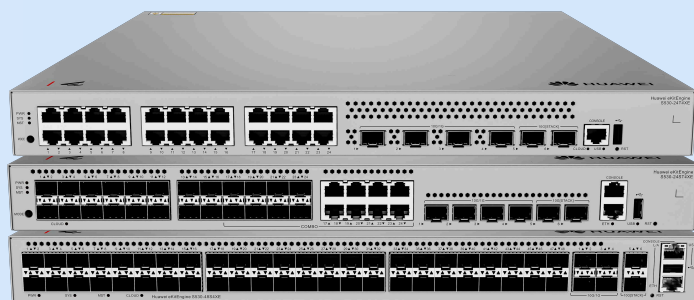HUAWEI eKit

Huawei eKitEngine S530 Series Switches Datasheet

Enhanced Layer 3 Core Switches

Make SME Network Easier and Smarter

HUAWEI

Introduction

eKitEngine S530 series switches are developed based on next-generation high-performing hardware and software platform. eKitEngine S530 switches support simplified operations and maintenance (O&M), and flexible Ethernet networking. It also provides enhanced Layer 3 features and mature IPv6 features. eKitEngine S530 switches can be used in various scenarios. For example, it can be used as an access or aggregation switch on a campus network or as an access switch for Metropolitan Area Network.

Product Overview

Models and Appearances

The following models are available in the eKitEngine S530 series.

Models and appearances of the eKitEngine S530 series

Models	Appearances	Description
eKitEngine S530-24T4XE		• 24 x 10/100/1000Base-T ports, 4 x 10 GE SFP+ ports, 2 x 10 GE stack ports • 1+1 power supply backup • Forwarding performance: 132 Mpps • Switching capacity: 176 Gbps
eKitEngine S530-24ST4XE		• 24 x GE SFP ports, 8 of which are dual-purpose 10/100/1000 or SFP, 4 x 10 GE SFP+ ports, 2 x 10 GE stack ports • 1+1 power supply backup • Forwarding performance: 132 Mpps • Switching capacity: 176 Gbps
eKitEngine S530-48S4XE		• 48 x GE SFP ports, 4 x 10 GE SFP+ ports, 2 x 10 GE stack ports • 1+1 power supply backup • Forwarding performance: 168 Mpps • Switching capacity: 224 Gbps

Product Features and Highlights

Powerful Service Processing Capability

• eKitEngine S530 series switches support a broad set of Layer 2/Layer 3 multicast protocols, such as PIM SM, PIM DM, PIM SSM, and IGMP snooping. This capability is ideal for high-definition video backhaul and video conferencing access.

• eKitEngine S530 series switches provide multiple Layer 3 features including OSPF, IS-IS, BGP, and VRRP, meeting enterprises' access and aggregation service needs and enabling a variety of voice, video, and data applications.

Flexible Ethernet Networking

• In addition to traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), eKitEngine S530 series switches support the latest Ethernet Ring Protection Switching (ERPS)

standard in the industry. ERPS is defined in ITU-T G.8032. It provides millisecond-level protection switching based on traditional Ethernet MAC and bridging functions.

- eKitEngine S530 series switches support the Smart Link function, which implements backup of uplinks. One switch can connect to multiple aggregation switches through multiple links, significantly improving reliability of access devices.

Multiple Security Control Mechanisms

- eKitEngine S530 series switches support MAC address authentication, 802.1X authentication, and implements dynamic delivery of policies (VLAN, QoS, and ACL) to users.

- eKitEngine S530 series switches provide a series of mechanisms to defend against DoS attacks and user-targeted attacks. DoS attacks are targeted at switches and include SYN flood, Land, Smurf, and ICMP flood attacks. User-targeted attacks include bogus DHCP server attacks, IP/MAC address spoofing, DHCP request flood, and changing of the DHCP CHADDR value.

- eKitEngine S530 series switches set up and maintains a DHCP snooping binding table, and discards the packets that do not match the table entries. The DHCP snooping trusted port feature ensures that users connect only to the authorized DHCP server.

- eKitEngine S530 series switches support strict ARP learning, which protects a network against ARP spoofing attacks to ensure that users can connect to the Internet normally.

Multiple Reliability Mechanisms

- eKitEngine S530 series switches are equipped with two pluggable power modules that work in 1+1 redundancy backup mode. Mixed installation of AC and DC power modules is supported, allowing for flexible configuration of AC or DC power modules according to service requirements.

- In addition to supporting traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), eKitEngine S530 series switches are also designed with the industry's latest Ethernet Ring Protection Switching (ERPS) technology. This protocol is reliable, easy to maintain, and implements fast protection switching within 50 ms. ERPS is defined in ITU-T G.8032, and it implements millisecond-level protection switching based on traditional Ethernet MAC and bridging functions.

