**BDCOM**
Professional Network Technology

BDCOM S2928F Series
10GE  Switches

# BDCOM S2928F Series 10GE Switches

## Product Overview

BDCOM S2928F Series switches are new-generation smart access ones developed by Shanghai Baud Data Communication Co., Ltd for carrier's IP MAN and enterprise networks, large campuses and enterprise networks. With the new-generation high-performance hardware and BDCOM self-owned BDROS platform, S2928F Series provides users with the longest non-stop communication potential. This also results from it integration with multiple network services and reliable techniques such as IPv6, network security, non-stop upgrade, non-stop forwarding, graceful restart-up and redundancy protection.

**S2928F Series**

## Product Characteristics

➢ **Advanced Hardware Architecture, and Industry-Leading Process Capacity**

● A 1U box switch bears 16 gigabit SFP ports, 8 gigabit TX/SFP combo ports and 4 10GE ports. It adopts the high-performance ASIC switch chip, which can meet the requirements of all kinds of complicated application sites.

➢ **Innovated BVSS**

● S2928F Series supports BVSS (BDCOM Virtual Switch System) which can virtualize multiple devices into one. The performance and the management of the virtualized device is superior to any independent physical device.

- Doubled Performance: The virtualization system can make best use of every link among the physical devices, which prevents the block from the STP of the traditional networking model. It reserves the original link investment to the greatest extent.

- High Reliability: Based on the advanced distribution processing technique and high-efficient cross-physical device link aggregation function, the logical control surface, the service controal surface and the service data surface can work independently (without mutual interference) and provide non-stop routing forwarding, which avoid service interruption causing by the single point faults. Thus, the reliability of the virtual system is greatly enhanced.

➤ **Easy Management**

- The whole virtual system realizes single IP management and the physical device is transparent to the user. Subsequently, the management of the device and the network topology is simplified and the maintenance cost is reduced effectively.

➤ **Carrier-class High Reliability**

- Based on HPS (Hitless Protection System), the key components of S2928F can realize seamless switching in default. For instance, the power supply can expand to dual power supply backup.

- S2928F Series supports STP/RSTP/MSTP protocol, VRRP protocol, Ethernet ring protection, dual uplink primary and secondary link protection, and LACP link aggregation

- S2928F Series supports ISSU (In-Service Software Upgrade) which guarantees the non-stop forwarding of the user data in system upgrade.

- S2928F Series supports ultra-high BFD dual-directional link detection mechanism. Through the linkage of layer-2 and layer-3 protocols, the fault detection and service recovery can be realized in seconds.

- S2928F Series supports Ethernet OAM mechanism, 802.3ah, 802.1ag and ITU-Y.1731. Through real-time monitoring the networking running state, the fault can be fastly detected and located.

● S2928F Series supports the high-reliability design of the software and hardware. Its fault recovery time is 50ms, and its high reliability is up to 99.999%.

## ➢ Diversified Service Characteristics

● S2928F Series supports complete layer-2 multicast protocols, which meets the access requirement of IPTV, multi-end high-definition video monitoring and high-definition video conference;

● S2928F Series supports layer-3 routing function;

## ➢ Versatile IPv6 Solutions

● S2928F Series supports the IPv6 protocol suite, IPv6 neighbor discovery, ICMPv6, path MTU discovery, DHCPv6, etc.

● S2928F Series 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 architecture design realizes the level-based packet schedule and packet protection, prevents DoS-/TCP-related SYN Flood, UDP Flood, Broadcast Storm or large traffic attacks, and supports level-based command line protection, endowing different levels of users with varied management permissions;

● Perfect security authentication mechanisms: IEEE 802.1x, Radius and BDTacacs+;

● Enhanced service security mechanism: S2928F Series supports the plaintext or MD5 authentication related to the routing protocol; uRPF; hardware packet depth detection and filtration; the depth detection of the control packet and data packet.

## ➢ Innovated Environment Protection Design

● Intelligent power supply management system: S2928F Series adopts the advanced power supply system architecture design and supports functions including high-efficient power supply switching, power supply monitoring and soft start.

- Intelligent fan management system: S2928F Series adopts the intelligent fan design, which supports automatic speed adjustment and effectively reduces the noise and prolongs the fan's life.
- S2928F Series supports efficient Ethernet function and complies with the international standard IEEE 802.3az.

## Product Specifications

| Item | S2928F Series |
|---|---|
| Backplane | 256Gbps |
| Forwarding | 168Mpps |
| MAC | 32K |
| Ports | 16 1000M SFP ports, 8 100/1000M TX/SFP combo ports, 4 GE/10GE SFP+ ports |
| Dimensions (W×H×D) mm | 440×280×44 |
| Power supply | AC: 100V-240V, 50Hz±10% Optional dual power supply |
| Environment | Operating temperature and humidity: 0℃-50℃, 10%-90% non-condensing Storage temperature and humidity: -20℃-70℃, 5%-95% non-condensing |
| MAC exchange | Static configuration and dynamic MAC learning MAC browsing and removal Configurable aging time of the MAC address Limited number of learnable MAC addresses MAC filtration Black-hole MAC list |
| VLAN | 4K VLAN GVRP |

