## Description

The DIODES PSMUX1248 is a general purpose SPDT CMOS Analog Switch. It can be used as an analog switch or as a low-delay bus switch. Specified over a wide operating power supply voltage, 1.08V to 5.5V.

Break-before-make switching prevents both switches being enabled simultaneously. This eliminates signal disruption during switching.

The device supports bidirectional analog and digital signals on the source (Sx) and drain (D) pins ranging from GND to $V_{DD}$. A low supply current of 4nA enables use in portable applications.

All logic inputs have 1.8V logic compatible thresholds, ensuring both TTL and CMOS logic compatibility when operating in the valid supply voltage range.

## Application(s)

- PC Motherboards
- Notebooks
- Servers
- Smartphones
- Remote Radio Units
- Active Antenna System mMIMO (AAS)
- Barcode Scanners
- Motor Drives
- Building Automation
- Video Surveillance
- Electronic Point of Sales
- Appliances
- Consumer Audio

## Features

- Wide $V_{DD}$ Range: 1.08V to 5.5V
- Low Supply Current: 4nA
- Low On-Resistance 3Ω
- 1.8 V Logic Compatible
- Voltages on the control pins to be applied before the supply pin
- Signal Passing Bandwidth, 500MHz
- Transition Time: 14ns
- Break-before-make Switching
- Rail-to-Rail Signal Range
- High Off Isolation: -65dB @ 1MHz
- Crosstalk Rejection Reduces Signal Distortion: -65dB @ 1MHz
- Extended Industrial Temperature Range: -40°C to 125°C
- ESD Protection : 2kV(HBM)
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative.
  https://www.diodes.com/quality/product-definitions/
- Packaging (Pb-free & Green):
  - 6-pin SC-70 (C)

### Function Table

| SEL | Source (Sx) Connected To D Pin |
|-----|-------------------------------|
| 0   | S1                            |
| 1   | S2                            |

Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

## Pin Configuration
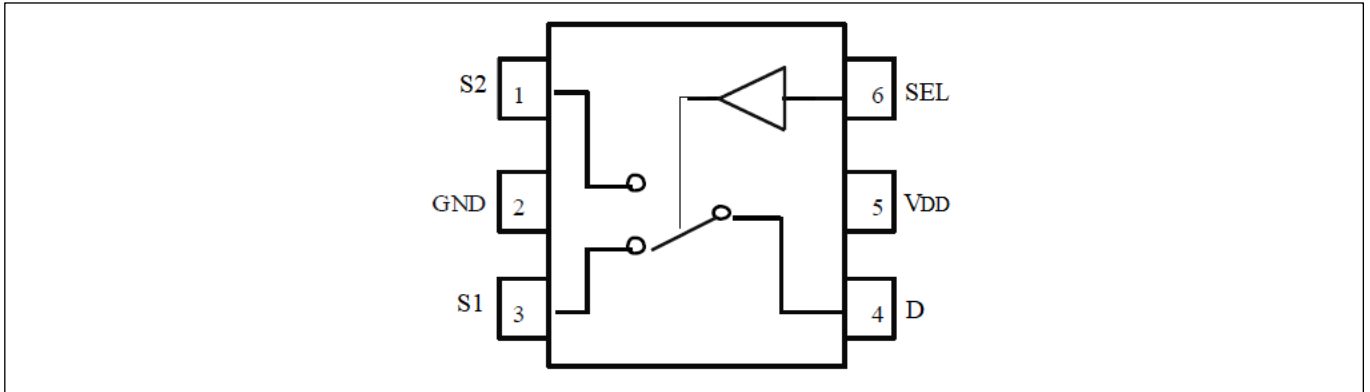


## Pin Description

| Pin# | Pin Name | Type | Description |
|---|---|---|---|
| 1 | S2 | I/O | Data port 2 |
| 2 | GND | Power | Ground |
| 3 | S1 | I/O | Data Port 1 |
| 4 | D | I/O | Common Data pin. |
| 5 | $V_{DD}$ | Power | Positive Power Supply |
| 6 | SEL | I | Selection Pin |

## Maximum Ratings

| | |
|---|---|
| Storage Temperature……………………………….. | -65℃ to +150℃ |
| Ambient Temperature with Power Applied.................. | -40℃ to +125℃ |
| Supply Voltage V$_{DD}$………………………………………. | -0.5V to +6V |
| Control Input Voltage SEL……………………………. | -0.5V to +6V |
| DC Input Voltage V$_{INPUT}$……………………………………. | -0.5V to +6V |
| Continuous Current S1/S2/D……...…………………...…… | ±50mA |
| ESD (HBM) …………………………………………….. | 2kV |
| ESD (CDM) …………………………………………….. | 1kV |

**Note:**
Stresses greater than those listed under MAXIMUM RATINGS may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

The input and output negative voltage ratings may be exceeded if the input and output diode current ratings are observed. Control input must be held HIGH or LOW; it must not float.

## Recommended Operating Conditions

| Symbol | Parameter | Conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| V$_{DD}$ | Operating Voltage | | 1.08 | | 5.5 | V |
| V$_S$ or V$_D$ | Control Input Voltage | | 0 | | V$_{DD}$ | V |
| V$_{SEL}$ | Select Input Voltage | | 0 | | 5.5 | V |
| T$_A$ | Operating Temperature | | -40 | 25 | 125 | °C |

