6625371;6571037;959329/09;4744619;4793690;4879761;4969704;4973122;4995100;5216237;5371820;5656507;6075625;6229945;6097512;5719974;5832011;5917636;5841928;5978400;6104852;6052213;5974073;6178280. **Canada** 297211;1284683;2182591;2193095;2221693;2372581;2372401;2373546;1255485;1244519;1281802;1296887;1293996;2085596;2117682;2280472;2153798;2155528;2185132;2199513;2367133;2212736;2240519;2248042;1268848;2047196;2065247;2082939;2243279;1236554;1228936;1261483;265604;1295722;1332341;2049356. **Japan** 2837265;2968335;1000942;2134710;2547001;2935415;2140794;2708165;2984365;2018663;1868104;2670519;2128400;2764141;1957418;2664457;2081567;3117708;3404040;3556665;3346570;95-525482;97-525789;97-534136