

Overview

HPE 6127XLG Blade Switch

Today's complex data centers require a demanding networking infrastructure. It all starts at the edge and that's where the HPE 6127XLG Ethernet Blade Switch excels. The HPE 6127XLG Switch is designed to support virtualized server environments with exceptional bandwidth of 20Gb to each and every server, while providing a mix of 40Gb and 10Gb links (with an astounding aggregate of 240Gb) to the core network. Combined with hardware support for VXLAN encapsulation, this provides the perfect switch for Private/Public/Hybrid Cloud applications. Enterprise customers will not be disappointed with the HPE 6127XLG which also provides a converged fabric solution that supports Ethernet, iSCSI, Fibre Channel over Ethernet (FCoE), and Fibre Channel Forwarder (FCF) protocols that enables connectivity for multiple storage topologies. The HPE 6127XLG supports the HPE Software-defined Network (SDN) ecosystem that delivers simple, open, and Enterprise ready benefits to automate the data center network. With support for IETF industry standard TRILL (Transparent Interconnection of Lots of Links) and SPB (Shortest Path Bridging), the HPE 6127XLG delivers loop free large Layer 2 networks with multi-path support. Using The Hewlett Packard Enterprise Intelligent Resilient Framework, (IRF) multiple switches can be virtualized and managed as a single entity with The Hewlett Packard Enterprise Intelligent Management Center (IMC). A full complement of Layer 2/3 protocols and the latest in network security features round out this most capable of blade switches.

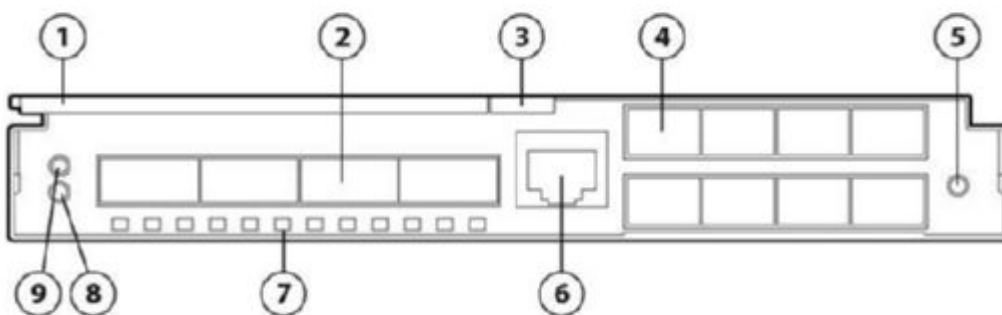


Figure 1 HPE 6127XLG Blade Switch

- | | |
|---------------------------------|----------------------|
| 1. Ejector Lever | 6. Console port |
| 2. Four (4)x 40Gb (QSFP+) ports | 7. Port LED |
| 3. Release tab | 8. Health LED |
| 4. Eight (8)x 10Gb (SFP+) ports | 9. Unit ID (UID) LED |
| 5. Reset button | |

Models

HPE 6127XLG Ethernet Blade Switch

787635-B21

Compatibility

HPE ProLiant Servers HPE ProLiant BL460c Gen9
HPE ProLiant BL660c Gen9

Overview

HPE ProLiant BL420c Gen8
HPE ProLiant BL460c Gen8
HPE ProLiant BL465c Gen8
HPE ProLiant BL660c Gen8
HPE ProLiant BL460 G7
HPE ProLiant BL465 G7
HPE ProLiant BL490 G7
HPE ProLiant BL620 G7
HPE ProLiant BL680 G7
HPE ProLiant BL685 G7

NOTE: Some servers listed above may be discontinued.

HPE Integrity Servers

HPE Integrity BL860c i2 Server Blade
HPE Integrity BL860c i4 Server Blade
HPE Integrity BL870c i2 Server Blade
HPE Integrity BL870c i4 Server Blade
HPE Integrity BL890c i2 Server Blade
HPE Integrity BL890c i4 Server Blade
HPE Integrity Superdome 2

NOTE: Some servers listed above may be discontinued.

