

SOA pulse modulation module —HC-PLM Series

■ Product introduction

HC-PLM series SOA pulse modulation module uses a semiconductor optical amplifier (SOA) as a core converter device to achieve ultra-narrow pulse width optical pulse generation. Its characteristics of fast rise time, high pulse extinction ratio, good stability and convenient use make it an ideal choice to replace electro-optic and acousto-optic modulators in various optical fiber sensing systems. But also can be apply to that aspects of quantum communication system, semiconductor test, homodyne coherent detection and the like.

■ Product features

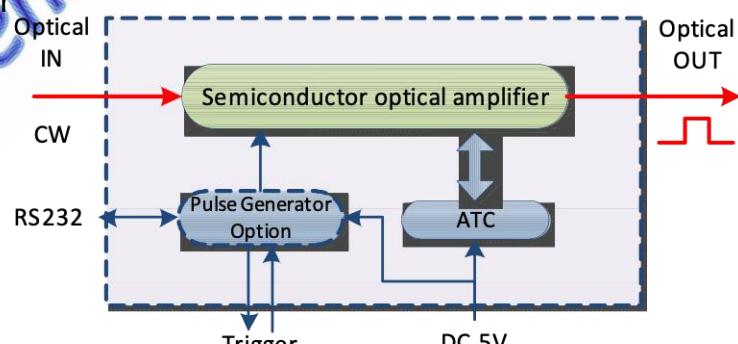
- Operating wavelength C-band
- Optional integrated pulse source
- Software-adjustable pulse width
 - Rise/fall time < 2 ns
 - Adjustment range 5 ns ~ 500 ns
 - PRF 1Hz-1MHz



- Peak output power 10 mW
- High extinction ratio > 50dB
- Temperature control circuit with TEC
- Optional internal and external trigger
- DC 5V power supply
- Module encapsulation

■ Scope of application

- Optical fiber sensing system
- Semiconductor testing
- Microwave photonics



原理图

■ Technical parameters

Parameter	Symbol	Unit	Minimum value	Typical value	Maximum value
Operating wavelength	λ	nm	1510		1610
Peak power	Pp	mW		10	



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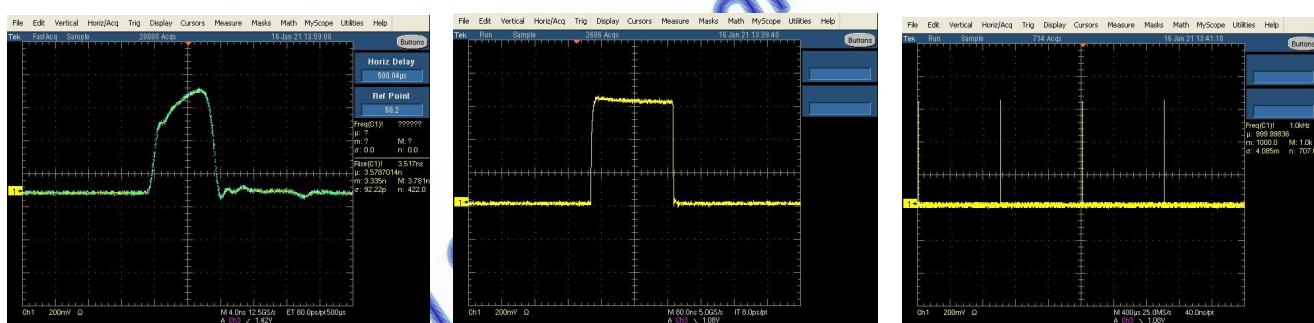
Optical power stability	ΔP	dB			0.1
Pulse extinction ratio	ER	dB	50		
Rise/Fall Time	Tr/Tf	ns	2	3	-
Repeat frequency	F	Hz	1		1M
Modulated signal format	TTL/LVTTL				
Input and output optical fiber	SMF-28e single mode fiber or polarization maintaining fiber				
Fiber optic connector	FC/APC				
Pulse signal source (optional) parameter					
Pulse width *	Tw	ns	5		200
		ns	5		500
Pulse width modulation step	5-200ns		ns	1	
	5-500ns		ns	2.5	
Repeat frequency	F	Hz			1M
External trigger input	Signal format	LVTTL(3.3V)			
	Trigger mode	Rising edge trigger			
	Coupling	DC coupling			
	Resistance	50Ω			
Sync signal output		LVTTL(3.3V)			
Electrical signal connector		SMA			
Operating voltage		DC 5V@200mA			
Communication		RS232			
Power supply connector		2 P or 4 P aerial insertion			
Size		70x35x13mm			
	With pulse source	95x70x22mm			

* For other pulse width requirements, please contact our sales staff.

