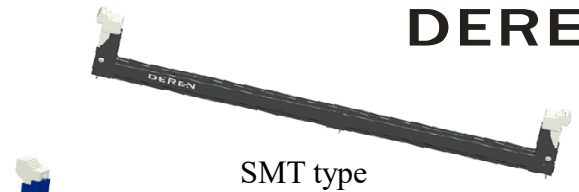# CARD EDGE PRODUCT FAMILY
DDR DIMM

DDR is the acronym used for "Double Data Rate". The data is transferred on both the leading and lagging edges of the clock signals, effectively doubling the rate of data. The required voltage is gradually reduced in every next generation technology, in order to deal with increasing power consumption of memory intensive applications. DDR DIMM Connectors meet JEDEC industial specification. Support diverse generations of connectors with data rate transfer up to 6.4GT/s. Modules can not be compatible between different generations. Modules variations differ by voltage key and PCB thickness. The voltage key location in connector housing distinguishes the orientation of module insertion. Before DDR4, the through hole type of connector is the mainstream. But situation will be changed after DDR5. The signaling scalability requires surface mount (SMT) type, not only to reduce the crosstalk of connector itself, but also to reduce the crosstalk of transmission lines on motherboard (MB). The housing bodies of our SMT DDR 4&5 are more narrow than of other competitors, which means in the high density application fields, our connectors would have much better thermal efficiency. Furthermore, in some high reliability application fields, we can support double contact beam DDR5 connectors.

SMT type

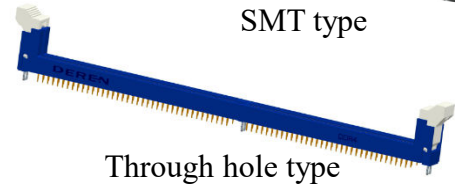Through hole type

Standard latch   Narrow latch

- More narrow housing body design on SMT type connectors to achieve better thermal efficiency
- Narrow latch design provides good air-flow performance
- Support diverse latch designs to meet customer different application fields
- Support double contact beam DDR5 for customer high reliability application.
- DDR DIMM product family is offering industrial standard packaging options, including soft tray and hard tray

TARGET MARKET

- Desktop computer
- Server
- General memory expansion application

FEATURE

- Data rate transfer up to 6.4GT/s
- Single end signaling with 50Ω nominal impedance
- Step and ramp feature on module seating plane
- Small ribs design between adjacent pin holes
- Auto lock latch design

