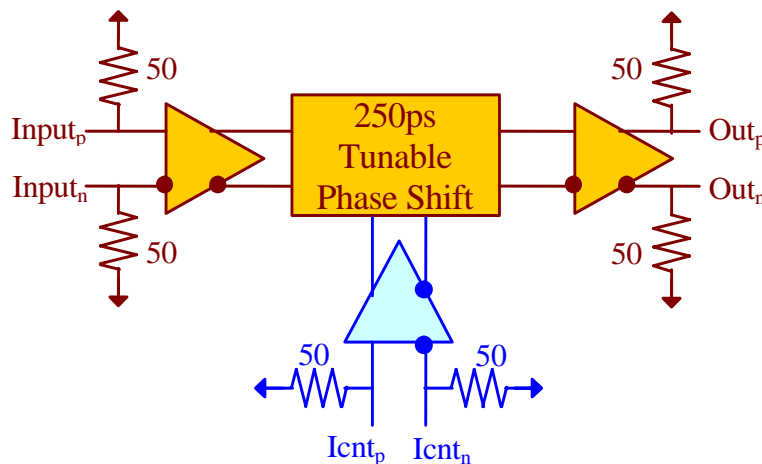
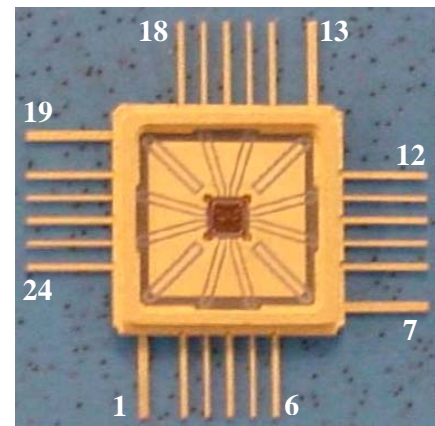


ASNT5079-KMC 14GHz/28Gbps Phase Shifter with Linear OB

- Broadband (10MHz-14GHz/20Mbps-28Gbps) tunable clock/data phase shifter with 250ps of delay variation.
- Exhibits low jitter and limited temperature variation over industrial temperature range.
- 1GHz of bandwidth for the phase adjustment tuning ports.
- Fully differential input and output buffers with on-chip 50Ω termination.
- Linearized data output for minimized undershoot/overshoot.
- CML output interface with 600mV single-ended swing.
- Single -3.3V power supply.
- Power consumption: 1.6W.
- Fabricated in SiGe for high performance, yield, and reliability.
- Custom CQFP 24-pin package.



Functional Block Diagram



Package View

DESCRIPTION

The temperature stable ASNT5079-KMC 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. ASNT5079-KMC can process an up to 14GHz/28Gbps RF clock/data signal and deliver 0-250ps of adjustable phase delay through the up to 1GHz 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. The output buffer is linearized for reduction of undershoot and overshoot. The part operates from a single -3.3V power supply.



TERMINAL FUNCTIONS

TERMINAL		TYPE	DESCRIPTION
NAME	(NO.)		
vcc	2,4,6,8,10,12 14-17,20,22	PS	Power Supply: 0V (GND)
vee	1,7,13,19	PS	Power Supply: -3.3V
inp	21	Input	Differential CML high-speed signal inputs
inn	23		
outp	11	Output	Differential CML high-speed signal outputs
outn	9		
icntp	3	Input	Differential high-speed phase adjustment tuning inputs
icntn	5		

ELECTRICAL CHARACTERISTICS

PARAMETER	MIN	TYP	MAX	UNIT	COMMENTS
VEE	-3.1	-3.3	-3.5	V	±6%
VCC		0.0		V	
IEE	450	475	500	mA	
Power		1.6		W	
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	
SE Swing	50	400	1000	mV	Peak-to-peak
Output (out)					
Frequency	0.0		14/28	GHz/Gbps	
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	6	8	10	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	0		250	ps	< ±5%
Shift Stability	-24		24	ps	0-125°C
Bandwidth	0.0		1000	MHz	

PACKAGE INFORMATION

The chip is packaged in ADSANTEC's custom 24-pin metal-ceramic package (CQFP). The package's mechanical information is available on the company's [website](#).