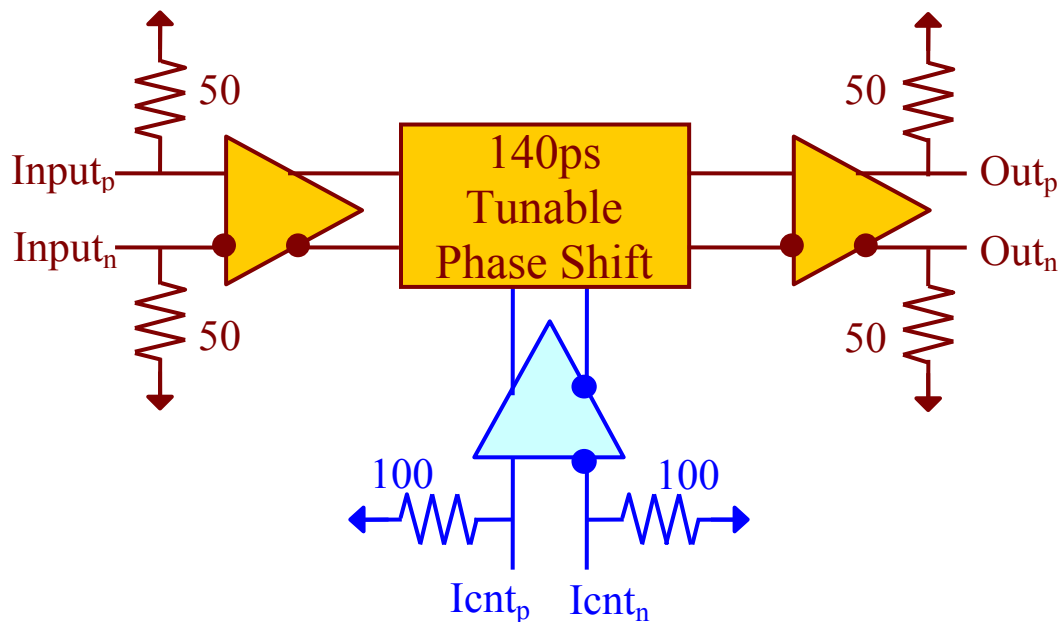


DESCRIPTION

The temperature stable ASNT5074-PQC SiGe IC provides extremely low jitter broadband signal phase shifting capability between its input and output signal ports and is intended for use in high-speed measurement / test equipment. ASNT5074-PQC can process an up to 14GHz-17Gbps clock/data signal and deliver 0-140ps 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 inn 22	Input	Differential CML high-speed signal inputs
outp 10 outn 8	Output	Differential CML high-speed signal outputs
icntp 2 icntn 4	Input	Differential low-speed phase adjustment tuning inputs
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	260	275	290	mA	
Power		0.9		mW	
Junction Temp.	-25	50	125	°C	
Input (in)					
Data rate/Clock frequency	0.0		17/14	Gbps/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)					
Data rate/Clock frequency	0.0		17/14	Gbps/GHz	
CM Level	V _{cc} -0.35	V _{cc} -0.3	V _{cc} -0.25	V	
SE Swing	570	600	630	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		260	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](#).