

DEV RAY

Born to Shine...

S2900-P L3-LITE SERIES



Product Overview

DR-S2900-P L3-lite Series is a next-generation aggregation 10GE switch introduced by DevRay. It is targeted at the IP MAN (metropolitan area network), government and enterprise networks, Internet café and diskless working environment. It is developed on the basis of high performance hardware and software platform with DevRay own independent intellectual property rights. It supports functions such as powerful ACL, flexible QinQ, 1:1 or N:1 VLAN switching, Ethernet OAM, carrier-level QoS and industry-level 10GE Ether- ring, ensuring this switch series meets application requirements in all kinds of complicated sites. It also supports layer-3 routing protocol. DevRay DR-S2900-P L3-lite Series has 2 models: DR-S2900-24P4X, S2900-48P6X.

Product Characteristics

Innovative Virtual Cluster Switching Technique

Innovative DVSS (DevRay Virtual Switch System): DR-S2900-P L3-lite Series virtualizes multiple physical devices into one. The performance, reliability and management of the virtual system are superior to the physical ones. Improved Performance: DVSS makes full use of each link in the physical devices, which avoids STP blocking the link and protects the original link to the maximum extent. High Reliability: Based on the advanced distribution mechanism and efficient cross-physical link aggregation link function, the logic control plane, service control plane and service data plane are separated. Thus, DR-S2900-P L3-lite Series can support continuous layer-3 routing forwarding, avoiding service interruption as a result of a single point of failure. Easy Management: DVSS realizes single IP management, greatly improving the networking efficiency and lowering the operating cost.



Supports Maximum 48
Gigabit PoE+ Ports and
6 10GE SFP+ Uplink
Ports



Advanced Hardware
Architecture and
Industry-leading Port
Density



Carrier-Level
High Reliability
Layer-3 Routing
Functions



Varied Service
Characteristics Versatile
IPv6 Solution Complete
Security Mechanism

MapleCloud Technologies

E-29, Third Floor, E Block, Sector 63, Noida, Uttar Pradesh 201301
Tel: 097399 95151 | Email: sales@devray.in | Website: www.devray.in

Product Characteristics

Industrial Ethernet Ring with Zero Delay and Zero Packet Loss

Supports industry-level EAPS and their protection shift time is less than 50ms. Their high reliability is represented by the null packet loss, which has been proved by many years of application in the Grid, rail transportation and defense systems.

Telecom-Level Ethernet Switch

Supports the telecom-level Ethernet-ring protection protocol with a protection shift time of less than 50ms, STP/RSTP/MSTP, backup of active and standby uplinks and LACP link aggregation to cater to the requirements of high reliability of carriers.

Support Ethernet standard 802.3u, 802.3x, 802.3ad, 802.1d, 802.1p, 802.1q, 802.1w, 802.1ad.

Support system status LED, port dynamic LED.

Provides the perfect Ethernet OAM mechanism to monitor the network running status in real time for rapid trouble locating and detection.

Supports powerful ACL functions to access and control L2-L7 data based on physical port, VLAN, MAC, IP and protocol port ID, and providing carriers flexible and various policy control methods.

Supports In-Service Software Upgrade (ISSU) to ensure the unremitting data forwarding during system upgrade.

Supports various L2 multicast functions, including IGMP-Snooping, fast-leave and trans-vlan multicast copy.

Flexible and Convenient Management and Maintenance

Supports management modes such as the console port, Telnet, SSH, etc. Supports the WEB management mode, which is easy and efficient so that it makes installation and debugging convenient.

Supports TFTP-patterned file upload/download management.

Supports ISSU (In-Service Software Upgrade).

Supports SNMP and DevRay NMS smart network management platform to realize automatic equipment discovery, network topology management, equipment configuration management, performance data statistics and analysis and trouble management.

Carrier-Level QoS Policies

Supports priority retagging and complicated flow classification based on VLAN, MAC, source address, destination address, IP or priority to better streamline carrier's services.

Supports provides flexible bandwidth control policies and supports port-/flow-based flow limit, and ensuring the line speed forwarding of each port to make sure the high quality of video, audio and data services.

Supports 8 priority queues by each port.

Supports multiple queue schedule algorithms such as SP, WRR, and SP+WRR.

Versatile IPv6 Solutions

Supports the IPv6 protocol suite, IPv6 neighbor discovery, ICMPv6, path MTU discovery, etc.

Supports Ping, Traceroute, Telnet, SSH, ACL and so like on the basis of IPv6, meeting IPv6 networks' equipment management requirements and service control requirements.

Perfect Security Mechanisms

Equipment-level security: The advanced hardware infrastructure design realizes the level based packet schedule and packet protection prevents DoS-/TCP-related: SYN flood, UDP flood, broadcast storm, large traffic attacks, and supports level-based command line protection, endowing different levels of users with different management permissions.

Supports perfect security authentication mechanisms: IEEE8021xRadius and DRTacacst.

Supports storm/multicast/unicast limit to ensure the normal running of equipment in harsh network conditions.