## DC Electrical Characteristics

**+5V Supply (V$_{DD}$ = 5V ±10%)**

| Symbol | Parameter | Test Conditions | T$_A$ | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|---|
| **ANALOG SWITCH** | | | | | | | |
| V$_S$, V$_D$ | Analog Signal Range | | | 0 | | V$_{DD}$ | V |
| R$_{ON}$ | On-Resistance | I$_{SD}$ = 10mA, V$_S$ = 0 to V$_{DD}$, *Test Circuit 1* | 25°C | | 3 | | Ω |
| | | | -40°C to 85°C | | | 5 | |
| | | | -40°C to 125°C | | | 6 | |
| Δ R$_{ON}$ | On-resistance matching between channels | I$_{SD}$ = 10mA, V$_S$ = 0 to V$_{DD}$, *Test Circuit 1* | 25°C | | 0.15 | | Ω |
| | | | -40°C to 85°C | | | 1 | |
| | | | -40°C to 125°C | | | 1 | |
| R$_{ONF}$ | On-Resistance Flatness | I$_{SD}$ = 10mA, V$_S$ = 0 to V$_{DD}$, *Test Circuit 1* | 25°C | | 1.5 | | Ω |
| | | | -40°C to 85°C | | 2 | | |
| | | | -40°C to 125°C | | 3 | | |
| I$_{S (OFF)}$ | S Off Leakage Current | V$_D$ = 4.5V/ 1.5V V$_S$ = 1.5V/ 4.5V, Switch OFF | 25°C | | ±75 | | nA |
| | | | -40°C to 85°C | -150 | | 150 | |
| | | | -40°C to 125°C | -175 | | 175 | |
| I$_{S (ON)}$ or I$_{D (ON)}$ | S/D ON Leakage Current | V$_D$ = V$_S$ = 4.5V/ 1V Switch ON | 25°C | | ±200 | | nA |
| | | | -40°C to 85°C | -500 | | 500 | |
| | | | -40°C to 125°C | -750 | | 750 | |
| **SELECT INPUTS (SEL)** | | | | | | | |
| V$_{IH}$ | Input Logic High | | -40°C to 125°C | 1.42 | | 5.5 | V |
| V$_{IL}$ | Input Logic Low | | -40°C to 125°C | 0 | | 0.75 | V |
| I$_{IH}$ I$_{IL}$ | Input Leakage Current | | +25°C | | ±5 | | nA |
| | | | -40°C to 125°C | | | ±50 | |
| C$_{IN}$ | Digital input capacitance | f = 1MHz | +25°C | | 1 | | pF |
| | | | -40°C to 125°C | | | 2 | |
| **DYNAMIC CHARACTERISTICS** | | | | | | | |
| t$_{TRAN}$ | Switching time between channels | V$_S$ = 3V, R$_L$ = 200Ω, C$_L$ = 15pF | 25°C | | 12 | | ns |
| | | | -40°C to 85°C | | | 18 | |

| Symbol | Parameter | Test Conditions | T_A | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|---|
| | | | -40°C to 125°C | | | 19 | |
| $t_{BBM}$ | Break-Before-Make Delay | $V_S = 3V$, $R_L = 200\Omega$, $C_L = 15pF$ | 25°C | | 8 | | ns |
| | | | -40°C to 85°C | 1 | | | |
| | | | -40°C to 125°C | 1 | | | |
| Qc | Charge injection | $V_S = V_{DD}/2$; $R_S = 0\Omega$, $C_L = 1nF$ | +25°C | | -10 | | pC |
| $O_{ISO}$ | Off Isolations | $R_L = 50\Omega$, $C_L = 5pF$, f = 1MHz | +25°C | | -65 | | dB |
| | | $R_L = 50\Omega$, $C_L = 5pF$, f = 10MHz | +25°C | | -45 | | |
| $X_{TALKD}$ | Channel-to-Channel Crosstalk | $R_L = 50\Omega$, $C_L = 5pF$, f = 1MHz | +25°C | | -65 | | dB |
| | | $R_L = 50\Omega$, $C_L = 5pF$, f = 10MHz | +25°C | | -45 | | |
| $f_{3dB}$ | 3dB Bandwidth | $R_L = 50\Omega$, $C_L = 5pF$ | +25°C | | 500 | | MHz |
| $C_{S (OFF)}$ | S Channels Off Capacitance | $V_{Sx} = V_{DD}$ or GND, Switch OFF. f = 1MHz | 25°C | | 7 | | pF |
| $C_{S (ON)}$ | S Channels On Capacitance | $V_{Sx} = V_{DD}$ or GND, Switch ON. f = 1MHz | 25°C | | 23 | | pF |
| $C_{D (ON)}$ | D Channel On Capacitance | $V_{Sx} = V_{DD}$ or GND, Switch ON. f = 1MHz | 25°C | | 23 | | pF |
| **SUPPLY** | | | | | | | |
| $I_{DD}$ | Power Supply Current | $V_{SEL} = $ GND or 5.5V, Switch ON or OFF | +25°C | | 0.007 | | μA |
| | | | -40°C to 125°C | | | 1.5 | |

**+3.3V Supply ($V_{DD} = 3.3V \pm 10\%$)**

| Symbol | Parameter | Test Conditions | T_A | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|---|
| **ANALOG SWITCH** | | | | | | | |
| $V_S$, $V_D$ | Analog Signal Range | | | 0 | | $V_{DD}$ | V |
| $R_{ON}$ | On-Resistance | $I_{SD} = 10mA$, $V_S = 0$ to $V_{DD}$, *Test Circuit 1* | 25 °C | | 4.5 | | Ω |
| | | | -40°C to 85°C | | | 12.5 | |
| | | | -40°C to 125°C | | | 13 | |
| $\Delta R_{ON}$ | On-resistance matching between channels | $I_{SD} = 10mA$, $V_S = 0$ to $V_{DD}$, *Test Circuit 1* | 25 °C | | 0.15 | | Ω |
| | | | -40°C to 85°C | | | 1 | |
| | | | -40°C to 125°C | | | 1 | |
| $R_{ONF}$ | On-Resistance Flatness | $I_{SD} = 10mA$, $V_S = 0$ to $V_{DD}$, *Test Circuit 1* | 25 °C | | 3.5 | | Ω |
| | | | -40°C to 85°C | | 4 | | |
| | | | -40°C to 125°C | | 5 | | |
| $I_{S (OFF)}$ | S Off Leakage Current | $V_D = 3V/ 1V$ $V_S = 1V/ 3V$, Switch OFF | 25 °C | | ±75 | | nA |
| | | | -40°C to 85°C | -150 | | 150 | |
| | | | -40°C to 125°C | -175 | | 175 | |
| $I_{S (ON)}$ or $I_{D (ON)}$ | S/D ON Leakage Current | $V_D = V_S = 3V/ 1V$ Switch ON | 25 °C | | ±200 | | nA |
| | | | -40°C to 85°C | -500 | | 500 | |
| | | | -40°C to 125°C | -750 | | 750 | |
| **SELECT INPUTS (SEL)** | | | | | | | |
| $V_{IH}$ | Input Logic High | | -40°C to 125°C | 1.35 | | 5.5 | V |
| $V_{IL}$ | Input Logic Low | | -40°C to 125°C | 0 | | 0.65 | **V** |
| $I_{IH}$ $I_{IL}$ | Input Leakage Current | | +25°C | | ±5 | | nA |
| | | | -40°C to 125°C | | | ±50 | |

