

July 2009



Ordering Information

ZL60505MKDB QSFP Transceiver

0°C to +70°C

Features

- QSFP MSA compatible
- Four independently addressable transmit and receive channels
- Highly compact: saving of 60% on edge and board usage compared to four comparable SFP modules
- Differential, internally AC-coupled data I/Os
- Electrically z-pluggable, allowing port population on demand
- Electrically hot-pluggable
- XFP-like latch mechanism for ease-of-insertion
- Digital Diagnostics Monitoring Interface. Allows customer management and monitoring of key modules parameters, analogous to SFP
- Optical connectivity via industry standard MPO/MTP terminated fiber ribbon

Applications

- High-speed interconnects within and between switches, routers and transport equipment
- Server-Server Clusters, Super-computing interconnections
- Proprietary backplanes
- Interconnects rack-to-rack, shelf-to-shelf, board-to-board, board-to-optical backplane
- XAUI over fiber-ribbon
- 2xGbE applications
- InfiniBand SDR applications

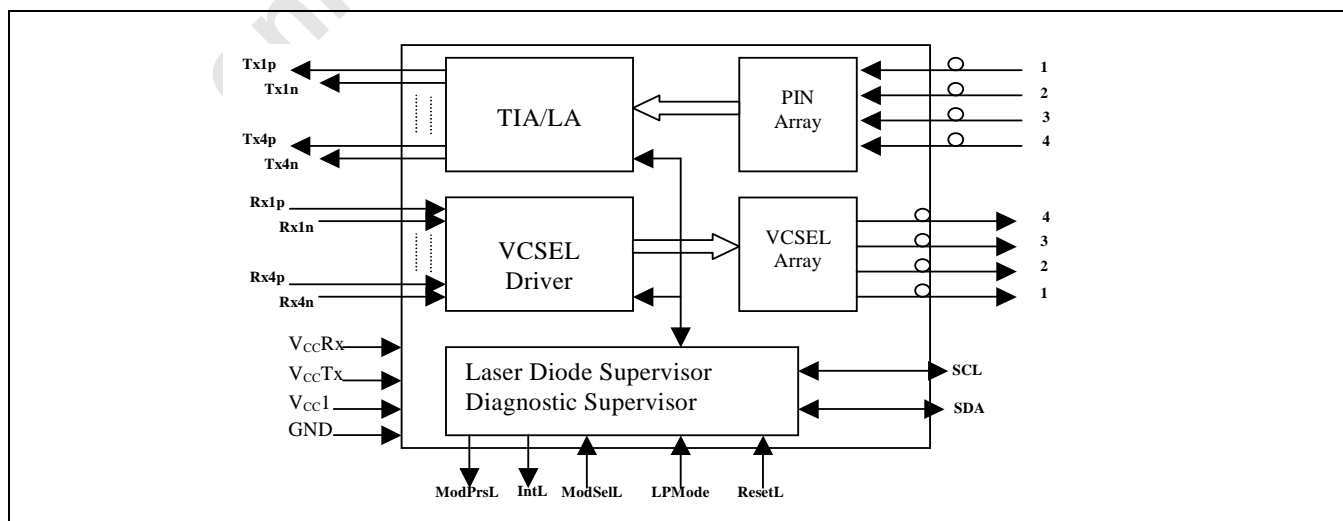


Figure 1 - ZL60505 QSFP Parallel Fiber Optic Transceiver

Description

Quad Small Form Factor Pluggable (QSFP) modules are the next generation of pluggable modules intended for high density applications. A QSFP module is a parallel fiber optical transceiver module with four independent optical transmit and receive channels. It combines the higher density attractions of parallel modules with some of the key advantages normally associated with SFP based modules.