Supports a perfect ring detection mechanism to ensure the long-term stable running of network. supports port isolation within the same VLAN DHCP-Snooping and IP plus MAC plus Port binding for ensuring user data security.

Intelligent PoE+

DR-S2900-P series supports IEEE 802.3af/at PoE standard, and PoE power budget up to a maximum of 740W; DR-S2900-P series supports PoE non-stop power supply, the PoE+ power is maintained during a switch reload; DR-S2900-P series supports manual and dynamic PoE power allocation; DR-S2900-P series supports up to 6KV thunder-proof of the PoE port and power supply.

Specifications

Item		S2900-24P4X	S2900-48P6X
Gigabit PoE+		24	48
10G/GE SFP+		4	6
Console(RJ45)		1	1
Backplane(Gbps)		128	216
Forwarding rate (Mpps with 64 bytes)		96	162
Chassis	Dimensions (WxDxH)(mm)	440x210x44	440x280x44
	Weight (KG)(empty)	3	5.2
Package	Dimensions (WxDxH)(mm)	555x295x88	576x448x94
	Weight(KG)	4.1	6.1
Power consumption	no-load	< 25W	< 25W
	full-load	<35W(without PoE)	< 48W(without PoE)
Power supply AC: 100V- 240V DC: 36- 72V		410W	450W AC and 800W DC
Total output BTU (1000BTU/H=293W)		1392.49	1535.84@AC 2730.38@DC
Fan number		2	2
Noise@25°C (dBA)		37.5	45
MTBF(H)		>200,000	>200,000
Forwarding mode		Store-forward	Store-forward
Flash (MB)		16	16
DRAM (MB)		256	512
MAC		16K	32K
Buffer size(MB)		1.5	1.5
Interface vlan		64	64
Routing table		512	512
Jumbo frame		9K	9K

Features

VLAN	4K Active VLAN, QinQ & Selective QinQ, GVRP, Private VLAN, Voice VLAN
Spanning Tree	802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP) BPDU guard, root guard and loopback guard
Multicast	IGMP v1/v2/v3, IGMP Snooping, IGMP Fast Leave, MVR, IGMP filter
IP	Static route, IPv4/v6 dual stack
IPv6	ICMPv6, DHCPv6, ACLv6 and Ipv6 Telnet IPv6 neighbor discovery, Path MTU discovery MLD V1, MLD snooping IPv6 Static Routing, RIPng, OSPFv3 Manual tunnel, ISATAP tunnel, 6 to 4 tunnel
DHCP	DHCP server/relay/client DHCP snooping/option82
QoS	CAR, HQoS, MAC/IP/TCP/UDP/ VLAN/COS/DSCP/TOS based QoS, 802.1P/DSCP priority re-labeling, SP, WRR, and "SP+WRR", Tail-Drop, WRED, flow monitoring and traffic shaping
Security	Port isolation, Port security, and "IP+MAC+port" binding, MAC sticky DHCP Snooping and option 82, DAI & IP source guard, PPPoE+, IEEE 802.1x, Radius and DRTacacs+ L2/L3/L4 ACL flow identification and filtration Anti-attack from DDoS, TCP's SYN Flood, UDP Flood, etc. Broadcast/multicast/unknown unicast storm-control · MD5, SHA-256, RSA-1024, AES256, etc.
Reliability	Static/LACP link aggregation, Interface backup EAPS and ERPS ISSU uninterrupted system upgrade DVSS, up to 16-units per stack VRRP UDLD
Management	Console, Telnet, SSH v1/2, HTTP, HTTPS, SNMP v1/v2/v3, RMON TFTP, FTP, SFTP NTP ZTP SPAN, RSPAN Dying gasp *
Accessories	· Power cord, rackmount kits, console cable
Environment	Operating temperature/ humidity: 0°C -50°C , 10%-90% non-condensing Storage temperature/humidity: -20°C -70°C , 5%-95% non-condensing

<p>Certificates</p>	<ul style="list-style-type: none"> • CE Marking • EN 300 386 V2.2.1:2022 Telecommunication network equipment - Harmonized Standard for Electromagnetic Compatibility (EMC) requirements • EN 50121-4:2016+A1:2019 Railway applications. Electromagnetic compatibility Emission and immunity of the signaling and telecommunications apparatus • EN 50155:2021, Railway applications. Rolling stock. Electronic equipment • EN 55011:2016+A2:2021 Industrial, scientific and medical equipment. Radiofrequency disturbance characteristics. Limits and methods of measurement • EN 55022:2010 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement • EN 60950-1:2005 Information technology equipment – Safety – Part 1: General requirements • EN IEC 61000-3-2:2019, EN 61000-3-3:2013, EN 61000-4-2:2009, EN 61000-4-3:2006+A2:2010, EN 61000-4-4:2012, EN 61000-4-5:2014+A1:2017, EN 61000-4-6:2014, EN 61000-4-8:2010, EN 61000-4-11:2004+A1:2017, EN 61000-6-4:2007 Electromagnetic compatibility (EMC) Testing and measurement techniques • IEC 60068-2-27:2008 Environmental testing-part2-27:test- test ea. and guidance: shock • IEC 60068-2-31:2008 Environmental testing-part2-31: Test- test Ec: Rough handling shocks, primarily for equipment-type specimens • IEC 60068-2-64:2008 Environmental testing-part2-64:2008 Test- test Fh: Vibration, broadband random and guidance • IEC 60215:2016 Safety requirements for radio transmitting equipment-General requirements and terminology • IEC 61967-1:2018 Integrated circuits- Measurement of electromagnetic emissions-Part 1: General conditions and definitions • IEC 62151: 2000 Safety of equipment electrically connected to a telecommunication network • Directive 2002/95/EC (RoHS 1), • CFR Part 15, Su voltage 2014/35/EU Directive • UL (UNDERWRITERS LABORATORIES)
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Ordering Information

