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## ??????????? (Switch, ????? ECS451012PD) L2 ECS4510-12PD Edge-Core



L2 8x10/100/1000+2xSFP+2xSFP (PD&PSE)

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### Physical Ports

- 8 Gigabit Ethernet RJ-45 ports (ports 1~8)
- 2 Gigabit Ethernet RJ-45 uplink ports (ports 9~10)
- 2 Gigabit SFP ports for fiber uplinks (ports 11~12)
- Ports 1~ 8 support PoE as a powered device compliant with 802.3at
- Port 10 supports PoE as power sourcing equipment compliant with 802.3af
- 1 RJ-45 console port

### Performance

- Switching Capability: 24 Gbps
- Forwarding Rate: 17.9 Mpps
- MAC Address Table: 16 K
- Flash: 32 MByte
- SDRAM: 128 MByte

### L2 Features

Auto-negotiation for port speed and duplex mode Flow Control:

- IEEE 802.3x for full-duplex mode
- Back-pressure for half-duplex mode

Spanning Tree Protocol:

- IEEE 802.1D Spanning Tree Protocol (STP)
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
- BPDU Guard
- BPDU filtering
- Root Guard

Vlans:

- Supports 4K IEEE 802.1Q VLANs
- Port-based VLANs
- GVRP
- Mac-based VLANs
- Private VLAN (Traffic Segmentation per port)
- Support Q-in-Q
- Support MVR

Link Aggregation:

- Static Trunk
- IEEE 802.3ad Link Aggregation Control Protocol
- 2~8 port/trunk
- Up to 6 trunk groups

IGMP Snooping:

- IGMP v1/v2/v3 snooping
- IGMP Proxy
- IGMP Filtering
- IGMP Throttling
- IGMP Immediate Leave
- Supports jumbo frames up to 10 K

**IPv6 Features**

- IPv4/IPv6 dual protocol stack
- IPv6 Address Type Stack: Unicast
- IPv6 Neighbor Discovery
- Stateless auto configuration
- Manual configuration
- SNMP over IPv6
- HTTP over IPv6
- SSH over IPv6
- IPv6 Telnet
- IPv6 DNS Resolver
- IPv6 Syslog
- IPv6 SNTP
- IPv6 TFTP Remote
- IPv6 ACL

**QoS Features**

- Priority Queues: 4 hardware queues per port
- Traffic classification based on IEEE 802.1p CoS, IP Precedence, DSCP,
- TCP/UDP port number
- Supports WRR and Strict scheduling
- Rate Limiting (Ingress and per port base)
- DiffServ Marking/Remarking

**Security Features**

- User/Password protected system management terminal (Telnet ,Web)
- Support L2/L3/L4 access control list (512 rules, extended mode 256 rules.)
- RADIUS AAA
- TACACS AAA
- TACACS+3.0
- SSH v1.5/v2.0(Secured Telnet session)
- HTTPS/SSL
- IEEE 802.1x port-based security
- MAC Based Authentication
- IP source guard
- Security(drop or copy) for multiple packet types
- Ethernet Type II
- IEEE 802.1q
- MAC address
- SA/DA MAC address

- IEEE 802.1p /D priority
- Ethernet type field
- TCP/UDP port numbers
- SA/DA IP address
- Protocol
- EXtented Ipv6 ACL

## Management

Switch Management:

? CLI via console port or Telnet

? Web management

? SNMP v1, v2, v3

Firmware and Configuration:

? Firmware upgrade via TFTP server

? Supports dual image

? Supports auto configuration provision

? Supports auto firmware upgrade

? Multiple configuration files

? Configuration file upload/download via TFTP server

Supports RMON (groups 1, 2, 3 and 9)

Supports BOOTP, DHCP client for IP address assignment

Supports DHCP snooping

Supports SNTP (RFC 2030)

Supports IP clustering up to 36 switches

Event/error log, Syslog

Support Public and private MIB

Supports LLDP (802.1ab)

Supports IPv6 management

## Power Supply

- DC Power Input 48 VDC, 0.65 A

## Mechanical

- Dimensions: 180 x 165 x 37.5 (mm) (W x D x H)
- Weight: 0.69 kg (1.52 lb)
- 19" Rack Space

## Safety

- UL 60950-1 CB (IEC60950-1)

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