Limit parameter

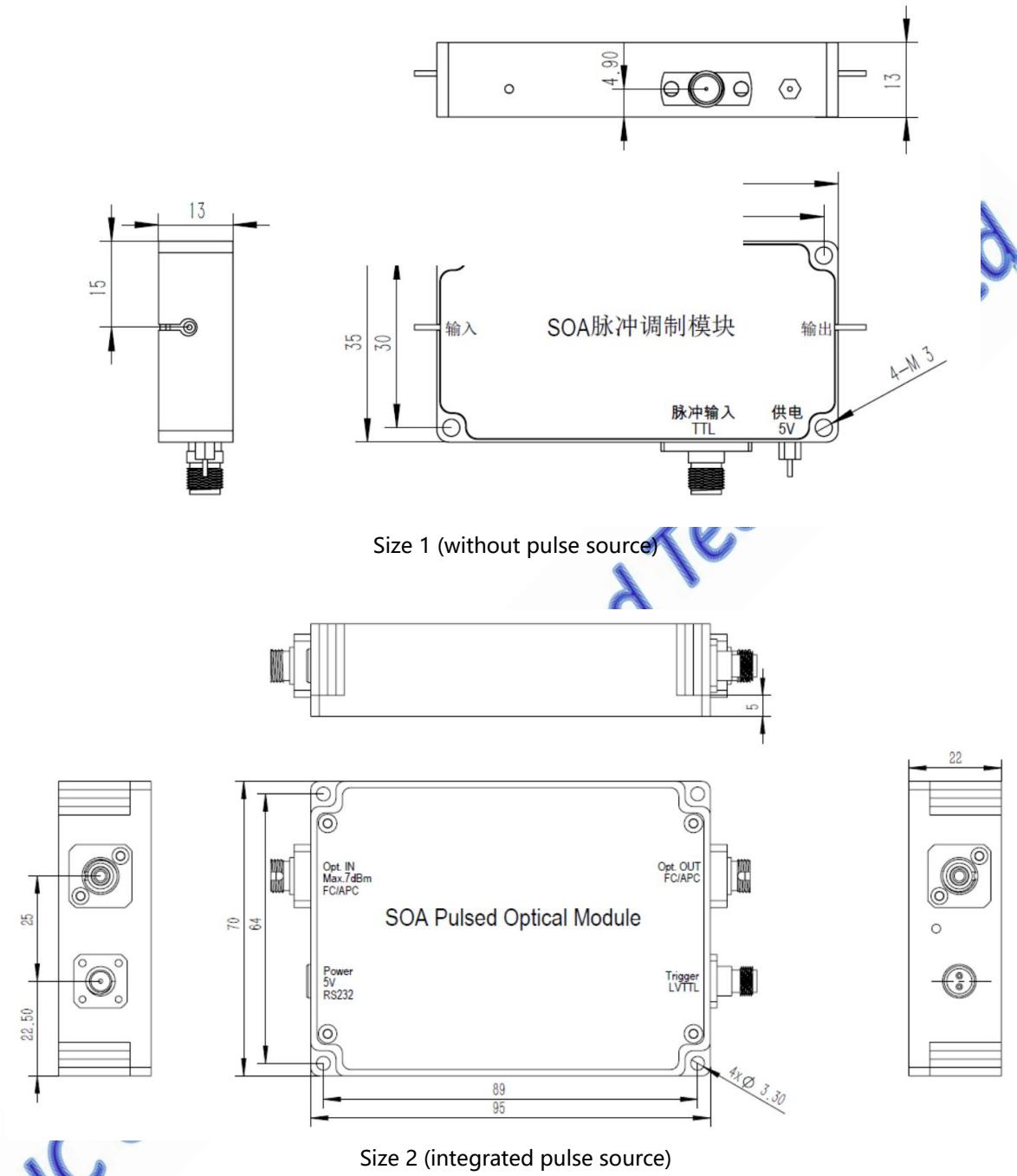
Parameter	Symbol	Unit	Minimum value	Typical value	Maximum value
Operating temperature	Top	°C	-10		60
Storage temperature	Tst	°C	-40		85
Humidity	RH	%	5		90
Input optical power	Pi	dBm	-5	7	10
External pulse and trigger input	High level	U _H	V	2	2.5
	Low level	U _L	V	0	0.6

Test curve



Pulse width test chart (pulse width 10 ns, 200 ns, PRF 1 KHz)

 Mechanical dimensions in mm



 Ordering Information HC-PLM-15-XX

XX = pulse source: NC-unpowered pulse source, PG-integrated pulse source