| Symbol | Parameter | Test Conditions | $T_A$ | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|---|
| $C_{IN}$ | Digital input capacitance | f = 1MHz | +25°C | | 1 | | pF |
| | | | -40°C to 125°C | | | 2 | |
| **DYNAMIC CHARACTERISTICS** | | | | | | | |
| $t_{TRAN}$ | Switching time between channels | $V_S$ = 2V, $R_L$ = 200Ω, $C_L$ = 15pF | 25 °C | | 14 | | ns |
| | | | -40°C to 85°C | | | 20 | |
| | | | -40°C to 125°C | | | 22 | |
| $t_{BBM}$ | Break-Before-Make Delay | $V_S$ = 2V, $R_L$ = 200Ω, $C_L$ = 15pF | 25 °C | | 8 | | ns |
| | | | -40°C to 85°C | 1 | | | |
| | | | -40°C to 125°C | 1 | | | |
| Qc | Charge injection | $V_S$ = $V_{DD}$/2; $R_S$ = 0Ω, $C_L$ = 1nF | +25°C | | -6 | | pC |
| $O_{ISO}$ | Off Isolations | $R_L$ = 50Ω, $C_L$ = 5pF, f = 1MHz | +25°C | | -65 | | dB |
| | | $R_L$ = 50Ω, $C_L$ = 5pF, f = 10MHz | +25°C | | -45 | | |
| $X_{TALKD}$ | Channel-to-Channel Crosstalk | $R_L$ = 50Ω, $C_L$ = 5pF, f = 1MHz | +25°C | | -65 | | dB |
| | | $R_L$ = 50Ω, $C_L$ = 5pF, f = 10MHz | +25°C | | -45 | | |
| $f_{3dB}$ | 3dB Bandwidth | $R_L$ = 50Ω, $C_L$ = 5pF | +25°C | | 500 | | MHz |
| $C_{S\,(OFF)}$ | S Channels Off Capacitance | $V_{Sx}$ = $V_{DD}$ or GND, Switch OFF. f = 1MHz | 25°C | | 7 | | pF |
| $C_{S\,(ON)}$ | S Channels On Capacitance | $V_{Sx}$ = $V_{DD}$ or GND, Switch ON. f = 1MHz | 25°C | | 23 | | pF |
| $C_{D\,(ON)}$ | D Channel On Capacitance | $V_{Sx}$ = $V_{DD}$ or GND, Switch ON. f = 1MHz | 25°C | | 23 | | pF |
| **SUPPLY** | | | | | | | |
| $I_{DD}$ | Power Supply Current | $V_{SEL}$= GND or 5.5V, Switch ON or OFF | +25°C | | 0.004 | | µA |
| | | | -40°C to 125°C | | | 0.8 | |

**+1.8V Supply** ($V_{DD}$ = 1.8V ±10%)

| Symbol | Parameter | Test Conditions | $T_A$ | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|---|
| **ANALOG SWITCH** | | | | | | | |
| $V_S$, $V_D$ | Analog Signal Range | | | 0 | | $V_{DD}$ | V |
| $R_{ON}$ | On-Resistance | $I_{SD}$ = 10mA, $V_S$ = 0 to $V_{DD}$, *Test Circuit 1* | 25°C | | 40 | | Ω |
| | | | -40°C to 85°C | | | 80 | |
| | | | -40°C to 125°C | | | 80 | |
| Δ $R_{ON}$ | On-resistance matching between channels | $I_{SD}$ = 10mA, $V_S$ = 0 to $V_{DD}$, *Test Circuit 1* | 25°C | | 0.4 | | Ω |
| | | | -40°C to 85°C | | | 1.5 | |
| | | | -40°C to 125°C | | | 1.5 | |
| $I_{S\,(OFF)}$ | S Off Leakage Current | $V_D$ = 1.8V/ 1V $V_S$ = 1V/ 1.8V, Switch OFF | 25°C | | ±75 | | nA |
| | | | -40°C to 85°C | -150 | | 150 | |
| | | | -40°C to 125°C | -175 | | 175 | |
| $I_{S\,(ON)}$ or $I_{D\,(ON)}$ | S/D ON Leakage Current | $V_D$ = $V_S$ = 1.8V/ 1V Switch ON | 25°C | | ±200 | | nA |
| | | | -40°C to 85°C | -500 | | 500 | |
| | | | -40°C to 125°C | -750 | | 750 | |
| **SELECT INPUTS (SEL)** | | | | | | | |
| $V_{IH}$ | Input Logic High | | -40°C to 125°C | 1.07 | | 5.5 | V |