ProLiant BL c-Class Server Blade Enclosures

HPE BladeSystem c7000 Enclosure

Standard Features

Standard Features

Performance

- 240Gb uplink bandwidth / 320Gb available server side bandwidth
- Dedicated 4x10Gb internal cross link ports between adjacent switches
- Non-blocking architecture
- Wire-speed switching and IPv4/IPv6 routing on all ports
- Supports FCoE N-Port Virtualization (NPV) and Fibre Channel Forwarder (FCF) modes
- Combine up to 8 switches into a single virtual switch using IRF II
- FCF provides a direct attach capability which allows attachment of 3PAR storage array FCoE ports directly to the switch
- QSFP+ ports support 4 x 10Gb with optional breakout cable
- SFP+ ports support either 1Gb or 10Gb depending on module inserted
- Any uplink or cross connect port can be used for IRF connections
- Cut-through switching
- Hardware-based wire-speed access control lists (ACLs)
- Data Center Bridging (DCBX)
- Support for VEPA (IEEE 802.1Qbg)
- Support for VXLAN (RFC 7348)

Management

- Remote configuration and management CLI
- Standards-based SNMP management via SNMPv1, v2c and v3
- Out of band management via Onboard Administrator
- HPE IMC Virtual Application Networking Fabric Manager
- Virtual Application Network (VAN)
- SDN with OpenFlow 1.3
- RJ45 console port
- HTTPS Web based management
- sFlow
- Manager and operator privilege levels
- Command authorization via RADIUS
- Complete session logging for problem resolution
- LLDP Discovery protocol
- IPv6 management
- Multiple flash images
- Multiple configuration files
- Syslog
- Network Time Protocol (NTP)

Security

- IEEE 802.1X user authentication
- MAC-based authentication with RADIUS server
- Access Control Lists (ACLs)
- Secure FTP
- STP Root Guard
- DHCP Protection from unauthorized DHCP servers
- IP Source Guard
- Dynamic ARP protection to prevent eavesdropping
- Endpoint Admission Defense (EAD)
- RADIUS/TACACS+
- Secure management via SSHv2 and SNMPv3
- Unicast Reverse Path Forwarding (URPF)

Standard Features

- Monitor link and Smart link
 - IPsec
 - IKE (Internet Key Exchange)
 - Disable password recovery
-

Layer 2 Switching

- 128K MAC addresses
 - 4094 VLANs
 - IEEE 802.1ad QinQ VLANs
 - Per VLAN Spanning Tree (PVST+)
 - Private VLANs (PVLAN)
 - Multicast VLAN Registration Protocol (MVRP)
 - Jumbo frame support
 - Port Aggregation
 - Spanning Tree Protocol, MSTP, RSTP, STP Root Guard
 - IP Multicast Snooping and data-driven IGMP
 - Transparent Interconnect of Lots of Links (TRILL)
 - Shortest Path Bridging (SPB)
 - Multiple Label Switching (MPLS)
 - Virtual Private LAN Service (VPLS)
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Layer 3 Routing

- IPv4 routing protocols - static routes, RIP, OSPF and BGP
 - IPv6 routing protocols - static routes, RIPng, OSPFv3 and BGP+
 - IPv6 tunneling
 - IP Multicast - PIM-SSM, PIM-DM, PIM-SM, IGMP for IPv4 and IPv6
 - Equal-Cost Multipath (ECMP)
 - Policy-based routing
 - DHCP and DHCPv6 client
 - VRRP
 - VXLAN
-

Quality of Service (QoS)

- Advanced classifier-based QoS (with eight queues) - classifies traffic using multiple match criteria based on Layer 2, 3 and 4 information and applies QoS policies such as priority level and rate limit to selected traffic on a per-port or per-VLAN basis
 - Traffic policing - supports Committed Access Rate (CAR) and line rate
 - Powerful QoS feature - creates traffic classes based on access control lists (ACL), IEEE 802.1p precedence, IP, DSCP or Type of Service (ToS) precedence; supports filter, redirect, mirror or remark; supports the following congestion actions: strict priority (SP) queuing, weighted round robin (WRR), weighted fair queuing (WFQ), and weighted random early discard (WRED)
 - Storm restraint - allows limitation of broadcast, multicast, and unknown unicast traffic rate to cut down on unwanted broadcast traffic on the network
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Resiliency and High Availability

- Intelligent Resilient Framework (IRF) - Creates virtual resilient switching fabrics, up to eight 6127XLG switches acting as a single Layer 2/3 switch; Switches do not have to be co-located and can be part of a disaster recovery system; Servers or switches can be attached using standard LACP for automatic load balancing and high availability; Simplifies network operation by eliminating Spanning Tree, ECMP and VRRP.
 - Device Link Detection Protocol (DLDP) - Monitors Link connectivity and shuts down ports at both ends if unidirectional traffic is detected
 - Virtual Router Redundancy Protocol (VRRP)
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Standard Features

Monitoring and Diagnostics

- OAM (802.3ah) - Detects data link layer problems in the "last mile"; monitors link status between two devices
- CFD (802.1ag) - Connectivity Fault Detection (CFD) provides L2 link OAM mechanism used for link connectivity detection and fault location
- Mirroring - Port mirroring enables traffic on a port to be simultaneously sent to a network analyzer for monitoring; Flow-based mirroring

Service and Support

Service and Support

HPE Technology Services

When you buy HPE BladeSystem Options for your HPE BladeSystem, it is also good time to think about services. HPE Technology Services offers you technical consultants and support expertise to solve your most complex infrastructure problems, giving you one call to make, fast answers, and global reach. We help keep your business running, boost availability, and avoid downtime.

