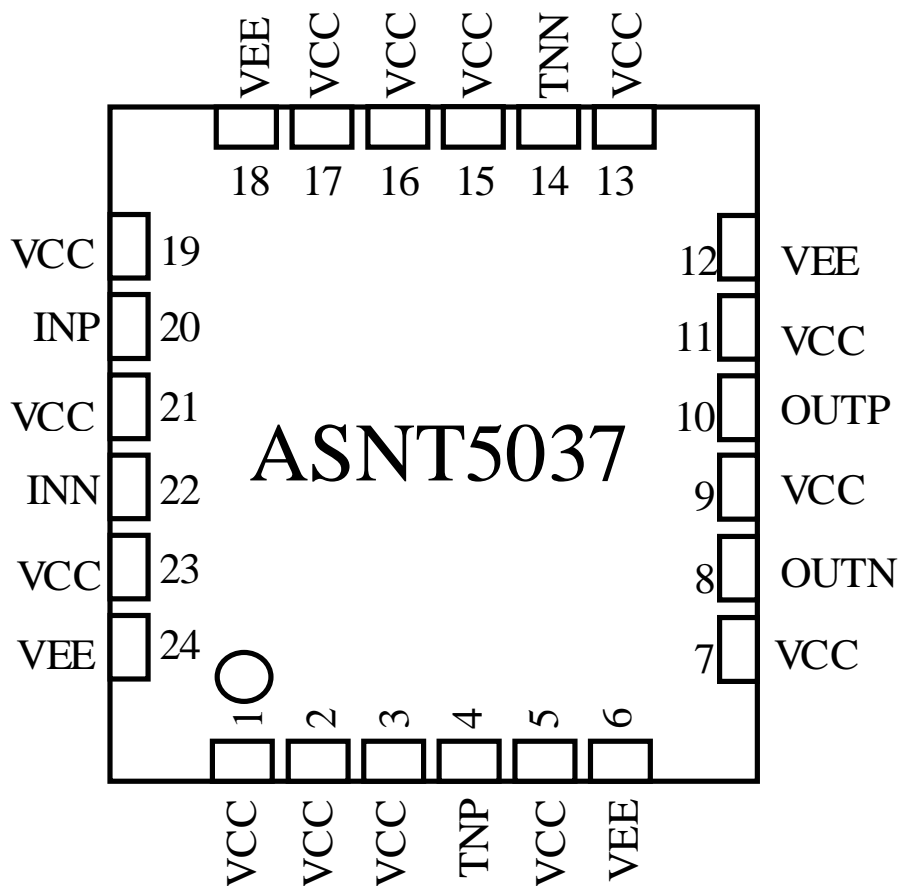


ASNT5037-PQC 17Gbps Limiting Amplifier

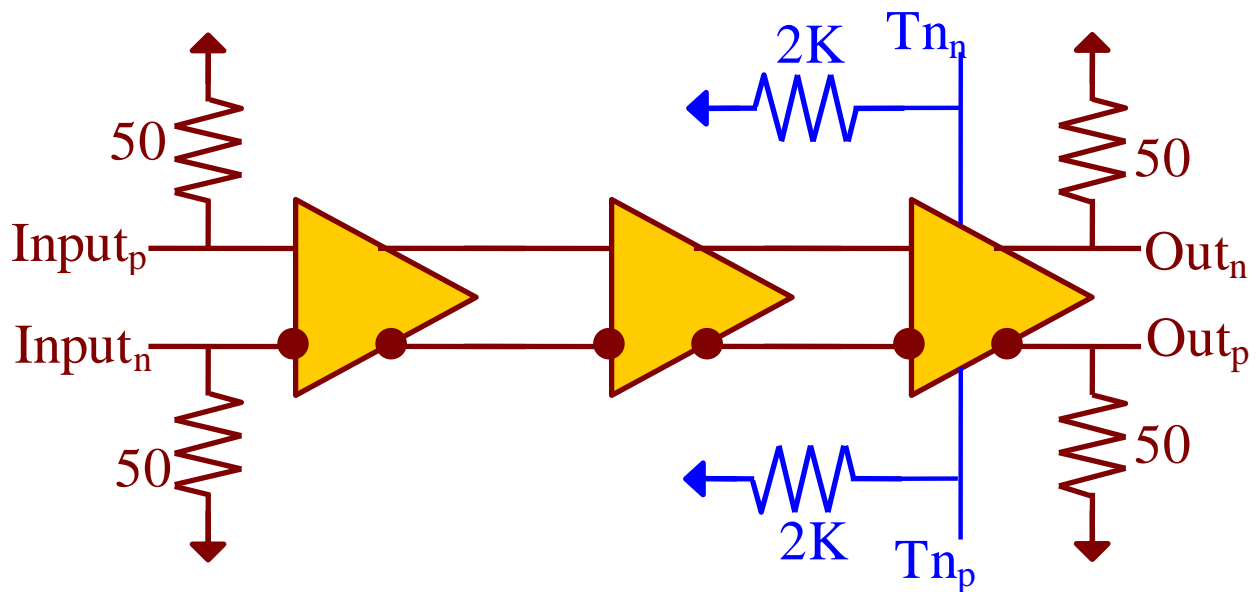
- Broadband (DC-17Gbps) limiting amplifier featuring output signal amplitude adjustment from 0.0V to 1.0V single ended.
- Exhibits low jitter and limited temperature variation over industrial temperature range.
- 100MHz of bandwidth for the amplitude adjustment tuning port.
- Ideal for high speed proof-of-concept prototyping.
- Fully differential input and output buffers with on-chip 50Ω termination.
- CML output interface with nominal 500mV single-ended swing.
- Single ±3.3V power supply.
- Power consumption: 510mW.
- Fabricated in SiGe for high performance, yield, and reliability.
- Standard MLF/QFN 24-pin package.



DESCRIPTION

The temperature stable ASNT5037-PQC SiGe IC provides extremely low jitter broadband signal amplitude control capability between its input and output signal ports and is intended for use in high-speed measurement / test equipment. ASNT5037-PQC can process an up to 17Gbps data signal and deliver output signal amplitudes between 0.0V-1.0V 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 $\pm 3.3V$ power supply.

