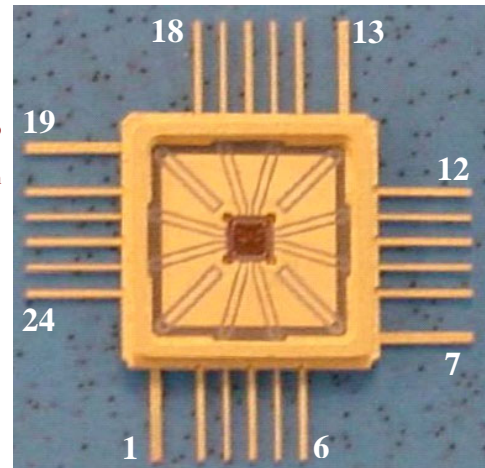
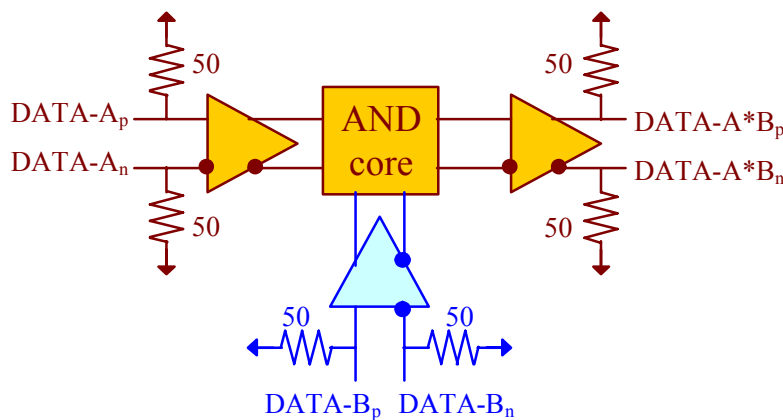


ASNT5160-KMC 50Gbps AND/OR Logic Gate

- High speed broadband AND/OR Boolean logic gate.
- Exhibits low jitter and limited temperature variation over industrial temperature range.
- 30GHz analog input bandwidth for both data inputs.
- Ideal for high speed proof-of-concept prototyping.
- Fully differential input and output buffers with on-chip 50Ω termination.
- CML output interface with 400mV single-ended swing.
- Single -3.3V power supply.
- Power consumption: 270mW.
- Fabricated in SiGe for high performance, yield, and reliability.
- Custom CQFP 24-pin package.

DESCRIPTION



Functional Block Diagram

Package View

The temperature stable ASNT5160-KMC SiGe IC provides broadband AND/OR Boolean logic functionality and is intended for use in high-speed measurement / test equipment. ASNT5160-KMC can AND/OR an up to 50Gbps data signal with another up to 50Gbps data signal to create an up to 50Gbps NRZ data output signal. RZ data can be generated by inserting up to 25Gbps data into one data input while providing an up to 25GHz clock signal into the other data input. 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 NAME (NO.)	TYPE	DESCRIPTION
vcc 2,4,6,8,10,12 14-18,20,22,24	PS	Power Supply: 3.3V / 0V
vee 1,7,13,19	PS	Power Supply: 0V / -3.3V
dataap 21 dataan 23	Input	Differential CML high-speed signal inputs
databp 3 databn 5	Input	Differential CML high-speed signal inputs
outp 11 outn 9	Output	Differential CML high-speed signal outputs

ELECTRICAL CHARACTERISTICS

PARAMETER	MIN	TYP	MAX	UNIT	COMMENTS
VEE	-3.1	-3.3	-3.5	V	±6%
VCC		0.0		V	
IEE		82		mA	
Power		270		mW	
Junction Temp.	-25	50	125	°C	
Input Data (d)					
Frequency	0.0		50/25	Gbps/GHz	
CM Level	Vcc-0.8	Vcc-0.3	Vcc+0.3	V	
SE Swing	50	300	800	mV	Peak-to-peak
Output data (out)					
Frequency	0.0		50	Gbps	
CM Level	Vcc-0.3	Vcc-0.2	Vcc-0.1	V	
SE Swing	380	400	420	mV	Peak-to-peak
Rise/Fall Times	6	8	10	ps	20%-80%
Additive Jitter			<1	ps	Peak-to-peak

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](#).