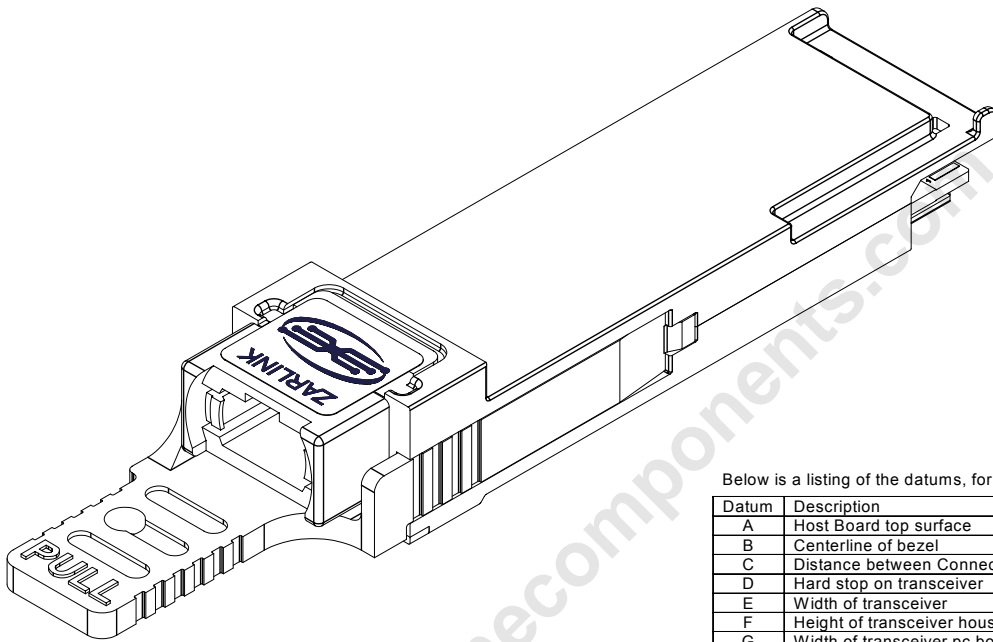
It is intended for use in switches, routers and data center applications where it provides:

- a saving of greater than 60% in edge and board density as compared to the use of four SFP modules. This allows the end-user to shrink system size and lower overall costs.
- simplified heat management through reduction in power consumption of > 50% compared to 4xSFP solution.
- z-axis electrically hot-pluggability allowing port population on demand and in the field. Utilises XFP-like latching mechanism into board mounted cage.
- a digital diagnostic monitoring interface similar to that used by SFP modules. This allows customer access to key module parameters as well as providing alarm and warning flags. This improves customer system management capability.

The QSFP also benefits from the existence of a multi-source agreement (MSA) which defines the mechanical form-factor, electrical pin-out and diagnostic management interface.

Reliability assurance is based on Telcordia GR-468-CORE and the parts are compliant to the EU directive 2002/95/EC issued 27 January 2003 [RoHS].





Below is a listing of the datums, for various components, referenced to in this document.

Datum	Description
A	Host Board top surface
B	Centerline of bezel
C	Distance between Connector terminal thru holes on host board
D	Hard stop on transceiver
E	Width of transceiver
F	Height of transceiver housing
G	Width of transceiver pc board
H	Leading edge of signal contact pads on transceiver pc board
J	Top surface of transceiver pc board
K	Host Board thru hole #1 to accept connector guide post
L	Host Board thru hole #2 to accept connector guide post
M	Width of bezel cut-out
X&Y	Host board horizontal and depth datum established by customers' fiducials