FUNCTIONAL BLOCK DIAGRAM



TERMINAL FUNCTIONS

TERMINAL	TYPE	DESCRIPTION
NAME (NO.)		
vcc 1,2,3,5,7,9,11	PS	Power Supply: 3.3V / 0V
13,15,16,17,19,21,23		
vee 6,12,18,24	PS	Power Supply: 0V / -3.3V
inp 20	Input	Differential CML high-speed data signal inputs
inn 22		
outp 10	Output	Differential CML high-speed data signal outputs
outn 8		
tnp 4	Input	Differential low-speed amplitude adjustment tuning inputs
tnn 14		



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*		155		mA	
Power*		510		mW	
Junction Temp.	-25	50	125	°C	
Input (in)					
Frequency	0.0		17	Gbps	
CM Level	Vcc-0.8	Vcc-0.2	Vcc	V	
Swing (Diff or SE)	50	400	1000	mV	Peak-to-Peak
Output (out)					
Frequency	0.0		17	Gbps	
CM Level*	Vcc-0.3	Vcc-0.25	Vcc-0.2	V	
SE Swing*	475	500	525	mV	Peak-to-Peak
Rise/Fall Times*	15	17	19	ps	20%-80%
Additive Jitter		TBD		ps	
Tuning Port (tn)					
Diff. Swing	-500		500	mV	Peak-to-Peak
CM Level	Vcc-0.5	Vcc-0.25	Vcc	V	
Amplitude Variation	0.0	500	1000	mV	
CM Level	Vcc-0.5	Vcc-0.25	Vcc	V	
Bandwidth	0.0		100	MHz	
* Tuning pins are not connected (NC)					

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](#).