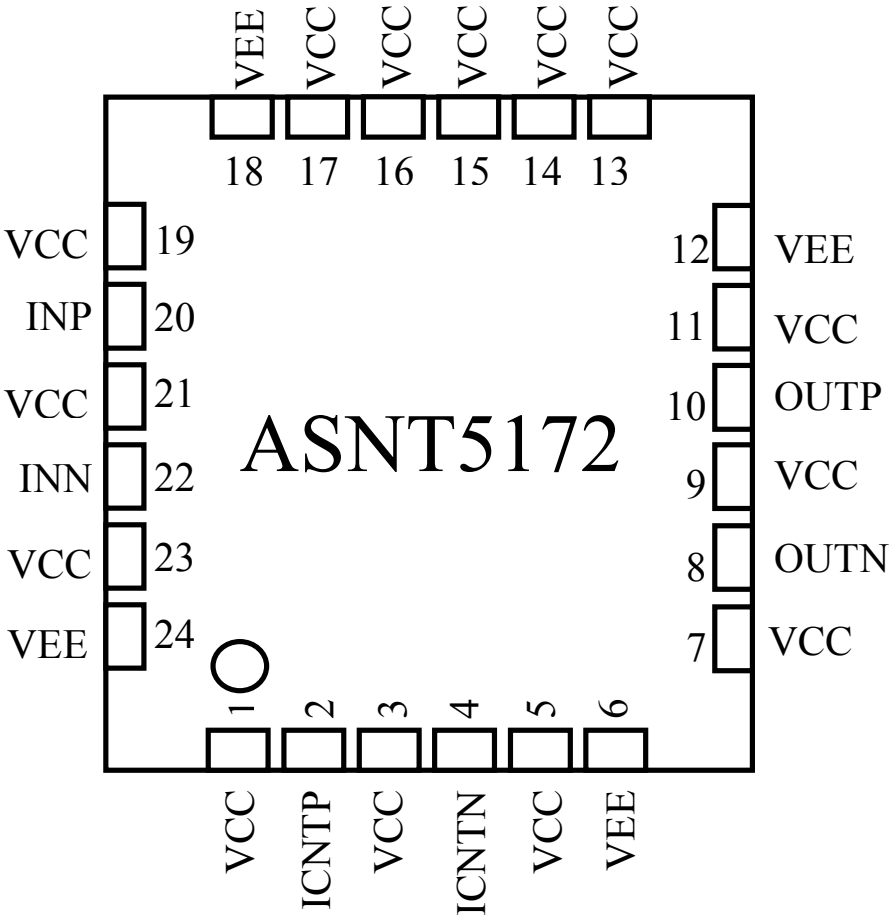
27 Via Porto Grande, Rancho Palos Verdes, CA, 90275. Ph. # 1-310-377-6029. Fax # 1-310-377-9940.

ASNT5172-PQC
15GHz Clock Phase Shifter

- Narrowband (11*GHz*-15*GHz*) tunable clock phase shifter with 120*ps* of delay variation.
- Exhibits low jitter and limited temperature variation over industrial temperature range.
- 100*MHz* of bandwidth for the phase adjustment tuning port.
- Ideal for high speed proof-of-concept prototyping.
- Fully differential input and output buffers with on-chip 50Ω termination.
- CML output interface with 400*mV* single-ended swing.
- Single -3.3*V* power supply.
- Power consumption: 430*mW*.
- Fabricated in SiGe for high performance, yield, and reliability.
- Standard MLF/QFN 24-pin package.