- eKitEngine S530 series switches support Smart Link, which implements backup of uplinks. One eKitEngine S530 series switch can connect to multiple aggregation switches through multiple links, significantly improving reliability of access devices.

Easy Network deployment

- eKitEngine S530 series switches support Huawei Easy Operation, a solution that provides zero-touch deployment, replacement of faulty devices without additional configuration, USB-based deployment, batch device configuration, and batch remote upgrade. The capabilities facilitate device deployment, upgrade, service provisioning, and other management and maintenance operations, and also greatly reduce O&M costs. eKitEngine S530 series switches can be managed using eKit APP, SNMP v1/v2c/v3, CLI, web-based network management system, or SSH v2.0. Additionally, it supports RMON, multiple log hosts, port traffic statistics collection, and network quality analysis, which facilitate network optimization and reconstruction.

Mature IPv6 Technologies

- eKitEngine S530 series switches use the mature, stable platform and supports IPv4/IPv6 dual stack, IPv6 RIPng.

- eKitEngine S530 series switches can be deployed on a pure IPv4 network, a pure IPv6 network, or a shared IPv4/IPv6 network, helping achieve IPv4-to-IPv6 transition.

Intelligent Stack (iStack)

- eKitEngine S530 series switches supports intelligent stack (iStack). This technology combines multiple switches into a logical switch. Member switches in a stack implement redundancy backup to improve device reliability and use inter-device link aggregation to improve link reliability.

- iStack provides high network scalability. You can increase ports, bandwidth, and processing capacity of a stack by simply adding member switches to the stack.

- iStack also simplifies device configuration and management. After a stack is set up, multiple physical switches are virtualized into one logical device. You can log in to any member switch in the stack to manage all the member switches in the stack. eKitEngine S530 series switches support stacking through electrical ports.

Smart Upgrade

- eKitEngine S530 series switches support the intelligent upgrade feature. Specifically, eKitEngine S530 series switches obtain the version upgrade path and downloads the newest version for upgrade from the Huawei Online Upgrade Platform (HOUP). The entire upgrade process is highly automated and achieves one-click upgrade. In addition, preloading the version is supported, which greatly shortens the upgrade time and service interruption time.

- The intelligent upgrade feature greatly simplifies device upgrade operations and makes it possible for the customer to upgrade the version independently. This greatly reduces the customer's maintenance costs. In addition, the upgrade policies on the HOUP platform standardize the upgrade operations, which greatly reduces the risk of upgrade failures.

Cloud Management

- Huawei eKit app allows users to configure, monitor, and inspect switches on the cloud, reducing onsite deployment and O&M manpower costs and decreasing network OPEX.

- eKitEngine S530 series switches support both cloud management and on-premise management modes. These two management modes can be flexibly switched as required to achieve smooth evolution while maximizing return on investment (ROI).

Product Specifications

Item	S530-24T4XE	S530-24ST4XE	S530-48S4XE
Switching capacity	176Gbps	176Gbps	224Gbps
Packet forwarding	132Mpps	132Mpps	168Mpps
Fixed port	24 x 10/100/1000Base-T ports, 4 x 10 GE SFP+ ports, 2 x 10 GE stack ports	24 x GE SFP ports, 8 of which are dual-purpose 10/100/1000 or SFP, 4 x 10 GE SFP+ ports, 2 x 10 GE stack ports	48 x GE SFP ports, 4 x 10 GE SFP+ ports, 2 x 10 GE stack ports
MAC address table	32K MAC entries(MAX)	32K MAC entries(MAX)	32K MAC entries(MAX)
Chassis dimensions (H x W x D)	43.6 mm x 442.0 mm x 420.0	43.6 mm x 442.0 mm x 420.0 mm	43.6 mm x 442.0 mm x 420.0 mm
Chassis height	1U	1U	1U
Weight in full onfiguration (including packaging materials)	8.7 kg (19.18 lb)	8.0 kg (17.64 lb)	8.3 kg (18.3 lb)
Power module type	80 W AC power modules 180 W AC power modules 1200 W DC power modules	80 W AC power modules 1200 W DC power modules	80 W AC power modules 180 W AC power modules 1200 W DC power modules
Rated input voltage	AC input: 100 V AC to 240 V AC; 50/60 Hz High-voltage DC input: 240 V DC DC input: −48 V DC to −60 V DC	AC input: 100 V AC to 240 V AC; 50/60 Hz High-voltage DC input: 240 V DC DC input: −48 V DC to −60 V DC	AC input: 100 V AC to 240 V AC; 50/60 Hz High-voltage DC input: 240 V DC DC input: −48 V DC to −60 V DC
Input voltage range	AC input: 90 V AC to 290 V AC; 45–65 Hz High-voltage DC input: 190 V DC to 290 V DC	AC input: 90 V AC to 290 V AC; 45–65 Hz High-voltage DC input: 190 V DC to 290 V DC	AC input: 90 V AC to 290 V AC; 45–65 Hz High-voltage DC input: 190 V DC to 290 V DC