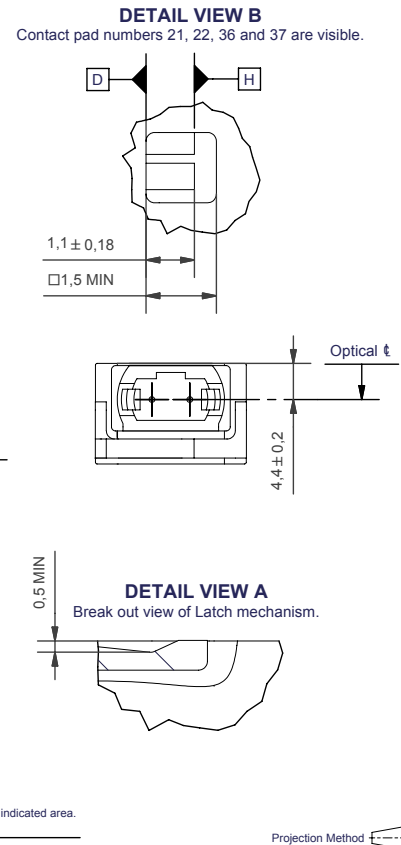
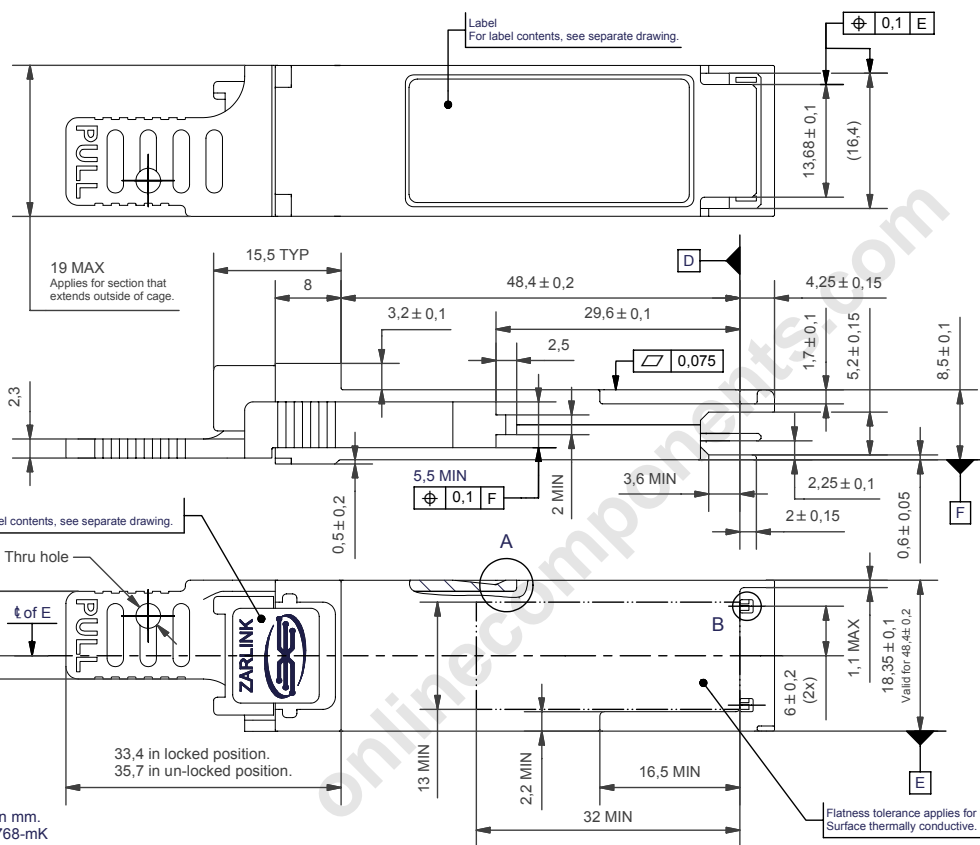
Projection Method

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ISSUE	1	2	3	
ACN	116641 Rev 1	116641 Rev 2	116641 Rev 3	116641 Rev 4
DATE	12-JUL-06	15-MAR-07	20-FEB-09	25-MAR-09
APPRD.	M.Andersson	M.Andersson	M.Andersson	M.Andersson



	Package code	MK
Previous package codes	Drawing type	QSFP Definition of datums
	Title	116641



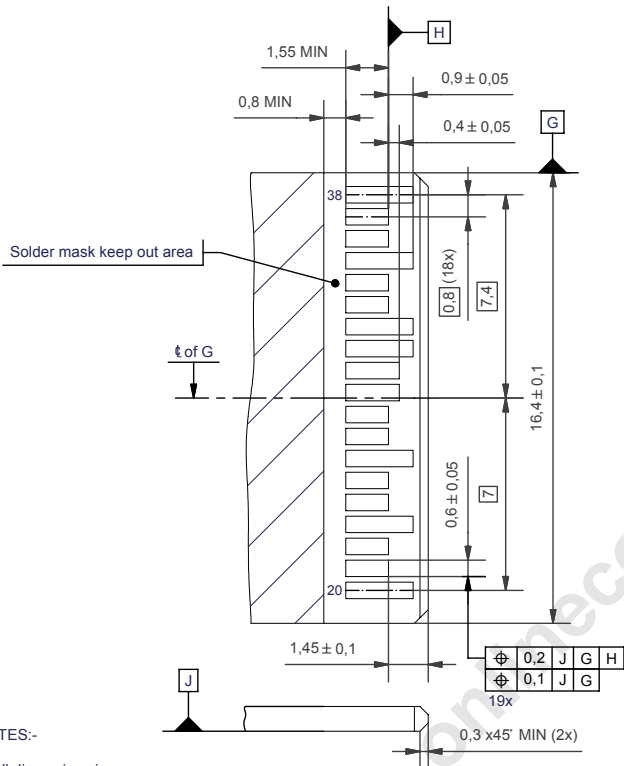
NOTES:-
1. All dimensions in mm.
2. Gen. tol. ISO-2768-mK