| Symbol | Parameter | Test Conditions | $T_A$ | Min. | Typ. | Max. | Units |
|--------|-----------|-----------------|-------|------|------|------|-------|
| $V_{IL}$ | Input Logic Low | | -40°C to 125°C | 0 | | 0.55 | **V** |
| $I_{IH}$ $I_{IL}$ | Input Leakage Current | | +25°C | | ±5 | | nA |
| | | | -40°C to 125°C | | | ±50 | |
| $C_{IN}$ | Digital input capacitance | f = 1MHz | +25°C | | 1 | | pF |
| | | | -40°C to 125°C | | | 2 | |
| **DYNAMIC CHARACTERISTICS** | | | | | | | |
| $t_{TRAN}$ | Switching time between channels | $V_S$ = 1V, $R_L$ = 200Ω, $C_L$ = 15pF | 25°C | | 24 | | ns |
| | | | -40°C to 85°C | | | 44 | |
| | | | -40°C to 125°C | | | 45 | |
| $t_{BBM}$ | Break-Before-Make Delay | $V_S$ = 1V, $R_L$ = 200Ω, $C_L$ = 15pF | 25°C | | 16 | | ns |
| | | | -40°C to 85°C | 1 | | | |
| | | | -40°C to 125°C | 1 | | | |
| $Q_c$ | Charge injection | $V_S = V_{DD}/2$; $R_S = 0Ω$, $C_L$ = 1nF | +25°C | | -3 | | pC |
| $O_{ISO}$ | Off Isolations | $R_L$ = 50Ω, $C_L$ = 5pF, f = 1MHz | +25°C | | -65 | | dB |
| | | $R_L$ = 50Ω, $C_L$ = 5pF, f = 10MHz | +25°C | | -45 | | |
| $X_{TALKD}$ | Channel-to-Channel Crosstalk | $R_L$ = 50Ω, $C_L$ = 5pF, f = 1MHz | +25°C | | -65 | | dB |
| | | $R_L$ = 50Ω, $C_L$ = 5pF, f = 10MHz | +25°C | | -45 | | |
| $f_{3dB}$ | 3dB Bandwidth | $R_L$ = 50Ω, $C_L$ = 5pF | +25°C | | 500 | | MHz |
| $C_{S (OFF)}$ | S Channels Off Capacitance | $V_{Sx} = V_{DD}$ or GND, Switch OFF. f = 1MHz | 25°C | | 7 | | pF |
| $C_{S (ON)}$ | S Channels On Capacitance | $V_{Sx} = V_{DD}$ or GND, Switch ON. f = 1MHz | 25°C | | 23 | | pF |
| $C_{D (ON)}$ | D Channel On Capacitance | $V_{Sx} = V_{DD}$ or GND, Switch ON. f = 1MHz | 25°C | | 23 | | pF |
| **SUPPLY** | | | | | | | |
| $I_{DD}$ | Power Supply Current | $V_{SEL}$ = GND or 5.5V, Switch ON or OFF | +25°C | | 0.002 | | μA |
| | | | -40°C to 125°C | | | 0.52 | |

**+1.2V Supply** ($V_{DD}$ = 1.2V ±10%)

| Symbol | Parameter | Test Conditions | $T_A$ | Min. | Typ. | Max. | Units |
|--------|-----------|-----------------|-------|------|------|------|-------|
| **ANALOG SWITCH** | | | | | | | |
| $V_S$, $V_D$ | Analog Signal Range | | | 0 | | $V_{DD}$ | V |
| $R_{ON}$ | On-Resistance | $I_{SD}$ = 10mA, $V_S$ = 0 to $V_{DD}$, *Test Circuit 1* | 25°C | | 70 | | Ω |
| | | | -40°C to 85°C | | | 105 | |
| | | | -40°C to 125°C | | | 105 | |
| $\Delta R_{ON}$ | On-resistance matching between channels | $I_{SD}$ = 10mA, $V_S$ = 0 to $V_{DD}$, *Test Circuit 1* | 25°C | | 0.4 | | Ω |
| | | | -40°C to 85°C | | | 1.5 | |
| | | | -40°C to 125°C | | | 1.5 | |
| $I_{S (OFF)}$ | S Off Leakage Current | $V_D$ = 1.2V/ 1V $V_S$ = 1V/ 1.2V, Switch OFF | 25°C | | ±75 | | nA |
| | | | -40°C to 85°C | -150 | | 150 | |
| | | | -40°C to 125°C | -175 | | 175 | |
| $I_{S (ON)}$ or $I_{D (ON)}$ | S/D ON Leakage Current | $V_D = V_S$ = 1.2V/ 1V Switch ON | 25°C | | ±200 | | nA |
| | | | -40°C to 85°C | -500 | | 500 | |
| | | | -40°C to 125°C | -750 | | 750 | |

| Symbol | Parameter | Test Conditions | $T_A$ | Min. | Typ. | Max. | Units |
|--------|-----------|-----------------|------|------|------|------|-------|
| **SELECT INPUTS (SEL)** | | | | | | | |
| $V_{IH}$ | Input Logic High | | -40°C to 125°C | 0.96 | | | V |
| $V_{IL}$ | Input Logic Low | | -40°C to 125°C | | | 0.36 | **V** |
| $I_{IH}$ | Input Leakage | | +25°C | | ±5 | | nA |
| $I_{IL}$ | Current | | -40 °C to 125°C | | | ±100 | |
| $C_{IN}$ | Digital input capacitance | f = 1MHz | +25°C | | 1 | | pF |
| | | | -40°C to 125°C | | | 2 | |
| **DYNAMIC CHARACTERISTICS** | | | | | | | |
| $t_{TRAN}$ | Switching time between channels | $V_S$ = 1V, $R_L$ = 200Ω, $C_L$ =15pF | 25°C | | 40 | | ns |
| | | | -40°C to 85°C | | | 175 | |
| | | | -40°C to 125°C | | | 175 | |
| $t_{BBM}$ | Break-Before-Make Delay | $V_S$ = 1V, $R_L$ = 200Ω, $C_L$ = 15pF | 25°C | | 27 | | ns |
| | | | -40°C to 85°C | 1 | | | |
| | | | -40°C to 125°C | 1 | | | |
| Qc | Charge injection | $V_S$ = $V_{DD}$/2; $R_S$ = 0, $C_L$ = 1nF | +25°C | | ±5 | | pC |
| $O_{ISO}$ | Off Isolations | $R_L$ = 50Ω, $C_L$ = 5pF, f = 1MHz | +25°C | | -64 | | dB |
| | | $R_L$ = 50Ω, $C_L$ = 5pF, f = 10MHz | +25°C | | -44 | | |
| $X_{TALKD}$ | Channel-to-Channel Crosstalk | $R_L$ = 50Ω, $C_L$ = 5pF, f = 1MHz | +25°C | | -64 | | dB |
| | | $R_L$ = 50Ω, $C_L$ = 5pF, f = 10MHz | +25°C | | -44 | | |
| $f_{3dB}$ | 3dB Bandwidth | $R_L$ = 50Ω, $C_L$ = 5pF | +25°C | | 500 | | MHz |
| $C_{S (OFF)}$ | S Channels Off Capacitance | $V_{Sx}$ = $V_{DD}$ or GND, Switch OFF. f = 1MHz | 25°C | | 7 | | pF |
| $C_{S (ON)}$ | S Channels On Capacitance | $V_{Sx}$ = $V_{DD}$ or GND, Switch OFF. f = 1MHz | 25°C | | 23 | | pF |
| $C_{D (ON)}$ | D Channel On Capacitance | $V_{Sx}$ = $V_{DD}$ or GND, Switch ON. f = 1MHz | 25°C | | 23 | | pF |
| **SUPPLY** | | | | | | | |
| $I_{DD}$ | Power Supply Current | $V_{SEL}$ = GND or 5.5V, Switch ON or OFF | +25°C | | 0.0015 | | uA |
| | | | -40°C to 85°C | | | 0.45 | |