Item	S530-24T4XE	S530-24ST4XE	S530-48S4XE
	DC input: -38.4 V DC to -72 V DC	DC input: -38.4 V DC to -72 V DC	DC input: -38.4 V DC to -72 V DC
Maximum power consumption	33.10 W (with two 80 W AC power modules) 45.75 W (with two 180 W AC power modules) 85.20 W (with two 1200 W DC power modules)	48.70 W (with two 80 W AC power modules) 85.78 W (with two 180 W AC power modules)	96.40 W (with two 80 W AC power modules) 104.70 W (with two 180 W AC power modules) 130.05 W (with two 1200 W DC power modules)
Noise	Sound power at normal temperature: 47 dB (A) Sound pressure at normal temperature: 35 dB (A)	Sound power at normal temperature: 38.1 dB (A) Sound pressure at normal temperature: 26.1 dB (A)	Sound power at normal temperature: 43.8 dB (A) Sound pressure at normal temperature: 31.8 dB (A)
Long-term operating temperature	-5°C to +50°C	-5°C to +50°C	-5°C to +50°C
Storage temperature	–40°C to +70°C	–40°C to +70°C	–40°C to +70°C
Relative humidity	5% RH to 95% RH (non-condensing)	5% RH to 95% RH (non-condensing)	5% RH to 95% RH (non-condensing)
Power port surge protection	Differential mode: ±6 kV Common mode: ±6 kV	Differential mode: ±6 kV Common mode: ±6 kV	Differential mode: ±6 kV Common mode: ±6 kV
Heat dissipation mode	Air cooling, intelligent fan speed adjustment	Air cooling, intelligent fan speed adjustment	Air cooling, intelligent fan speed adjustment

Service Features

Feature	Description
MAC address table	32K MAC address entries at maximum Automatic MAC address learning and aging Static, dynamic, and blackhole MAC address entries Source MAC address filtering Limitation on the number of MAC addresses learned by an interface
VLAN features	4094 VLANs Voice VLAN MUX VLAN Basic QinQ & Selective QinQ
Ethernet switching	Smart Link tree topology and Smart Link multi-instance, providing millisecond-level protection switchover ERPS (G.8032) STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s) BPDU protection, root protection, and loop protection LLDP

Feature	Description
Multicast	PIM DM, PIM SM, PIM SSM IGMP v1/v2/v3, IGMP v1/v2/v3 snooping, MLD Snooping and IGMP fast leave Multicast load balancing among member ports of a trunk Port-based multicast traffic statistics Multicast VLAN
IP routing	Static route, RIPv1/v2, RIPng, OSPF, OSPFv3, IS-IS, IS-ISv6, BGP, BGP4+, ECMP, VRRP, VRRP6 Routing Policy, Policy-Based Routing
IPv6 features	ND（Neighbor Discovery） Path MTU (PMTU) IPv6 ping, IPv6 tracert, and IPv6 Telnet
QoS/ACL	Rate limiting on packets sent and received by a port Packet redirection Port-based traffic policing and two-rate three-color CAR Eight queues on each port DRR、SP and DRR+SP queue scheduling algorithms Re-marking of the 802.1p priority and DSCP priority Packet filtering at Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, TCP/UDP port number, protocol type, and VLAN ID Rate limiting in each queue and traffic shaping on ports
Security	Hierarchical user management and password protection DoS attack defense, ARP attack defense, and ICMP attack defense Binding of the IP address, MAC address, port number, and VLAN ID Port isolation, port security, and sticky MAC Blackhole MAC address entries Limit on the number of learned MAC addresses IEEE 802.1x authentication and limit on the number of users on a port AAA authentication, RADIUS authentication, HWTACACS authentication, and NAC SSH v2.0 HTTPS CPU defense Blacklist and whitelist IEEE 802.1x authentication, MAC address authentication DHCPv4 client/relay/server/snooping DHCPv6 client/relay/snooping
Management and maintenance	iStack Cloud management based on Netconf/Yang

Feature	Description
	Virtual cable test
	SNMP v1/v2c/v3
	RMON
	Web-based NMS
	System logs and alarms of different levels
	Port mirroring
	Registration Center Deployment
Interoperability	VBST, working with PVST, PVST+, and RPVST

More Information

For more information about Huawei switches, visit https://e.huawei.com/ or contact Huawei's local sales office.

Alternatively, you can contact us through one of the following methods:

- Global branches: https://e.huawei.com/en/service-hotline
- Enterprise technical support website: https://support.huawei.com/enterprise/
- Service email address for enterprise users: support_e@huawei.com