



EXM32 Connector



Elastomeric Connector

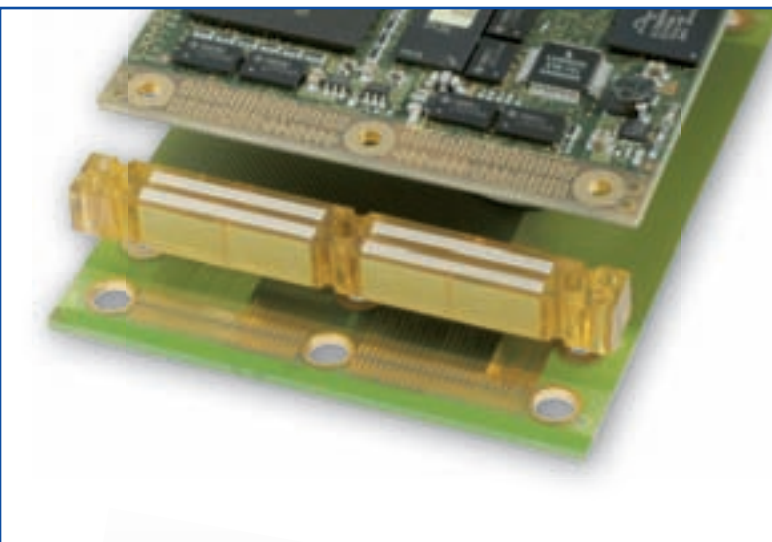
Single Piece Board-Stacking
Technology with unique Features Set

- stackable
- small outline
- 104 & 208 "pin" versions
- wide temperature range (-40° to + 105°C)
- shock & vibration resistant
- user defined flexible pin configuration
- no soldering required





Elastomeric Connector – 104 / 208 Pins



The revolutionary EXM32 single piece connector technology uses very reliable elastomeric contact elements in a robust shell. This is no plug and socket system, only one EXM32 connector element is used for every connector location. This allows for an easy preparation of system extensions without cost penalty.

The connection between two modules is established by compressing the contact elements in between two pcb boards that have matching contact pads.

The connection has 'zero insertion force', is compressed and secured by screws and therefore withstands excessive shock and vibration, humidity and other stresses and hazards.

Features

- single piece connector technology
- elastomeric redundant contacts
- zero insertion force
- supports stackable modules
- aligns stacked boards
- provides for future system expansions at no extra cost (only footprint required)
- withstands vibration and shock (DIN EN 60068)
- UL94 - V0
- long-term stable (by compressing the EXM32 connector assembly, a nearly gastight seal results that keeps out environmental influences)
- flexible pin configuration for signal & power
- high-frequency transmission up to 5 Gbps

Applications

Outdoor applications, automotive and construction site equipment, heavy duty industrial environment, avionic, marine, medical, transportation, heavy duty environment (shock, vibration, extended temp).

Elastomeric Connector – 104 / 208 Pins

Product Specifications

Electrical Specifications:

Current capacity:	signal pad	100 mA
	supply (2-pad size)	450 mA
	supply (4-pad size)	1.25 A
	supply (6-pad size)	2 A
Contact Resistance		
(Au-plated pads):	$\leq 0,3 \Omega$	
Insulation Resistance:	$> 1000 M\Omega$ (500 VDC)	
Dielectric breakdown voltage:	23 ~ 27E6 V/m	(~ 1200V at 0.8mm pitch)