## Test Circuits and Timing Diagrams
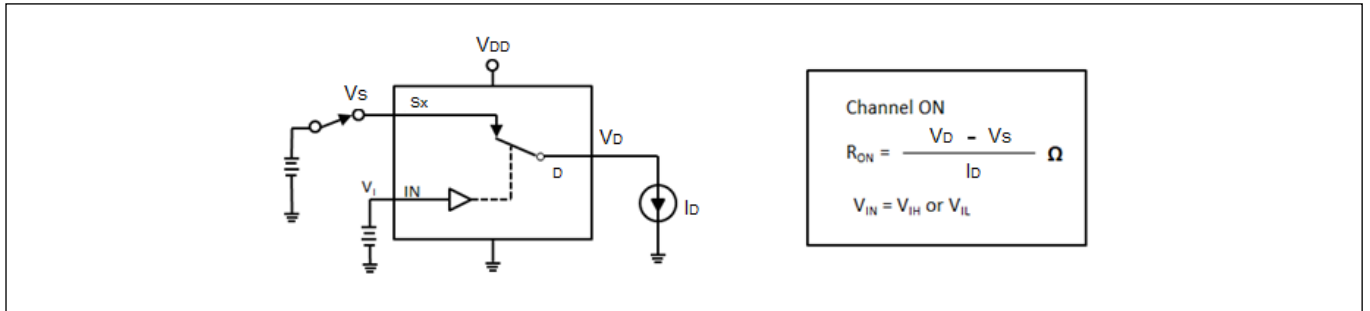


**Figure 1. On Resistance**
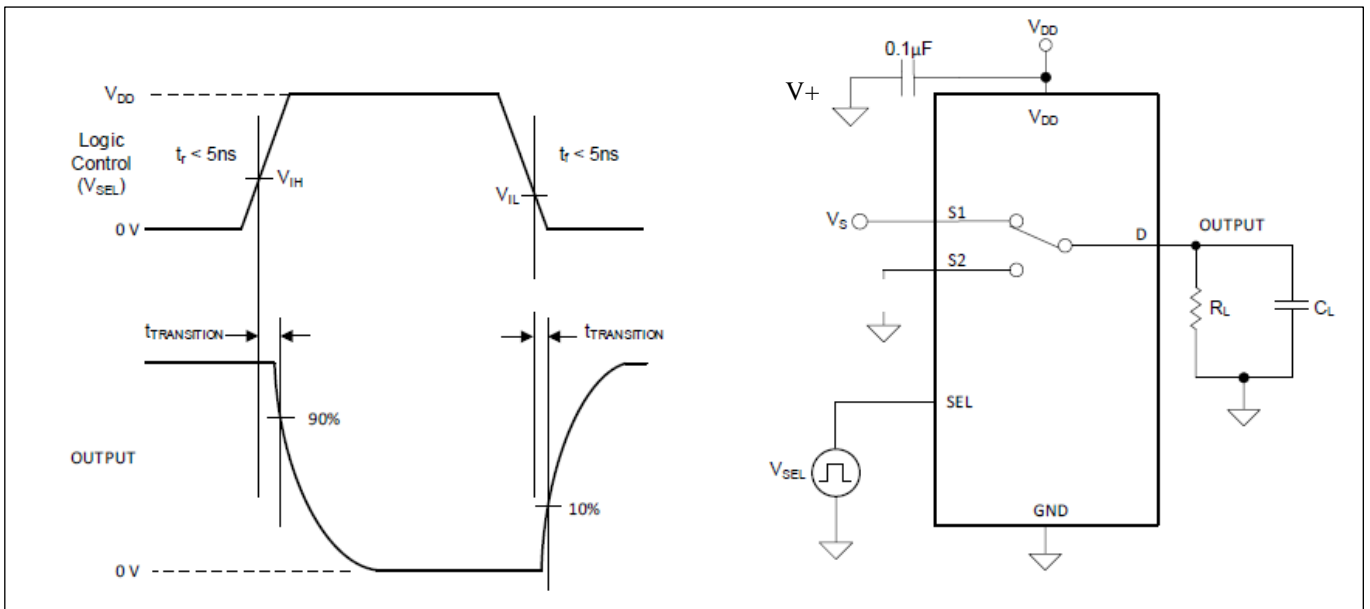


**Figure 2. Transition Time**
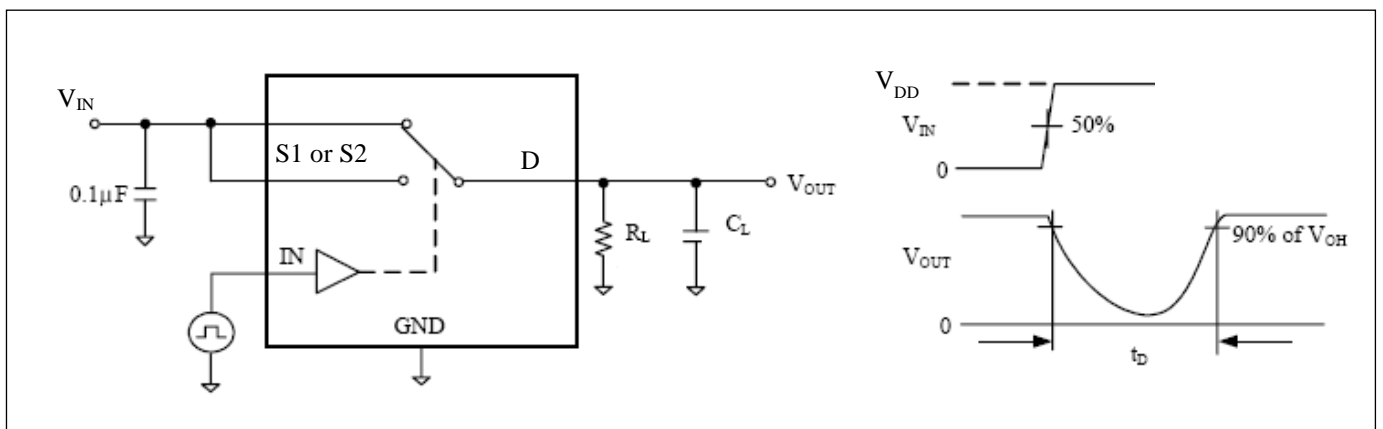


