LINEAR SYSTEMS

SD5000 / SD5400 MICrOSS

Linear Systems replaces discontinued Siliconix SD* product line

SD5000 / SD5400 series Quad N-Channel Enhancement Mode DMOS Lateral Switches

SD5000 / SD5400 ultra-fast switches offer improved accuracy, speed and throughput, with less glitching or distortion than JFETs or multiplexers. Designed for high frequency RF operation, SD5000 / SD5400 provide switching speeds of 1ns with the unique combination of 70ohms "ON" resistance, and a reverse transfer capacitance of .5 pf. A maximum threshold of 1.5 volts permits simple TTL and CMOS driving for small signal applications.	 Features: Quad SPST Switch with Zener Input Protection Switch Low Interelectrode Capacitance and Leakage Ultra-High Speed Switching—tON: 1 ns Ultra-Low Reverse Capacitance: 0.2 pF Low Turn-On Threshold Voltage 	
SD5400 / SD5000 can switch analog signals up to +/- 10 volts, while the SD5401 / SD5001 can switch signals up to +/- 5 volts. All versions have gate ESD protection zener diodes. SD5000 / SD5400 Applications:	Benefits: • High-Speed System Performance • Low Insertion Loss at High Frequencies • Low Transfer Signal Loss • Simple Driver Requirement • Single Supply Operation Description: The SD5000 / SD5400 series of monolithic switches features four individual double-diffused enhancement-mode MOSFETs built on a common substrate. These bidirectional devices provide low on-resistance and low interelectrode capacitances to minimize insertion loss and crosstalk. Built on Siliconix' proprietary DMOS process, the SD5000 / SD5400 series utilizes lateral construction to achieve low capacitance and ultra-fast switching speeds. For manufacturing reliability, these devices feature poly-silicon gates protected by Zener diodes	
 ATE (Automatic Test Equipment) Analog Switch, A/D & D/A Converters Laser Drivers Medical Imaging Multiplexer, Sample & Hold, Switch Driver & Vision Systems 		
Availability: SD5400 / SD5401 - 14 Pin narrow body SOIC SD5400 / SD5401 - 16 Pin narrow body SOIC SD5400 / SD5401 - Bare die and wafer form SD5000N / SD5001N - 16 Pin DIP SD5000N / SD5001N - Bare die and wafer form		

Part Number	V _{(BR)DS} Min (V)	V _{GS(th)} Max (V)	r _{DS(on)} Max (Ω)	C _{rss} Max (pF)	t _{ON} Max (ns)
SD5000I	20	1.5	$70 @ V_{GS} = 5 V$	0.5	2
SD5000N	20	1.5	70 @ $V_{GS} = 5 V$	0.5	2
SD5001N	10	1.5	70 @ $V_{GS} = 5 V$	0.5	2
SD5400CY	20	1.5	75 @ $V_{GS} = 5 V$	0.5	2
SD5401CY	10	1.5	$75 @ V_{GS} = 5 V$	0.5	2

Absolute Max Ratings
Gate-Drain, Gate-Source Voltage
(SD5000, SD5400)
(SD5001_SD5401) +25 V / -15 V
Gate-Substrate Voltage
(SD5000, SD5400)
(SD5001, SD5401)+25 V / –0.3 V
Drain-Source Voltage
(SD5000, SD5400)
(SD5001_SD5401) 10 V
Drain-Source-Substrate Voltage
(SD5000, SD5400)
(SD5001, SD5401) 15 V
Drain Current
Lead Temperature (1/16" from case for 10 seconds) 300°C
Storage Temperature – 65 to 150°C
Operating Junction Tomporature -55 to 150° C

For full datasheet and also mechanical die details Please contact Micross Components,

chipcomponents@micross.com

Note all package types are available with special electrical selection. including bare die form.



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