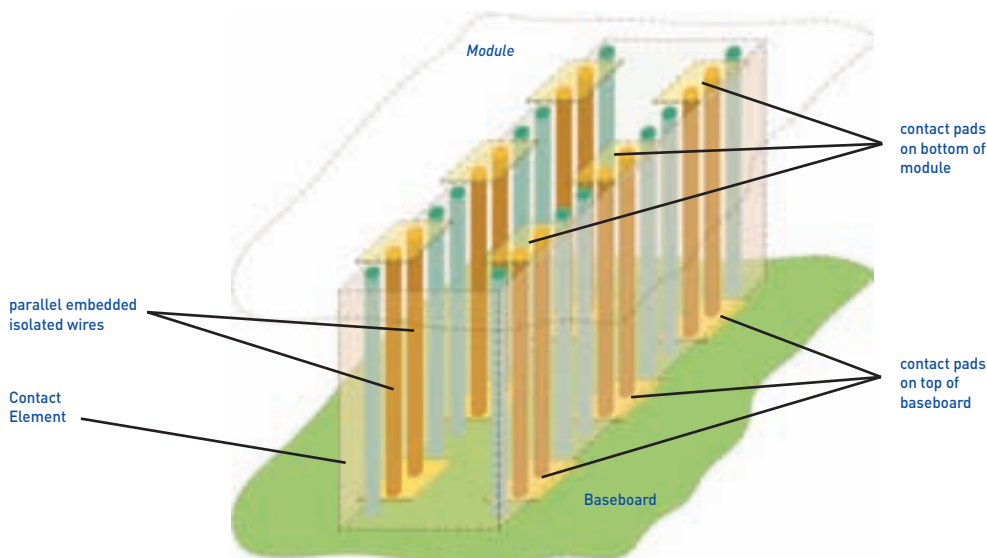
Environment Specifications

Temperature range:	-40 °C / +105 °C
Storage temperature:	-40 °C / +120 °C
Humidity:	0 RH / 95 RH
Vibration (DIN EN 60068-64):	10 .. 2000Hz random, 2.7 G RMS, 32h
Shock (DIN EN 60068-2-27):	500 m/s ² , 6 msec, 10 shocks / 3 axis

Material

EXM32 Connector assembled:		UL94-V0
Contact Elements:	gold plated wires embedded in	UL94-HB
Holder:	PEI (Polyetherimid)	UL94-V0
avoid aggressive chemical environment (e.g. halogenated hydrocarbons)		

Mechanical Outline



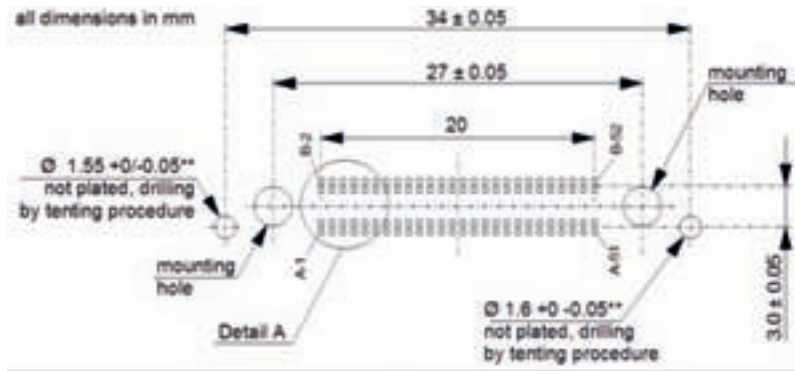
EXM32 CON 104

Recommended PCB top side mounting pattern

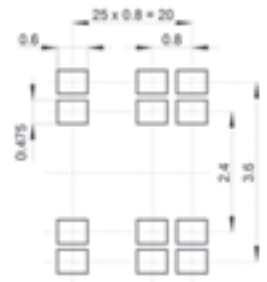
PCB side pad layout:

Please note that the connectors top is located on the PCB's bottom side.

The pad width on the PCB's top side is 0.6 mm, See Detail A:



Detail A

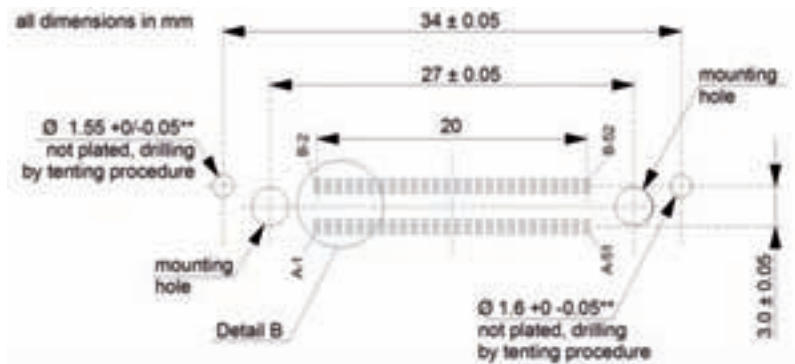


Recommended PCB bottom side mounting pattern

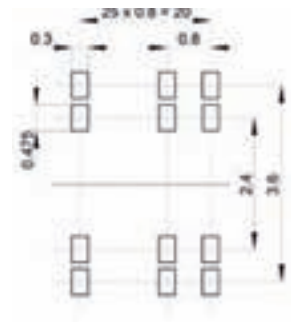
PCB side pad layout:

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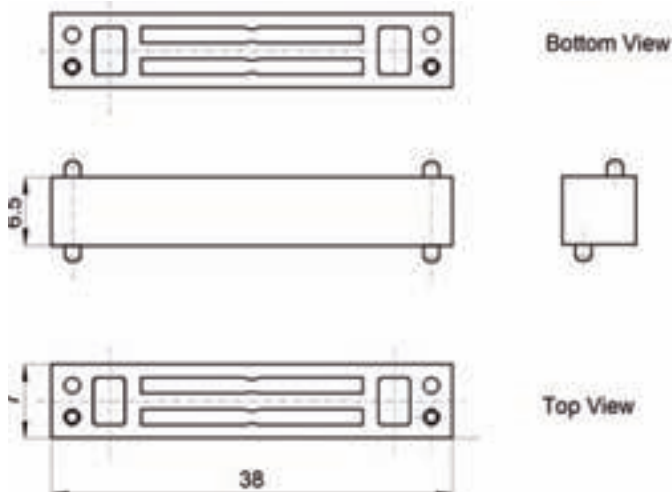
The pad width on the PCB's top side is 0.3 mm, See Detail B:



Detail B



Mechanical Outline



Solder mask on PCB:

The complete EXM32 Connector area must be kept free of solder mask to assure proper contact.



Keep out areas on PCB:

Do not place vias in these areas.



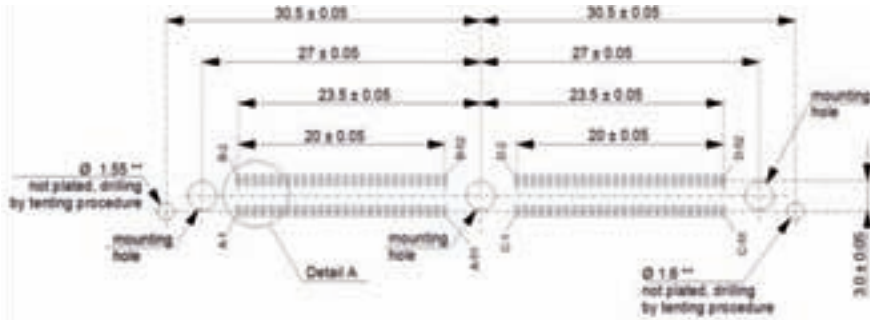
EXM32 CON 208

Recommended PCB top side mounting pattern

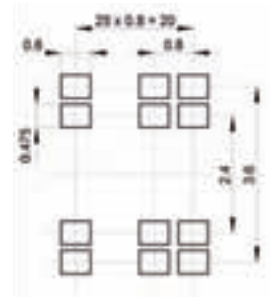
PCB side pad layout:

Please note that the connectors top is located on the PCB's bottom side.

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Detail A

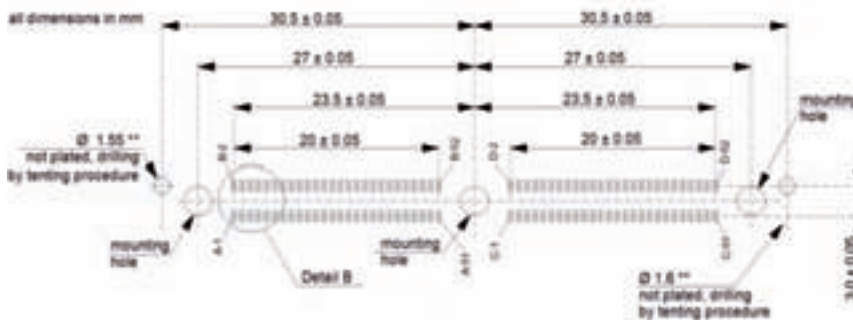


Recommended PCB bottom side mounting pattern

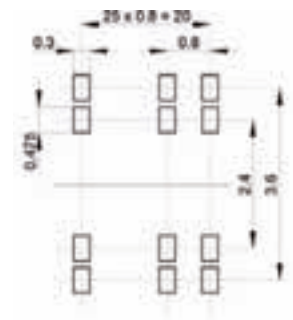
PCB side pad layout:

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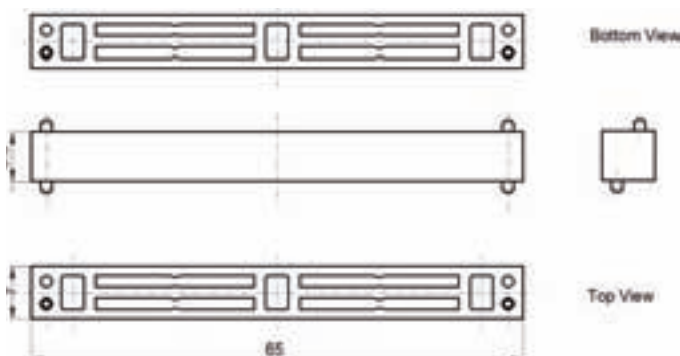
The pad width on the PCB's top side is 0.3 mm, See Detail B:



Detail B



Mechanical Outline



Solder mask on PCB:

The complete EXM32 Connector area must be kept free of solder mask to assure proper contact.



Keep out areas on PCB:

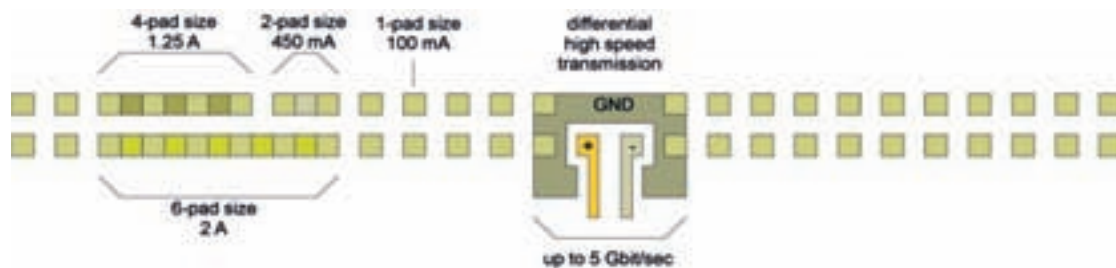
Do not place vias in these areas.



□ = keep out area for routing and vias on top layer
in pad size = 0.2 mm and 0.8 mm Ø around mounting holes

Customized Pad Geometry

- the standard pad layout provides 52 "pins" per contact element at 0.8 mm pitch
- the combination of multiple pad locations results in higher current capacity for power transmission
- special configurations, e.g. for high speed signal transmission are easily designed-in



Power pad layout example:

wrong



right



Stacking:

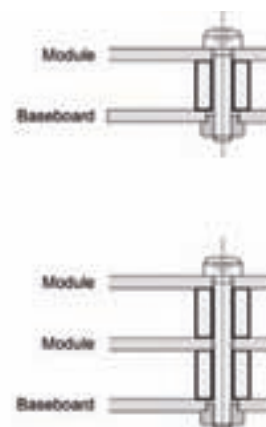
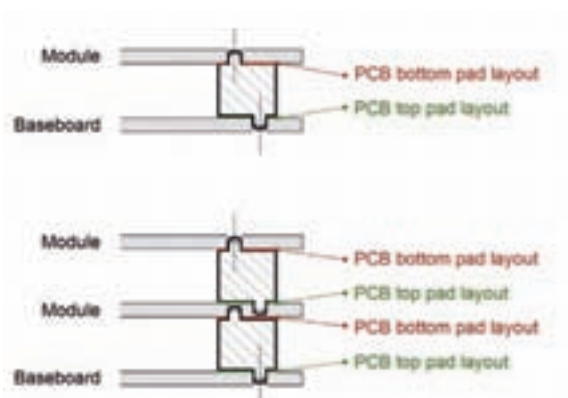
The stacked boards are aligned in position by the build-in pivots of the EXM32 connector.