**Figure 3. Break Before Make Interval Timing**
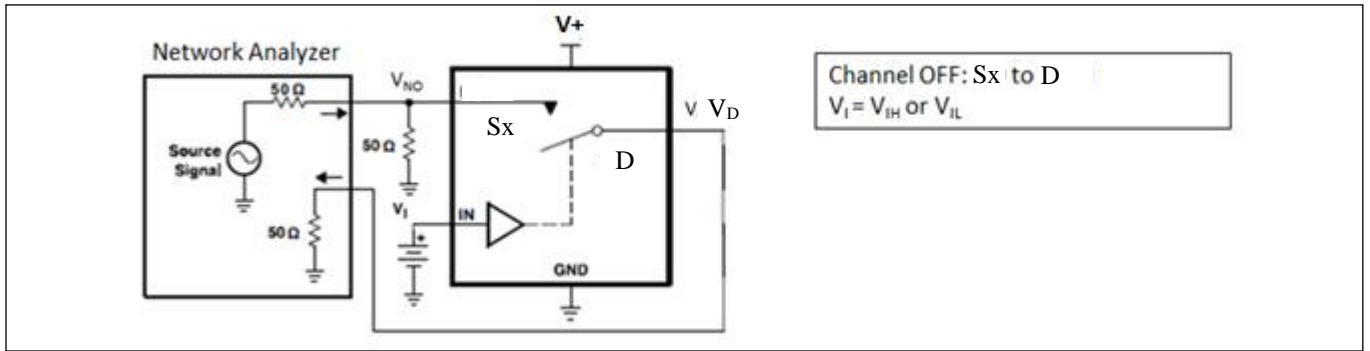
Figure 4. OFF Isolation (O$_{ISO}$)
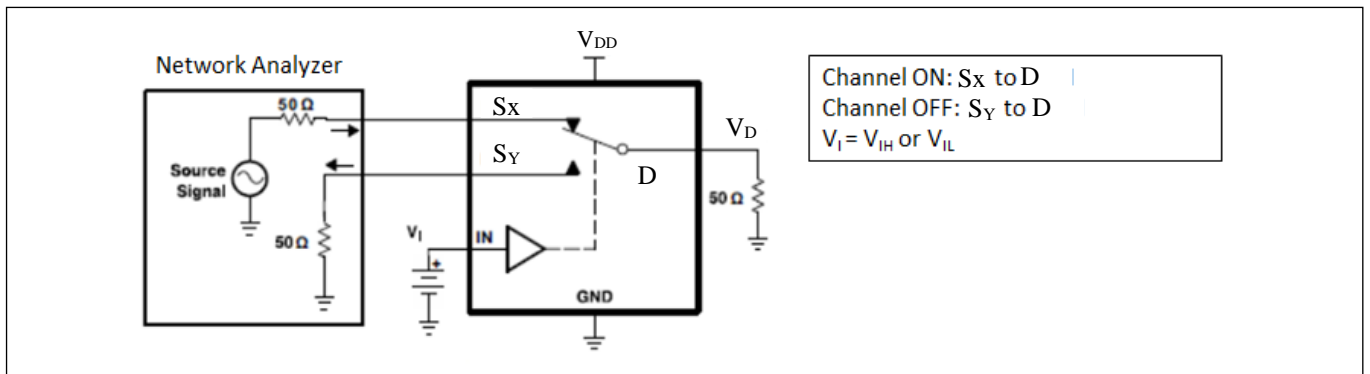