Item	Description
DR-S2900-P L3-lite Series switch	
S2900-24P4X	24-Port Gigabit PoE+ 4-Port 10G SFP+ L3-lite Stackable Managed Switch (single AC-220V power supply, 370W PoE budget; with cooling fan; 1U; standard 19-inch rack-mounted installation)
S2900-48P6X	48-Port Gigabit PoE+ 6-Port 10G SFP+ L3-lite Stackable Managed Switch (AC-220V+DC-48V power supplies, 370W AC POE budget, 740W DC POE budget, with cooling fan; 1U; standard 19-inch rack-mounted installation)
Optical modules	
10GE optical modules	
SFP+TX	10GE SFP+-to-RJ45 module
SFP+SX	10GE SFP+ multi-mode (300m, 850nm, LC)
SFP+LX-10	10GE SFP+ single-mode (10Km, 1310nm, LC, DDM)
SFP+LX-20	10GE SFP+ single-mode (20Km, 1310nm, LC, DDM)
SFP+LX-40	10GE SFP+ single-mode (40Km, 1310nm, LC, DDM)
SFP+LX-80	10GE SFP+ single-mode (80Km, 1550nm, LC, DDM)
SFP+LX-SM-1270-10	10GE SFP+ single-mode, single-fiber (10Km, TX1270/RX1330, LC, DDM)
SFP+LX-SM-1330-10	10GE SFP+ single-mode, single-fiber (10Km, TX1330/RX1270, LC, DDM)
SFP+LX-SM-1270-20	10GE SFP+ single-mode, single-fiber (20Km, TX1270/RX1330, LC, DDM)
SFP+LX-SM-1330-20	10GE SFP+ single-mode, single-fiber (20Km, TX1330/RX1270, LC, DDM)
SFP+LX-SM-1270-40	10GE SFP+ single-mode, single-fiber (40Km, TX1270/RX1330, LC, DDM)
SFP+LX-SM-1330-40	10GE SFP+ single-mode, single-fiber (40Km, TX1330/RX1270, LC, DDM)
GE Optical Modules	
GSFP-TX-B	10GE SFP+-to-RJ45 module
GSFP-SX-D	GE SFP multi-mode (500m, 850nm, LC, DDM)
GSFP-LX-10-D	GE SFP single-mode (10Km, 1310nm, LC, DDM)
GSFP-LX-20-D	GE SFP single-mode (40Km, 1310nm, LC, DDM)
GSFP-LX-40-D	GE SFP single-mode (40Km, 1310nm, LC, DDM)
GSFP-ZX-80-D	GE SFP single-mode (80Km, 1550nm, LC, DDM)
GSFP-ZX-120-D	GE SFP single-mode (120Km, 1550nm, LC, DDM)
GSFP-LX-SM1310-10-BIDI	GE SFP single-mode, single fiber (10Km, TX1310/RX1550, LC, DDM)
GSFP-LX-SM1550-10-BIDI	GE SFP single-mode, single fiber (10Km, TX1550/RX1310, LC, DDM)
GSFP-LX-SM1310-20-BIDI	GE SFP single-mode, single fiber (20Km, TX1310/RX1550, LC, DDM)
GSFP-LX-SM1550-20-BIDI	GE SFP single-mode, single fiber (20Km, TX1550/RX1310, LC, DDM)
GSFP-LX-SM1310-40-BIDI	GE SFP single-mode, single fiber (40Km, TX1310/RX1550, LC, DDM)
GSFP-LX-SM1550-40-BIDI	GE SFP single-mode, single fiber (40Km, TX1550/RX1310, LC, DDM)
GSFP-LX-SM1490-80-BIDI	GE SFP single-mode, single fiber (80Km, TX1490/RX1550, LC, DDM)
GSFP-LX-SM1550-80-BIDI	GE SFP single-mode, single fiber (80Km, TX1550/RX1490, LC, DDM)
GSFP-LX-SM1490-120	GE SFP single-mode, single fiber (120Km, TX1490/RX1550, LC, DDM)
GSFP-LX-SM1550-120	GE SFP single-mode, single fiber (120Km, TX1550/RX1490, LC, DDM)