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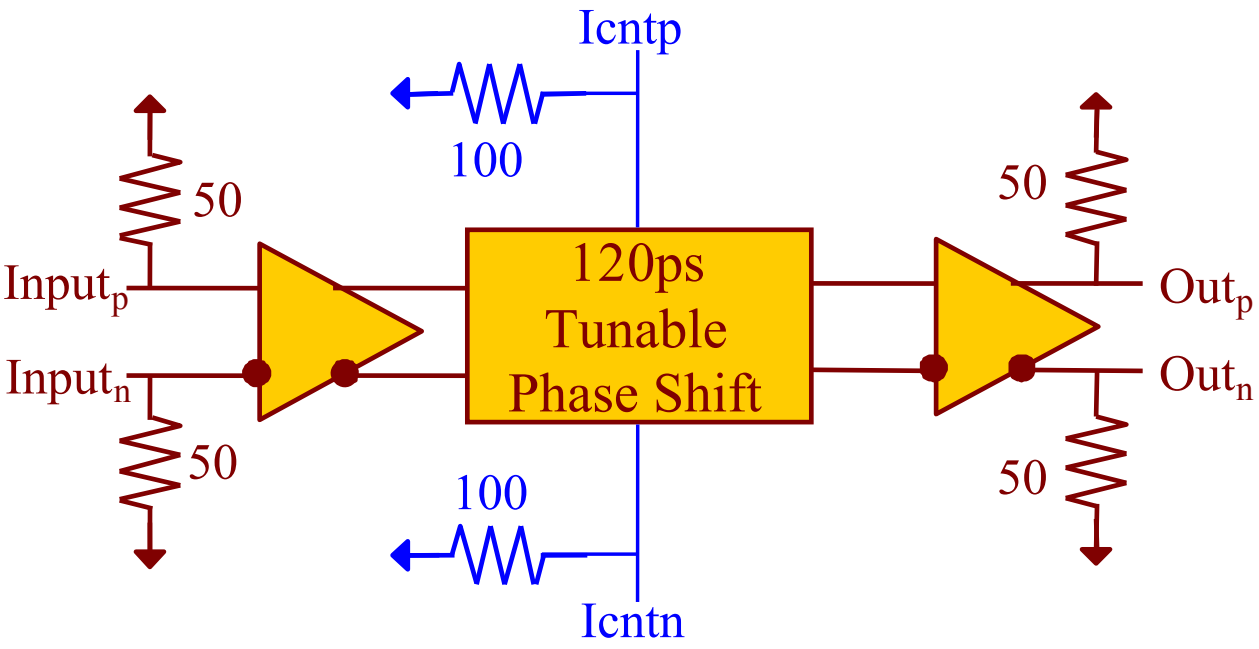
DESCRIPTION

The temperature stable ASNT5172-PQC SiGe IC provides extremely low jitter narrowband signal phase shifting capability between its input and output signal ports and is intended for use in high-speed measurement / test equipment. ASNT5172-PQC can process an up to 15*GHz* RF clock signal and deliver 0-120*ps* of adjustable phase delay through the up to 100*MHz* external adjustment of its differential tuning port. The part's I/Os support the CML logic interface with on chip 50Ω termination and may be used differentially, AC/DC coupled, single-ended, or in any combination. It operates from a single -3.3V power supply.

FUNCTIONAL BLOCK DIAGRAM



TERMINAL FUNCTIONS

TERMINAL NAME	TERMINAL (NO.)	TYPE	DESCRIPTION
vcc	1,3,5,7,9,11 13-17,19,21,23	PS	Power Supply: 0V
vee	6,12,18,24	PS	Power Supply: -3.3V
inp	20	Input	Differential CML high-speed signal inputs
inn	22		
outp	10	Output	Differential CML high-speed signal outputs
outn	8		
icntp	2	Input	Differential low-speed phase adjustment tuning inputs
icntn	4		

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ELECTRICAL CHARACTERISTICS

PARAMETER	MIN	TYP	MAX	UNIT	COMMENTS
VEE	-3.1	-3.3	-3.5	V	±6%
VCC		0.0		V	
IEE		130		mA	
Power		430		mW	
Junction Temp.	-25	50	125	°C	
Input (in)					
Frequency	11		15	GHz	
CM Level	Vcc-0.8	Vcc-0.2	Vcc	V	
Swing (Diff or SE)	50	400	1000	mV	Peak-to-peak
Output (out)					
Frequency	11		15	GHz	
CM Level	Vcc-0.25	Vcc-0.2	Vcc-0.15	V	
SE Swing	380	400	420	mV	Peak-to-peak
Rise/Fall Times					20%-80%
	13	15	17	ps	
Additive Jitter			<1	ps	Peak-to-peak
Duty Cycle	45%	50%	55%		
Tuning Port (icnt)					
Diff. Swing	-500		500	mV	Peak-to-peak
CM Level	Vcc-0.5	Vcc-0.25	Vcc	V	
Phase Shift	0		120	ps	
Shift Stability	-2		2	ps	0-125°C
Bandwidth	0.0		100	MHz	

PACKAGE INFORMATION

The chip is packaged in a standard 24-pin QFN package. The package's mechanical information is available on the company's website.