It is recommended that the lowest PCB in a module stack has only two holes for alignment pins, thus providing correct orientation of the upper module

When multiple modules are stacked, the modules in the middle of the stack must have four holes for alignment pins at every EXM32 Connector location to allow stacking of the upper module.

Recommended mounting:

Solder threaded inserts into the lower PCB.
 Use M2.5 Torx screws (DIN 7985 - ISO 7045) for mounting, 12mm long for 2 module stack, 20 mm for 3 module stack.
 Fasten screws with 30 Ncm torque.



Order Information

Ordering Information

1 2 3 4 5
EXM32 - CON - XXX - XXXX - 6.5

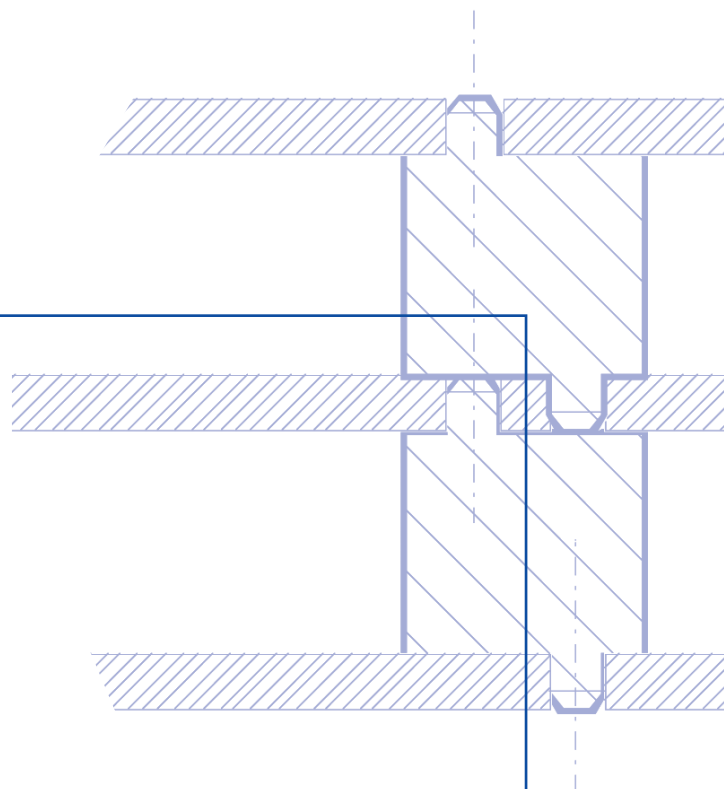
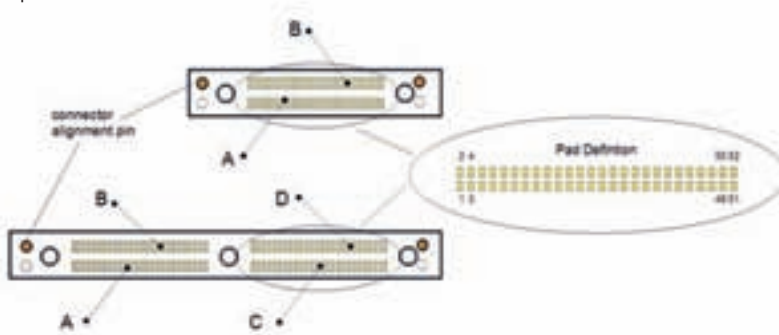
- 1 **EXM32** = serie

