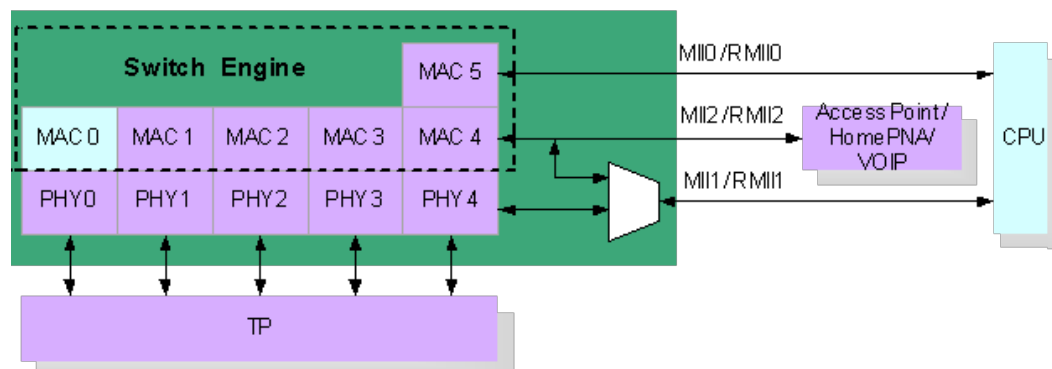


## ETHERNET PRODUCTS

### IP175D 5Port 10/100 Ethernet Integrated Switch (Policy-based QoS, Layer 2-4 MF Classifier, HW IGMP Snooping)



#### General Description :

IP175D integrates a 6-port switch controller, SSRAM, and 5 10/100 Ethernet transceivers. Each of the transceivers complies with the IEEE802.3, IEEE802.3u, and IEEE802.3x specifications. The DSP approach is utilized for designing transceivers with 0.16um technology; they have high noise immunity and robust performance.

IP175D operates in store and forward mode. IP175D have a lot of rich feature for different application, include router application, firewall, IEEE 802.1Q, IGMP snooping, policy-based QoS. It provides powerful QoS function, include traffic policy, traffic meter, and flexible queue scheduling (WRR/WFQ/SP). In virtual LAN, IP175D support port-based VLAN and IEEE 802.1Q tag-tagged VLAN (up to 16 VLAN groups).

IP175D support up to 2K MAC addresses, up to 16 VLANs and up to 8 Multi-Field entries. These tables are accessible through MII register. The address table can configure either "2K unicast addresses" or "1K unicast addresses and 1K multicast addresses". The Multi-Field classification is powerful classifier (layer2 to layer 4 packet headers) in packet classification. The classifier divides incoming packets into multiple classes based on prescribed rules. Each traffic class from classifier can drop out-of-profile packets, monitor traffic, specify forwarding behavior, and specify output queue.

Beside a 5-port switch application, IP175D supports three MII/RMII ports for router application, one WAN port and one HOME/PNA or Access point. The external MAC can monitor or configure IP175D by accessing MII registers through SMI0.

MII/RMII port also can be configured to be MAC mode. It is used to interface an external PHY to work as 5+1 switch. Through SMI1 IP175D can monitor and configure external PHY

#### Feature :

- Built in 6 MAC and 5 PHY
- Each port can be configured to be 10Base-T, 100Base-TX
- Up to 2K MAC address

- Support auto-polarity for 10Mbps
- Broadcast storm protection
- Auto MDI-MDIX
- Support three MII/RMII ports
- Layer2-4 Multi-Field classifier
  - Support 8-MultiField entry
  - Support traffic policy
  - Support Multi-Filed filter
  - Support copy to mirror port
  - Support trap to CPU port
- Class of Service
  - Port based, MAC address, VID, VLAN priority, IPv4 ToS, IPv6 DSCP,TCP/UDP logical port and Multi-Field
- QoS
  - Support policy-based QoS
  - Support 4-level priority queues per port
  - WRR/WFQ/SP
- Support hardware IGMP v1,v2 snooping
- Support Port mirror
- Support 16 VLAN (IEEE Std 802.1q)
  - Port-based/tagged-based VLAN
  - Shared VLAN Learning/Independent VLAN Learning (SVL/IVL)
  - Support insert, remove tag
  - Support VLAN priority remarking
- Support STP, RSTP and MSTP
- Support port-based access control
- Supports rate control
  - In/Out port rate control
  - Traffic Policy
  - WFQ
- Interrupt Pin
- Support special tag
- Support double tag header
- Support Link quality LED for 100Mbps
- Support direct, serial and dual color LED
- Built in Linear regulator control register
- Low power consumption
- 0.16um, 128-pin PQFP Lead Free package

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