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| | 1:1 VLAN mapping and N:1 VLAN mapping |
| | QinQ and flexible QinQ |
| | Private VLAN |
| STP | 802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP) |
| | BPDU protection, root protection, and loopback protection |
| Multicast | IGMP v1/v2/v3 |
| | IGMP Snooping |
| | IGMP Fast Leave |
| | Multicast group strategy and quantity limitation |
| | Multicast flow copying over VLANs |
| | PIM-SM, PIM-DM |
| IPv4 | Static routing, RIP v1/v2, OSPF, BGP |
| | Strategy routing |
| | Load balance by equivalent routing |
| | BFD for OSPF, BGP |
| IPv6 | ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet |
| | IPv6 neighbor discovery |
| | Path MTU discovery |
| | MLD V1/V2 |
| | MLD Snooping |
| | IPv6 static routing, RIPng, OSPFv3, BGP4+ |
| | Manual tunnel, ISATAP tunnel, 6 to 4 tunnel |
| MCE | MCE |
| QoS | Flow classification based on L2/L3/L4 protocols |
| | CAR flow limit |
| | 802.1P/DSCP priority re-labeling |
| | SP, WRR and "SP+WRR" |
| | Congestion avoidance mechanisms like Tail-Drop and WRED |
| | Flow monitoring and flow shaping |

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| Security | L2/L3/L4 ACL flow identification and filtration<br><br>DDoS attack prevention, TCP's SYN Flood attack prevention, UDP Flood attack prevention, etc<br><br>Broadcast/multicast/unknown unicast storm-control<br><br>Port isolation<br><br>Port security, and "IP+MAC+port" binding<br><br>DHCP snooping and DHCP option 82<br><br>IEEE 802.1x authentication<br><br>Radius BDTacacs+ authentication<br><br>uRPF<br><br>Level-based command line protection |
| Reliability | Power supply 1+1 backup<br><br>Static/LACP link aggregation; link aggregation of across-service cards<br><br>EAPS<br><br>VRRP<br><br>GR for OSPF and BGP<br><br>BFD for OSPF and BGP<br><br>ISSU uninterrupted system upgrade |
| Management | Console, Telnet, SSH2.0<br><br>Browser-based WEB management<br><br>SNMP v1/v2/v3<br><br>TFTP file upload and download<br><br>RMON<br><br>sFLOW |
| Environment protection | IEEE802.3az environment protection Ethernet |

## Ordering Information

| Item | Description |
|---|---|
| **S2928F 10GE Switches** | |
| S2928F | Ethernet switch with 24 gigabit optical ports, 4 10GE ports (1 Mini USB Console port, 16 1000M SFP ports, 8 100/1000M TX/SFP ports, 4 10GE/GE auto-adaptive SFP+ ports; built-in AC220V single power supply, expandable dual power supply; the cooling fan, 1U, 19-inch rack-mounted installation) |
| **Optical Modules** | |
| **GE Optical Modules** | |
| GSFP-TX-B | GE 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 (20Km, 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 bidirectional (10Km, TX1310/RX1550, LC, DDM) |
| GSFP-LX-SM1550-10-BIDI | GE SFP single-mode, single-fiber bidirectional (10Km, TX1550/RX1310, LC, DDM) |
| GSFP-LX-SM1310-20-BIDI | GE SFP single-mode, single-fiber bidirectional (20Km, TX1310/RX1550, LC, DDM) |
| GSFP-LX-SM1550-20-BIDI | GE SFP single-mode, single-fiber bidirectional (20Km, TX1550/RX1310, LC, DDM) |
| GSFP-LX-SM1310-40-BIDI GSFP-LX-SM1550-40-BIDI-1 | GE SFP single-mode, single-fiber bidirectional (40Km, TX1310/RX1550, LC, DDM) |

| 310 | GE SFP single-mode, single-fiber bidirectional (40Km, TX1550/RX1310, LC, DDM) |
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| GSFP-LX-SM1490-80-BIDI <br> GSFP-LX-SM1550-80-BIDI | GE SFP single-mode, single-fiber bidirectional (80Km, TX1490/RX1550, LC, DDM) <br> GE SFP single-mode, single-fiber bidirectional (80Km, TX1550/RX1490, LC, DDM) |
| GSFP-LX-SM1490-120 <br> GSFP-LX-SM1550-120 | GE SFP single-mode, single-fiber bidirectional（120Km，TX1490/RX1550，LC，DDM） <br> GE SFP single-mode, single-fiber bidirectional (120Km, TX1550/RX1490, LC, DDM) |
| 10GE Optical Modules | |
| SFP+SX | TE SFP+ multi-mode (300m, 850nm, LC) |
| SFP+LX-10 | TE SFP+ single-mode (10Km, 1310nm, LC, DDM) |
| SFP+LX-20 | TE SFP+ single-mode (20Km, 1310nm, LC, DDM) |
| SFP+LX-40 | TE SFP+ single-mode (40Km, 1550nm, LC, DDM) |
| SFP+LX-80 | TE SFP+ single-mode (80Km, 1550nm, LC, DDM) |
| SFP+LX-SM-1270-10 <br> SFP+LX-SM-1330-10 | 10GE SFP+ single mode, single fiber bidirectional (10Km, TX1270/RX1330, LC, DDM) <br> 10GE SFP+ single mode, single fiber bidirectional (10Km, TX1330/RX1270, LC, DDM) |
| SFP+LX-SM-1270-20 <br> SFP+LX-SM-1330-20 | 10GE SFP+ single mode, single fiber bidirectional (20Km, TX1270/RX1330, LC, DDM) <br> 10GE SFP+ single mode, single fiber bidirectional (20Km, TX1330/RX1270, LC, DDM) |
| SFP+LX-SM-1270-40 <br> SFP+LX-SM-1330-40 | 10GE SFP+ single mode, single fiber bidirectional (40Km, TX1270/RX1330, LC, DDM) <br> 10GE SFP+ single mode, single fiber bidirectional (40Km, TX1330/RX1270, LC, DDM) |

**For More Information**

For more information about BDCOM S2928F Series, please contact your local BDCOM account

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