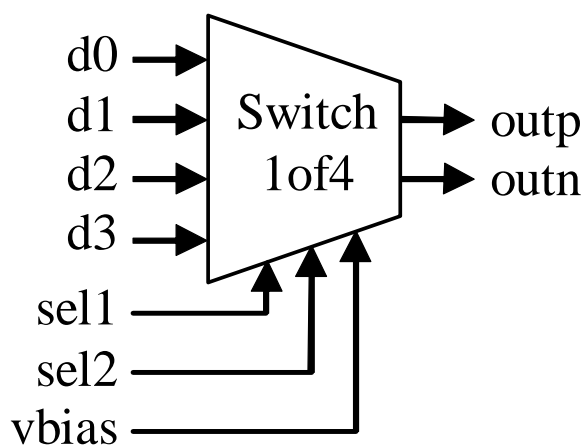


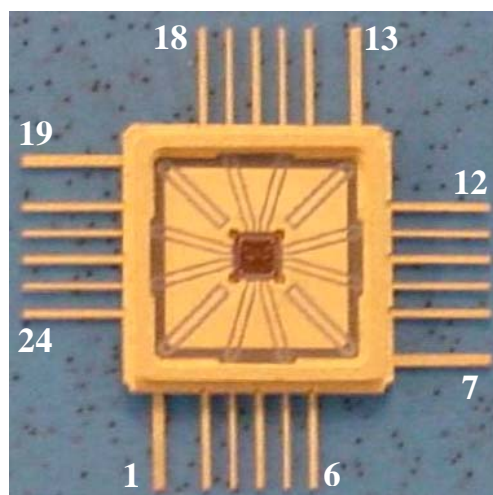
ASNT1122-KMC 32Gb/s 1-of-4 Switch

- High speed broadband Switch of 4 inputs to one output.
- Exhibits low jitter and limited temperature variation over industrial temperature range.
- Ideal for high speed proof-of-concept prototyping.
- CML compliant single ended input data buffers.
- CML compliant differential output data buffer.
- Digital control signals.
- Adjustable duty cycle.
- Single -3.3V power supply.
- Low power consumption of <math><400mW</math> at 32Gbps.
- Fabricated in SiGe for high performance, yield, and reliability.
- Custom CQFP 24-pin package.

DESCRIPTION



Functional Block Diagram



Package View

DESCRIPTION

The temperature stable and broadband ASNT1122-KMC SiGe IC is a high isolation selector switch that is intended for use in high-speed measurement / test equipment. The switch routes one of 4 single-ended CML inputs (“d0”, “d1”, “d2”, “d3”) to its differential CML output “outp/outn” while effectively blocking the other data inputs with high isolation. Selection of a specific data input is controlled by two digital control signals “sel1” and “sel2” in accordance with Table 1. Duty cycle of the output signal is controlled by external analog voltage “vbias”.

Table 1. Switch Controls

| sel1 | sel2 | out |
|------|------|-----|
| 0 | 0 | d0 |
| 0 | 1 | d2 |
| 1 | 0 | d1 |
| 1 | 1 | d3 |

The part operates from a single -3.3V power supply. Its I/Os support CML logic interface with on chip 50 Ω termination.

TERMINAL FUNCTIONS

| TERMINAL NAME (NO.) | TYPE | DESCRIPTION |
|--|--------|---|
| vcc 2,4,6,8,10,12 14,16,18,20,22,24 | PS | External ground |
| vee 1,13,19 | PS | Negative power Supply: -3.3V |
| d0p 15 | Input | Single-ended CML high-speed data signal |
| d1p 17 | | Single-ended CML high-speed data signal |
| d2p 21 | Input | Single-ended CML high-speed data signal |
| d3p 23 | | Single-ended CML high-speed data signal |
| sel1 3 sel2 5 | Input | 2.5V digital control signals |
| outp 11 outn 9 | Output | Differential CML high-speed data signal |
| vbias 7 | Input | Analog control voltage |

ELECTRICAL CHARACTERISTICS

| PARAMETER | MIN | TYP | MAX | UNIT | COMMENTS |
|---------------------------|---------|---------|---------|------|--------------------|
| VEE | -3.1 | -3.3 | -3.5 | V | ±6% |
| VCC | | 0 | | V | External ground |
| IEE | | 110 | | mA | |
| Power | | 360 | | mW | |
| Junction Temp. | -25 | 50 | 125 | °C | |
| Input Data (d) | | | | | |
| Data rate | DC | | 32 | Gbps | |
| CM Level | | -330 | | mV | At “vbias” = “vee” |
| SE Swing | 50 | 300 | 600 | mV | Peak-to-peak |
| Input Select (sel) | | | | | |
| Frequency | DC | | 1.0 | MHz | |
| Logic “0” level | vcc-2.5 | | vcc-2.3 | V | |
| Logic “1” level | vcc-0.2 | | vcc | mV | Peak-to-peak |
| Input Bias (vbias) | | | | | |
| Voltage range | vee | | vcc | V | |
| Output Data (out) | | | | | |
| Data rate | 0.0 | | 32 | 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 | 14 | 15 | 16 | ps | 20%-80% |
| Additive Jitter | | | <2 | ps | Peak-to-peak |

PACKAGE INFORMATION

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