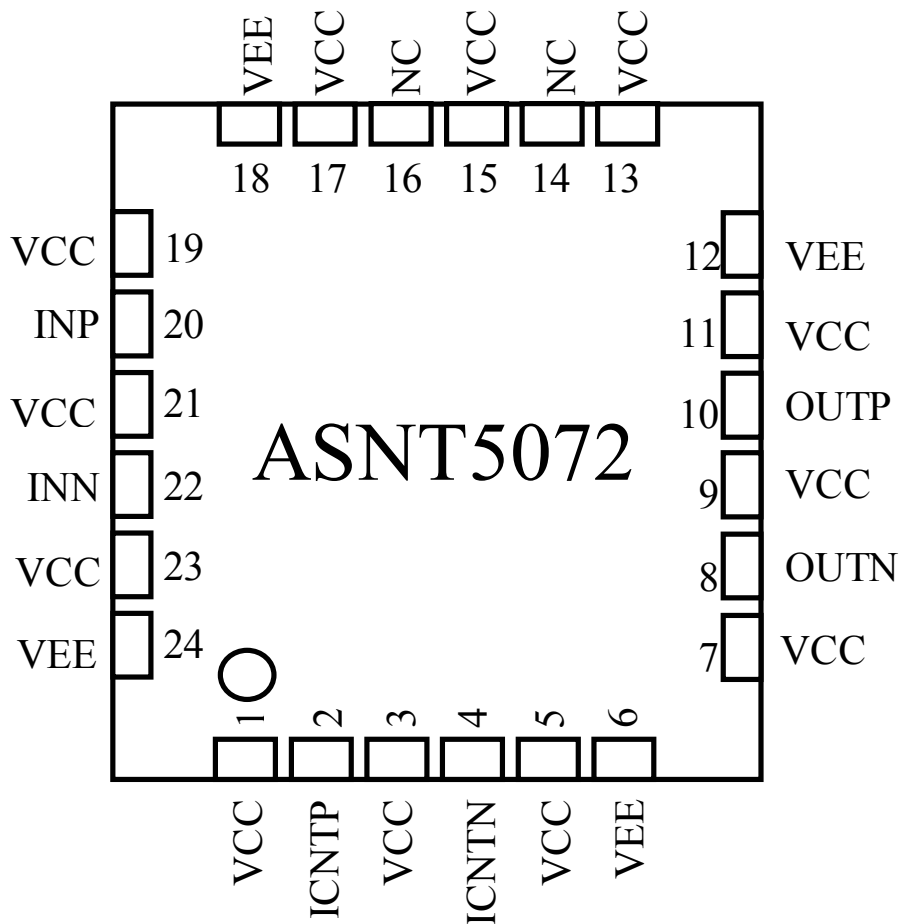


ASNT5072-PQC 11-14GHz Phase Shifter

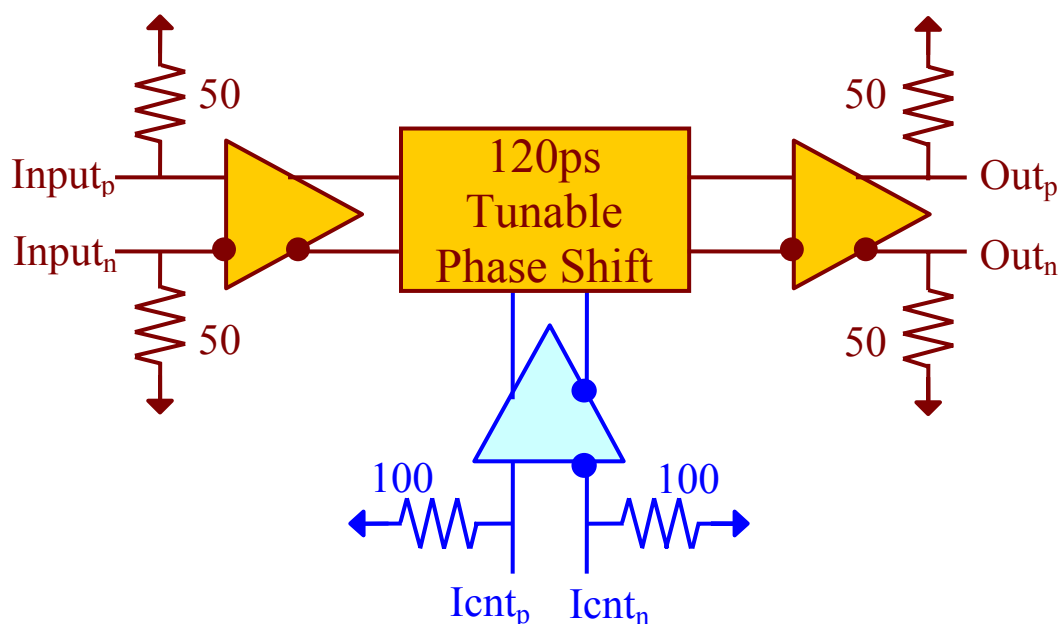
- Narrowband (11GHz-14GHz) tunable clock phase shifter with 120ps of delay variation.
- Exhibits low jitter and limited temperature variation over industrial temperature range.
- 100MHz of bandwidth for the phase adjustment tuning port.
- Ideal for high speed proof-of-concept prototyping.
- Fully differential input and output buffers with on-chip 50Ω termination.
- CML output interface with 800mV single-ended swing.
- Single ±3.3V power supply.
- Power consumption: 0.9W.
- Fabricated in SiGe for high performance, yield, and reliability.
- Standard MLF/QFN 24-pin package.



DESCRIPTION

The temperature stable ASNT5072-PQC SiGe IC provides extremely low jitter narrowband clock phase shifting capability between its input and output signal ports and is intended for use in high-speed measurement / test equipment. ASNT5072-PQC can process an up to 14GHz clock signal and deliver 0-120ps of adjustable phase delay through the up to 100MHz 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	(NO.)	TYPE	DESCRIPTION
vcc	1,3,5,7,9,11 13,15,17,19,21,23	PS	Power Supply: 3.3V / 0V
vee	6,12,18,24	PS	Power Supply: 0V / -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		
nc	14,16		Not connected (NC)



ELECTRICAL CHARACTERISTICS

PARAMETER	MIN	TYP	MAX	UNIT	COMMENTS
VEE	-3.1	0.0 / -3.3	-3.5	V	±6%
VCC	3.1	3.3 / 0.0	3.5	V	±6%
IEE	255	275	295	mA	
Power		900		mW	
Junction Temp.	-25	50	125	°C	
Input (in)					
Frequency	11		14	GHz	
CM Level	V _{cc} -0.8	V _{cc} -0.2	V _{cc}	V	
Swing (Diff or SE)	50	400	1000	mV	Peak-to-peak
Output (out)					
Frequency	0.0		14	GHz	
CM Level	V _{cc} -0.35	V _{cc} -0.4	V _{cc} -0.25	V	
SE Swing	760	800	840	mV	Peak-to-peak
Rise/Fall Times	15	17	19	ps	20%-80%
Additive Jitter		TBD		ps	Peak-to-peak
Duty Cycle	45%	50%	55%		For clock signal
Tuning Port (icnt)					
Diff. Swing	-500		500	mV	Peak-to-peak
CM Level	V _{cc} -0.5	V _{cc} -0.25	V _{cc}	V	
Phase Shift Control	0		120	ps	
Shift Stability	-12		12	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](#).