Protect your business beyond warranty with HPE Pointnext operational services

HPE Pointnext operational services provide total care and support expertise with committed response choices designed to meet your IT and business needs.

HPE Foundation Care services offer scalable, reactive support-packages for Hewlett Packard Enterprise industry-standard servers and software. You can choose the type and level of service that is most suitable for your IT and business needs. HPE Collaborative Support offers hardware and basic software support with enhanced call management. If you are running business critical environments, Hewlett Packard Enterprise offers Proactive Care. This service helps you deliver high levels of system availability through proactive service management and advanced technical response.

Recommended HPE Pointnext operational services for your HPE product

Optimized Care 3- Year HPE Foundation Care CTR

HPE Foundation Care Call-To-Repair Service connects you to HPE around the clock for assistance on resolving issues -this includes our commitment to repair hardware within six hours after opening your case and response to software questions within two hours.

<https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW>

HPE Installation of ProLiant Add On Options Service

This easy-to-buy, easy-to-use HPE Care Pack service helps ensure that your new Hewlett Packard Enterprise hardware is installed smoothly, efficiently, and with minimal disruption of your IT and business operations

Standard Care 3-Year HPE Foundation Care 24x7

HPE Foundation Care 24x7 connects you to HPE around the clock for assistance on resolving issues - hardware onsite response within four hours and software call back within two hours after opening your case.

<https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW>

HPE Installation of ProLiant Add On Options Service

This easy-to-buy, easy-to-use HPE Care Pack service helps ensure that your new Hewlett Packard Enterprise hardware is installed smoothly, efficiently, and with minimal disruption of your IT and business operations.

Related Services

HPE Installation and Startup Service for HPE BladeSystem c-Class Enhanced Network

Service and Support

Hewlett Packard Enterprise provides for the configuration and testing of BladeSystem Ethernet interconnect switches to facilitate proper implementation of network protocols and access to advanced features.

<https://www.hpe.com/h20195/V2/GetPDF.aspx/4aa0-5969ENW.pdf>

HPE Proactive Select Service

Provides a flexible way to purchase HPE best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months. <https://h20195.www2.hpe.com/v2/getpdf.aspx/4AA2-3842ENW.pdf>

NOTE: Additional HPE Pointnext operational services can be found at: <http://ssc.hpe.com>

Insight Online/Insight Remote Support

HPE Insight Remote Support provides 24 X 7 remote monitoring, proactive notifications, and problem resolution. This comes at no additional cost with your HPE solution. Learn more about [Insight Remote Support](#) and [Insight Online](#).

NOTE: Insight Remote Support is a prerequisite for HPE Proactive Care

HPE Support Center

Personalized online support portal with access to information, tools and experts to support Hewlett Packard Enterprise business products. Submit support cases online, chat with HPE experts, access support resources or collaborate with peers. Learn more <https://www.hpe.com/us/en/support.html>

The HPE Support Center Mobile App allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.

HPE Insight Remote Support and HPE Support Center are available at no additional cost with a HPE warranty, HPE Care Pack or Hewlett Packard Enterprise contractual support agreement.

NOTE: HPE Support Center Mobile App above is subject to local availability.

Parts and materials

Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

Service Coverage

The HPE 6127XLG includes 3-years hardware support with next business day onsite response during standard business hours. If you have requirements for longer durations of service, faster response times or more comprehensive support, HPE Pointnext operational services for the HPE 6127XLG are available to uplift or extend your coverage.