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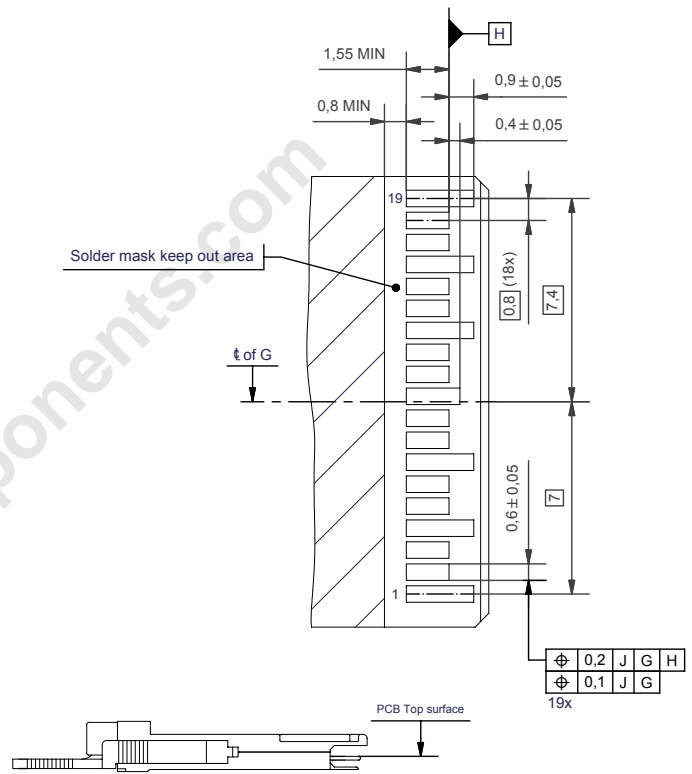


Package code	MK
Previous package codes	
Drawing type	QSFP Transceiver
Title	116641

TOP VIEW OF MODULE PCB



BOTTOM VIEW OF MODULE PCB



NOTES:-

1. All dimensions in mm.
2. Contact pad plating: 0.38 µm MIN Au over 1.27 µm MIN Ni.

Projection Method

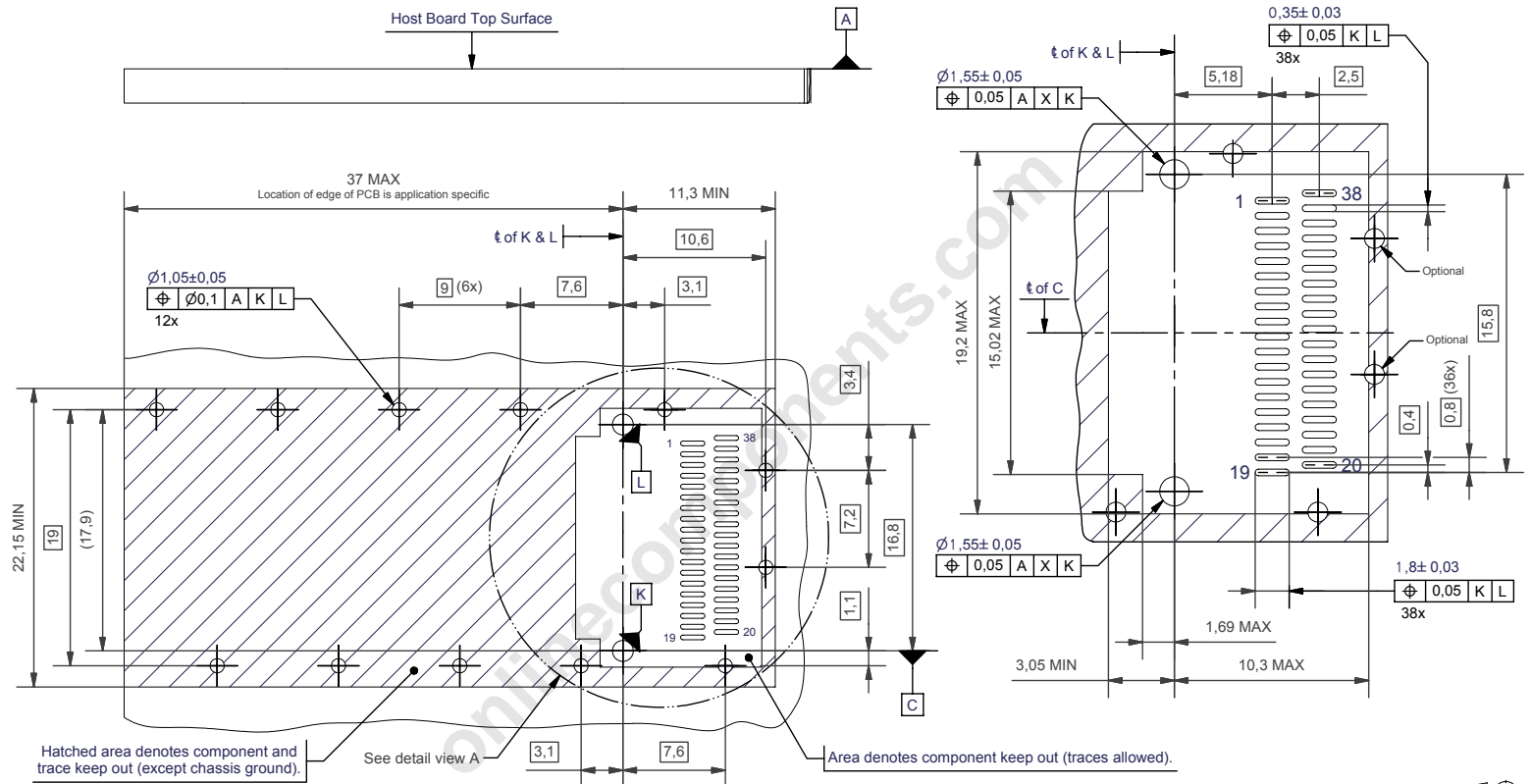
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APPRD.	M.Andersson	M.Andersson	M.Andersson	M.Andersson