Figure 5. Crosstalk
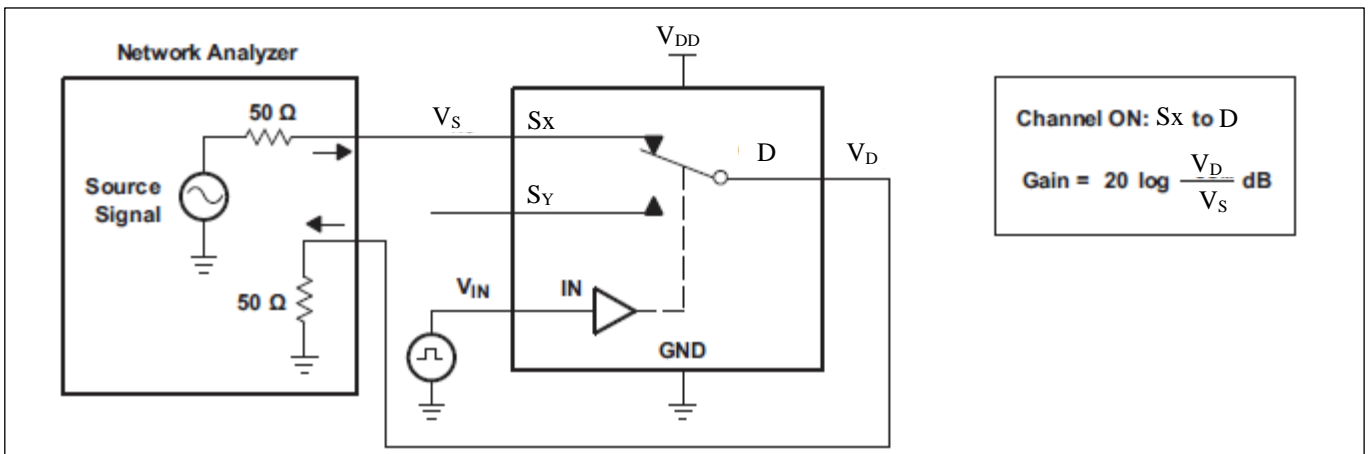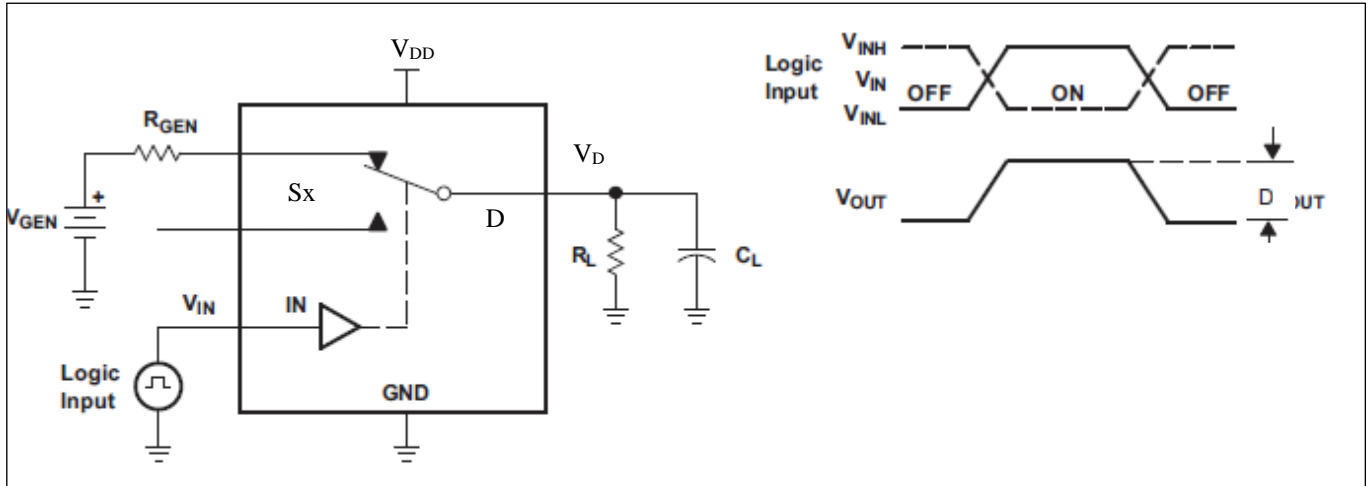


Figure 6. Bandwidth

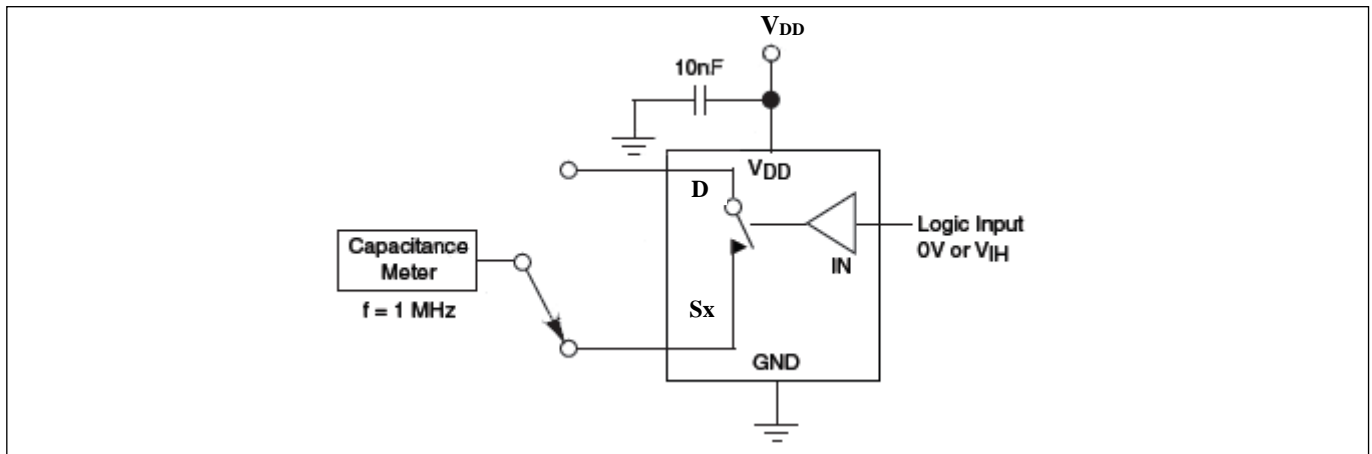**www.diodes.com**
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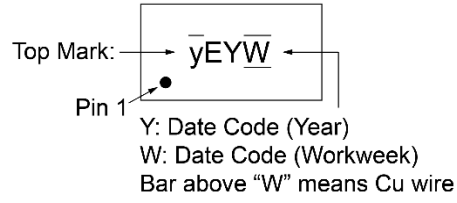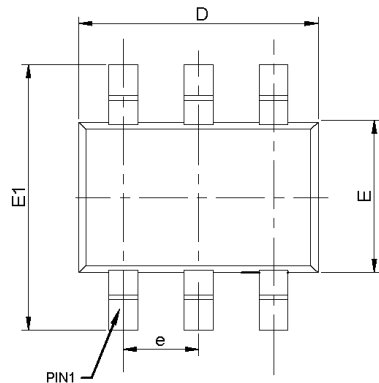**Figure 7. Charge Injection ($Q_C$)**