Service and Support

**For more
information**

To learn more about HPE BladeSystem services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized ServiceONE Channel Partner. Or visit: <http://www.hpe.com/services/bladesystem>

Related Options

SFP Options	HPE X120 1G SFP LC SX Transceiver	JD118B
	HPE X120 1G SFP LC LX Transceiver	JD119B
	HPE X125 1G SFP LC LH40 1310nm Transceiver	JD061A
	HPE X120 1G SFP LC LH40 1550nm Transceiver	JD062A
	HPE X125 1G SFP LC LH70 Transceiver	JD063B
	HPE X120 1G SFP RJ45 T Transceiver	JD089B

SFP+ Options	HPE X130 10G SFP+ LC SR Transceiver	JD092B
	HPE X130 10G SFP+ LC LRM Transceiver	JD093B
	HPE X130 10G SFP+ LC LR Transceiver	JD094B
	HPE X130 10G SFP+ LC ER 40km Transceiver	JG234A

QSFP+ Options	HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver	JG661A
	HPE X140 40G QSFP+ MPO SR4 Transceiver	JG325B
	HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver	JG709A
	HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver	JL251A

Direct Attach Cables	HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
	HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
	HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
	HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
	HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
	HPE FlexNetwork X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable	JG326A
	HPE FlexNetwork X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable	JG327A
	HPE FlexNetwork X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable	JG328A
	HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 1m Direct Attach Copper Splitter Cable	JG329A
	HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 3m Direct Attach Copper Splitter Cable	JG330A
	HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 5m Direct Attach Copper Splitter Cable	JG331A

Service and Support Offerings	Hardware Services On-site Service	
	HPE 3 year Foundation Care 24x7 6125XLG Blade Switch Service	U2HF2E
	HPE 3 year Foundation Care Call to Repair 6125XLG Blade Switch Service	U2HF4E
	Installation Services	
	HPE Installation of ProLiant Add On/In Options Service	UH745E
HPE BladSys c7000 Encd Network Startup Service	UE603E	

Related Options

NOTE: Additional HPE Pointnext operational services can be found at:
<http://ssc.hpe.com>

Technical Specifications

Shipping Dimensions	Length	11.54 in (293 mm)	
	Width	14.57 in (370 mm)	
	Height	3.54 in (95 mm)	
	Shipping Weight	2.1 kg (4.62 lbs)	
Product Specifications Hardware	Performance	1.2Tbps throughput 8x10Gb and 4x40Gb uplink ports 16x20Gb downlink (server) ports 4 x10Gbps cross-link ports	
	Forwarding rate	14.8 million pps per 10 Gig port 59.2 million pps per 40 Gig port	
		Non-blocking, full-wire speed for all connections Auto-MDI/MDIX, auto-negotiation and auto-sensing with full-duplex support.	
	Forwarding Mode	Store and forward/Cut Through	
	Latency	1us (store and forward mode)	
	MAC Addresses	Supports 128K MAC addresses per switch in a BladeSystem Enclosure	
	Forwarding Table Age Time (Maximum age)	10 to 1,000,000 seconds (default: 300 seconds)	
	VLAN IDs	4094	
	Jumbo Frame	10K Bytes	
	IGMP Groups	1024	
	Memory	2 GB Main, 512MB flash and 9MB packet buffer	
	Connectors and Cabling	Connector	4 QSFP+ (40Gb/4 x10Gb/IRF) 8 SFP+/SFP (1Gb/10Gb/IRF) 1 RJ45 Management
		Cable Support	FCC Class A ICES-003 Class A AS/NZS 3548 Class A VCCI Class A
Indicators	Module health, amber/green Module locator (UID), blue QSFP+ port link/activity, green SFP+ port link/activity, green		
Dimensions	Length	10.54 in (267.7 mm)	
	Width	7.59 in (192.8 mm)	
	Height	1.1 in (27.9 mm)	
		1.2	
Weight	2.0 kg (4.41 lbs)		

Technical Specifications

Environmental Ranges	Temperature Range	
	Operating	50° to 95° F (10° to 35° C)
	Non-operating	-40° to 158° F (-40° to 70° C)
	Relative Humidity (non-condensing)	Operating 10% to 90%
Power Specification	Power Requirements	95W

Standards Support

General protocols

IEEE 802.1ag Service Layer OAM
IEEE 802.1D MAC Bridges
IEEE 802.1p Priority
IEEE 802.1Q VLANs
IEEE 802.1Qbg Virtual Edge Bridging
IEEE 802.1s (MSTP)
IEEE 802.1v VLAN classification by Protocol and Port
IEEE 802.1w Rapid Reconfiguration of Spanning Tree
IEEE 802.1X PAE
IEEE 802.1AX / 802.3ad Link Aggregation Control Protocol (LACP)
IEEE 802.3ae 10 Gigabit Ethernet
RFC 768 UDP
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 854 TELNET
RFC 925 Multi-LAN Address Resolution
RFC 951 BOOTP
RFC 1058 RIPv1
RFC 1350 TFTP Protocol (revision 2)
RFC 1519 CIDR
RFC 1542 BOOTP Extensions
RFC 2131 DHCP
RFC 2453 RIPv2
RFC 3768 VRRP
RFC 4675 RADIUS VLAN & Priority
RFC 7348 VXLAN
802.1r GARP Proprietary Attribute Registration Protocol (GPRP)