Package code	MK
Previous package codes	
Drawing type	Pattern layout for QSFP PCB
Title	116641

NOTE:-
All dimensions in mm.

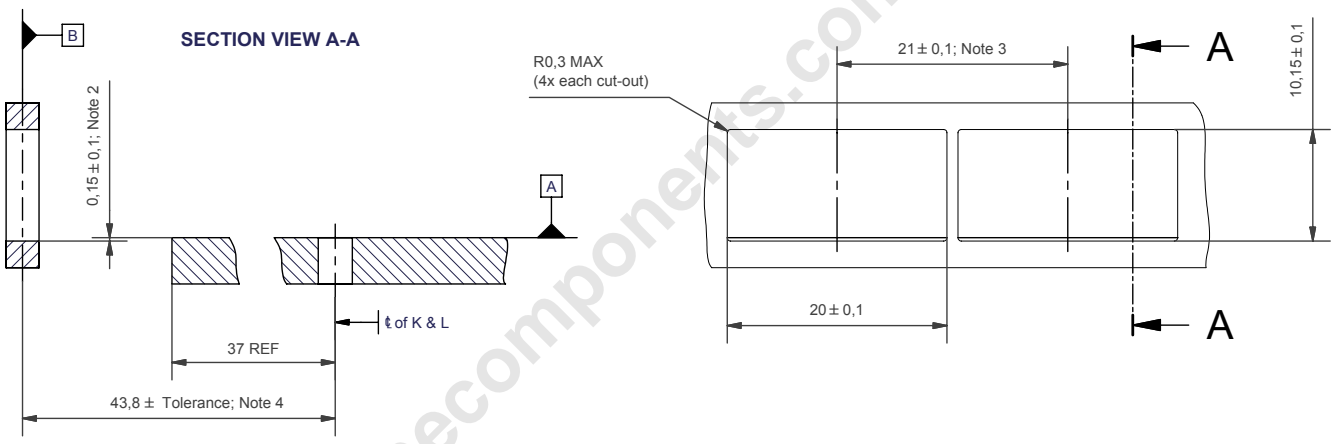


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APPRD.	M.Andersson	M.Andersson	M.Andersson	M.Andersson



Package code	MK
Previous package codes	
Drawing type	QSFP Host Mechanical Layout
Title	116641



NOTES:-

- 1. All dimensions in mm.
- 2. Not recommended for PCI add-in card application.
- 3. Calculation of tolerance = 1/2 x Bezel thickness + 0,3
- 4. Minimum pitch dimension for individual cages. For ganged (1-by-x) applications, the port spacing can be reduced to 19.0 MIN.

Projection Method

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ISSUE	1	2	3	4		Previous package codes	Drawing type	QSF P Recommended Bezel Design
ACN	116641 Rev1	116641 Rev2	116641 Rev3	116641 Rev4			Title	116641
DATE	12-JUL-06	15-MAR-07	20-FEB-09	25-MAR-09				
APPRD.	M.Andersson	M.Andersson	M.Andersson	M.Andersson				



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