- 2 **CON** = connector

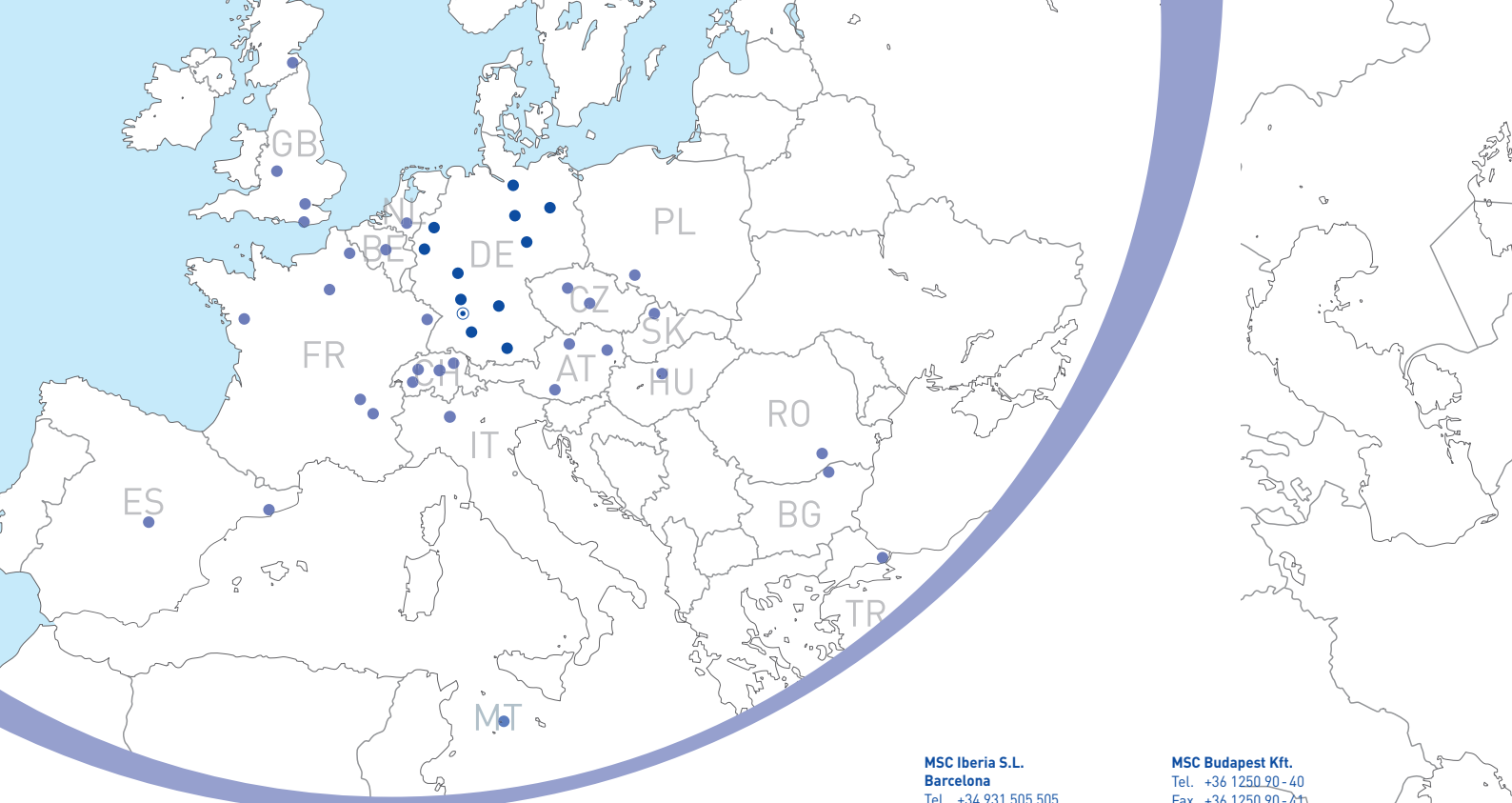
- 3 **XXX** = number of max. contact
 104 pin **on request**
 208 pin **standard**
 other **on request**

- 4 **XX** = assembled Contact Element **AB** (104 pin)
 individual Contact Element assembly on request
 XXXX = assembled Contact Element **ABCD** (208 pin)
 individuell assembly on request

5 **6.5** = stacking connection



Product description	Order numbers
EXM32 Elastomeric Connector, 104 Pin, H 6.5 mm Holder assembled with contact elements, no screws or nuts included Packaging unit: 50 connectors per tray	EXM32 - CON - 104 - AB - 6.5
EXM32 Elastomeric Connector, 208 Pin, H 6.5 mm Holder assembled with contact elements, no screws or nuts included Packaging unit: 40 connectors per tray	EXM32 - CON - 208 - ABCD - 6.5



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