FCoE

802.1Qaz DCBx
802.1Qaz ETS
802.1Qbb PFC
FIP Snooping
Fibre Channel Forwarder (FCF)
NPV mode

IP Multicast

RFC 2934 Protocol Independent Multicast MIB for IPv4
RFC 3376 IGMPv3 (host joins only)
RFC 3618 Multicast Source Discovery Protocol (MSDP)
RFC 3973 Draft 2 PIM Dense Mode

Technical Specifications

RFC 4601 PIM Sparse Mode

IPv6

RFC 4443 ICMPv6

RFC 4541 IGMP & MLD Snooping Switch

RFC 4861 IPv6 Neighbor Discovery

RFC 4862 IPv6 Stateless Address Auto-configuration

Layer 3

Static routes

RIP / RIPng

OSPF / OSPFv3

BGP / BGP+

IPv6 tunneling

PIM-SM

PIM-SSM

PIM-DM

IGMP

ECMP

Policy-based routing

DHCP and DHCPv6 client

MIBs

IEEE 8021ag CFM-MIB

IEEE 8021Q CFM-MIBv2

IEEE 8021AB LLDP-MIB

IEEE 8021AB LLDP-EXT-DOT1-MIB

IEEE 8021AB LLDP-EXT-DOT3-MIB

ANSI/TAA 1057 LLDP-EXT-MED-MIB

IEEE 8023 LAG-MIB

RFC 1213 MIB

RFC 1493 BRIDGE-MIB

RFC 2096 IP-FORWARD-MIB

RFC 2233 IF-MIB

RFC 2273 SNMP-NOTIFICATION-MIB

RFC 2571 SNMP-FRAMEWORK-MIB

RFC 2572 SNMP-MPD-MIB

RFC 2573 SNMP-TARGET-MIB

RFC 2674 P-BRIDGE-MIB

RFC 2674 Q-BRIDGE-MIB

RFC 3414 SNMP-USER-BASED-SM-MIB

RFC 3415 SNMP-VIEW-BASED-ACM-MIB

RFC 3417 SNMPv2-TM-MIB

RFC 3418 SNMPv2-MIB

RFC 3826 SNMP-USM-AES-MIB

RFC 4022 TCP-MIB

RFC 4044 FC-MGMT-MIB

RFC 4113 UDP-MIB

RFC 4133 ENTITY-MIB

RFC 4273 BGP4-MIB

RFC 4747 T11-FC-VIRTUAL-FABRIC-MIB

RFC 4750 OSPF-MIB

RFC 4750 OSPF-TRAP-MIB

Technical Specifications

RFC 4936 T11-FC-ZONE-SERVER-MIB
SFLOW-MIB (V5)

Safety and Compliance Safety Certifications

Complies with UL 60950-1, CAN/CSA C22.2 No. 60950-1 and EN 60950-1. UL certified.
CE Marking
RoHS 6/6 compliant

Electromagnetic Emissions Certifications FCC Part 15 Class A

FCC Part 15 Class A
EN 55022: 1998 (CISPR22)
EN 55024: 1998 (CISPR24)
VCCI Class A
AS/NZS 3548 Class A CE
CNS 13438 Class A MIC
MIC

Environment-friendly Products and Approach

End-of-life Management and Recycling

Hewlett Packard Enterprise offers end-of-life Hewlett Packard Enterprise product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to <http://www.hpe.com/info/recycle>. To recycle your product, please go to: <http://www.hpe.com/info/recycle> or contact your nearest Hewlett Packard Enterprise sales office. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site at: <http://www.hpe.com/info/recycle>. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

Summary of Changes

Date	Version History	Action	Description of Change
7-May-2018	Version 7	Changed	Overview and Service and Support sections were updated
		Removed	OBS SKU was deleted: 787636-B22
23-Oct-2017	Version 6	Changed	Care Pack naming and Service and Support-Parts and Materials updated.
05-Jun-2017	From Version 4 to 5	Changed	Technical Specifications section was updated.
26-May-2017	From Version 3 to 4	Changed	Match Product Bulletin version.
27-Jan-2017	From Version 2 to 3	Changed	Standard Features and Technical Specifications sections were updated.
05-Aug-2016	From Version 1 to 2	Changed	Sections in QuickSpecs were updated.



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