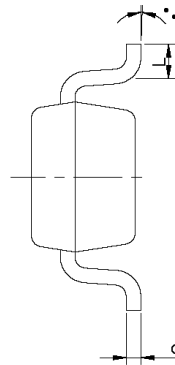**Figure 8. Channel Off Capacitance**
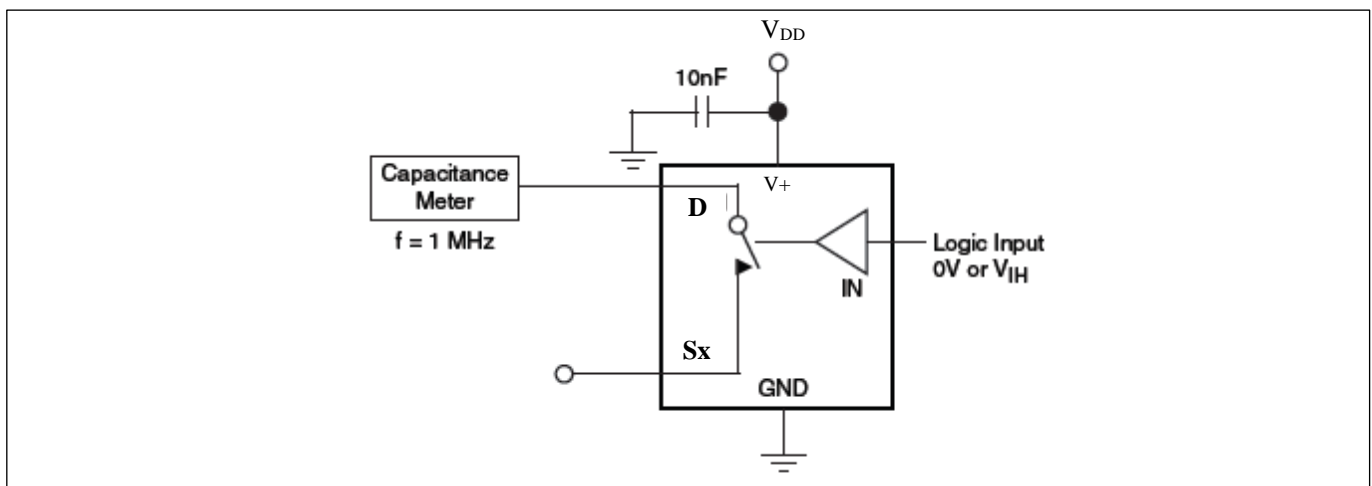


**Figure 9. Channel On Capacitance**

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## Part Marking

Top Mark: → $\overline{y}EY\overline{\overline{W}}$ ←

Pin 1

Y: Date Code (Year)
W: Date Code (Workweek)
Bar above "W" means Cu wire

## Packaging Mechanical

### 6-SOT363 (C)



TOP VIEW

BOTTOM VIEW
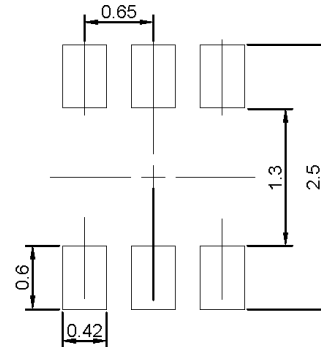
RECOMMENDED LAND PATTERN ( unit:mm)
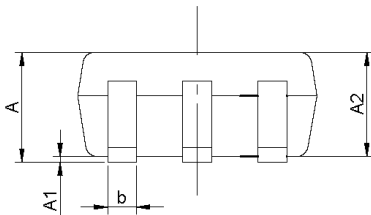
SIDE VIEW

| PKG. DIMENSIONS(MM) | | |
|---|---|---|
| SYMBOL | Min | Max |
| A | - | 1.10 |
| A1 | 0.00 | 0.10 |
| A2 | 0.70 | 1.00 |
| b | 0.15 | 0.40 |
| c | 0.08 | 0.22 |
| D | 1.80 | 2.20 |
| E | 1.10 | 1.40 |
| E1 | 1.80 | 2.40 |
| e | 0.65 BSC | |
| L | 0.26 | 0.46 |
| θ | 0° | 8° |

DATE: 11/18/19

DESCRIPTION: 6-Pin, SOT363 (SC70)

PACKAGE CODE:  C  (C6)

DOCUMENT CONTROL#: PD-1902

REVISION:C

Notes:
1. Comply with MO-203C/AB,except b Max,D Min and D Max.
2. PACKAGE OUTLINE DIMENSIONS DO NOT INCLUDE MOLD FLASH AND METAL BURR
3. LAND PATTERN REFERENCE DIODES SOT363 PACKAGE INFORMATION.

19-1160

**For latest package info.**

please check: http://www.diodes.com/design/support/packaging/pericom-packaging/packaging-mechanicals-and-thermal-characteristics/

## Ordering Information

| Part Number | Packaging Code | Package Description |
|---|---|---|
| PSMUX1248CEX | C | 6-Pin, SOT363 (SC70) |

Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. E = Pb-free and Green
5. X suffix = Tape/Reel

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