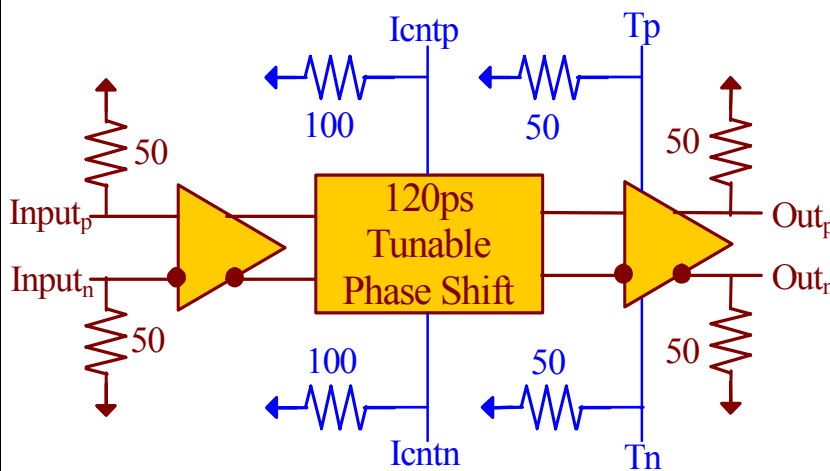


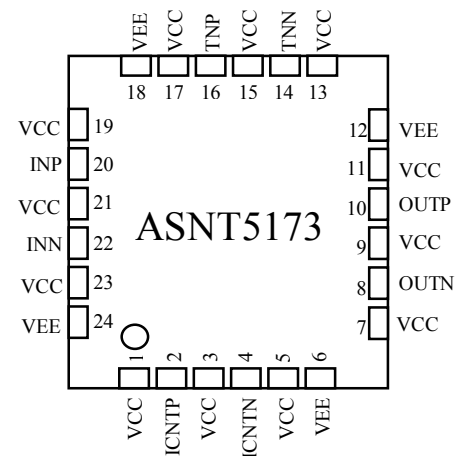
ASNT5173-PQC

14GHz/28Gbps Phase Shifter with Output Signal Amplitude Control

- Broadband (10MHz-14GHz) tunable clock phase shifter with 120ps of delay variation.
- Output signal amplitude adjustment from 0.0V to 0.8V single ended.
- Exhibits low jitter and limited temperature variation over industrial temperature range.
- 100MHz of bandwidth for the phase and amplitude adjustment tuning ports.
- Fully differential input and output buffers with on-chip 50Ω termination.
- Single -3.3V power supply.
- Power consumption: 500mW.
- Fabricated in SiGe for high performance, yield, and reliability.
- Standard QFN 24-pin package. The package's mechanical information is available on the company's [website](#)
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Functional Block Diagram



Package Pins

DESCRIPTION

The temperature stable ASNT5173-PQC SiGe IC provides extremely low jitter broadband signal phase shifting and amplitude control capability between its input and output signal ports and is intended for use in high-speed measurement / test equipment. ASNT5173-PQC can process an up to 14GHz/28Gbps RF clock/data signal and deliver both 0-120ps of adjustable phase delay and output signal amplitudes between 0.0V-0.8V through two up to 1GHz external adjustment differential tuning ports. 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.



TERMINAL FUNCTIONS

TERMINAL		TYPE	DESCRIPTION
NAME	(NO.)		
vcc	1,3,5,7,9,11 13,15,17,19,21,23	PS	Power Supply: 0V (GND)
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 input
icntn	4		
tnp	16	Input	Differential low-speed amplitude adjustment tuning input
tnn	14		

ELECTRICAL CHARACTERISTICS

PARAMETER	MIN	TYP	MAX	UNIT	COMMENTS
VEE	-3.1	-3.3	-3.5	V	±6%
VCC		0.0		V	
IEE		150		mA	
Power		500		mW	
Junction Temp.	-25	50	125	°C	
Input (in)					
Frequency	0.0		14/28	GHz/Gbps	
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		14/28	GHz/Gbps	
CM Level*	V _{cc} -0.25	V _{cc} -0.2	V _{cc} -0.15	V	
Amplitude range	0.0		800	mV	
SE Swing*	380	400	420	mV	Peak-to-peak
Rise/Fall Times	15	17	19	ps	20%-80%
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	V _{cc} -0.5	V _{cc} -0.25	V _{cc}	V	
Phase Shift Control	0		120	ps	
Shift Stability	-2		2	ps	0-125°C
Bandwidth	0.0		100	MHz	
Tuning Port (tn)					
Diff. Swing	-500		500	mV	Peak-to-peak
CM Level	V _{cc} -0.5	V _{cc} -0.25	V _{cc}	V	
Bandwidth	0.0		1000	MHz	

* Tuning Pins are N/C