BENEFIT
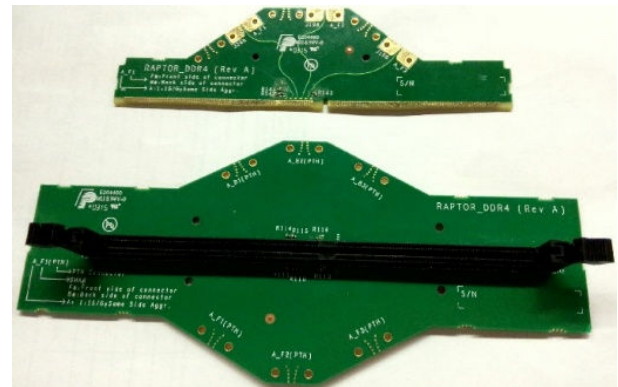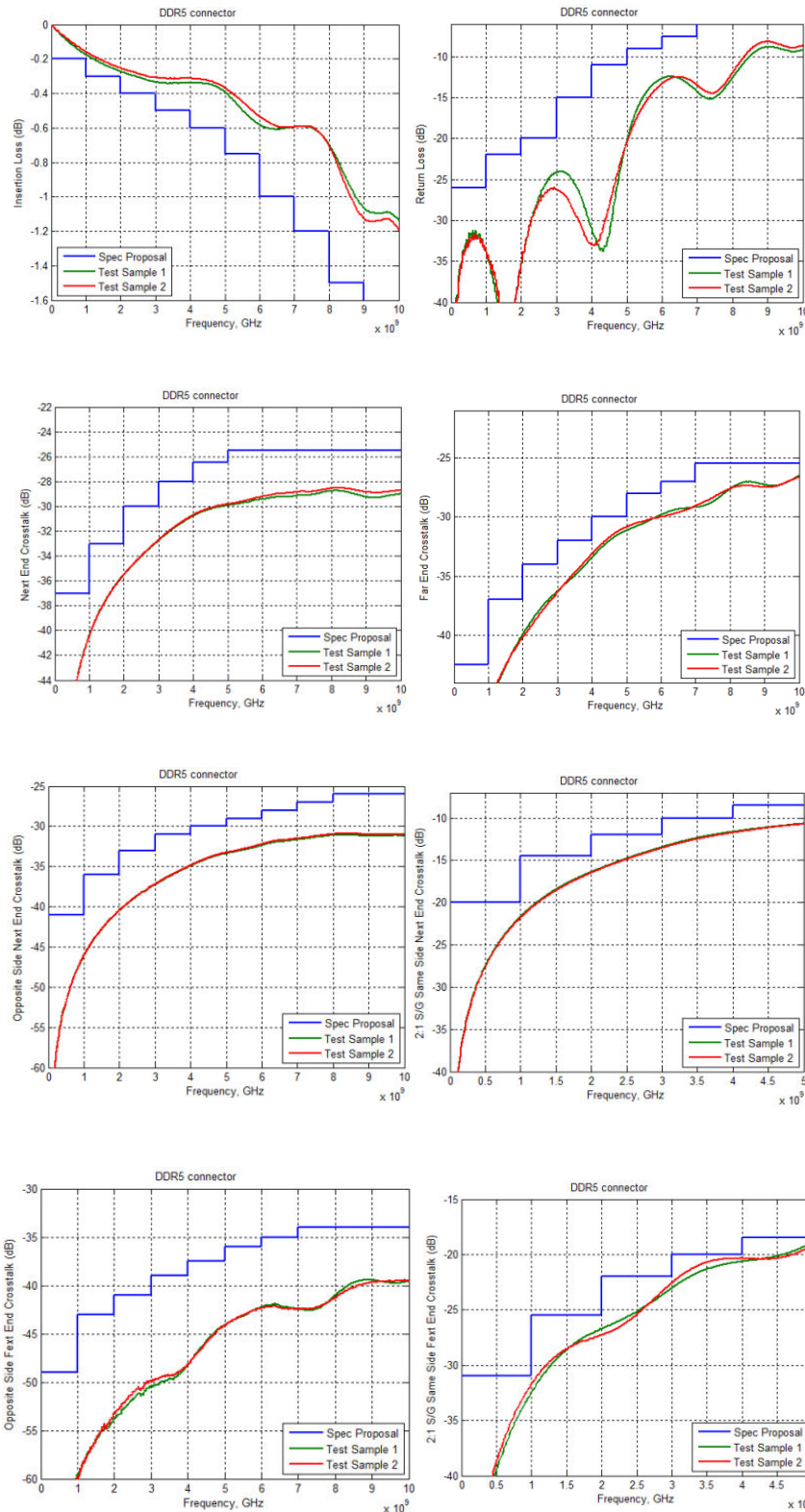
- Meets JEDEC Spec
- Minimizes impedance discontinuities
- Lower insertion force
- Isolate contacts to prevent electrical short cut
- Easy for module installation

CARD EDGE PRODUCT FAMILY
DDR DIMM

TECHNICAL INFORMATION

SIGNAL INTEGRITY PERFORMANCE

MECHANICAL PERFORMANCE

- Insertion force (module to connector): 106.8N max
- Terminal retention force: 300gf min.
- Durability: 25cycles.

ELECTRICAL PERFORMANCE

- Low level contact resistance: 10mΩ initial, △10mΩ
- Insulation resistance: 1MΩ min.
- Dielectric withstanding voltage: 250VAC.
- Current rating: 0.75A/pin De-rate

ENVIRONMENTAL

- Flammability: UL 94 V-0
- Low halogen: 1000ppm max. Cl, 1000ppm max Br.
- Compliant with RoHS directive 2011/65/EU
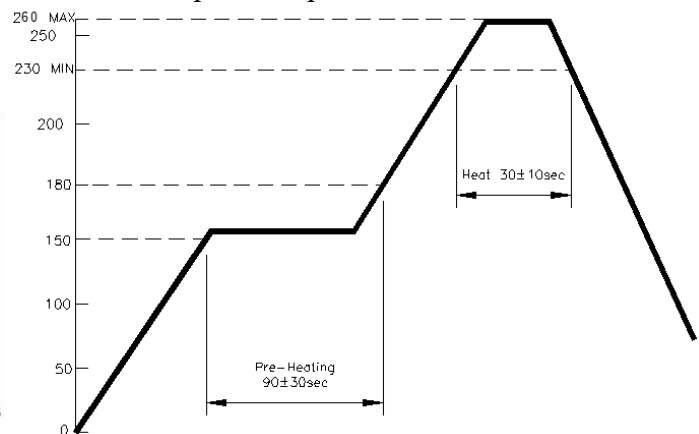- Operating Temperature: -55°C to + 85°C

SPECIFICATION

- JEDEC SPEC:
  DDR4 288pin: SO-016 (DIP), SO-018(SMT)
  　　　　　　　/ MO-309 (Module)
  DDR5 288pin: SO-023 / MO-369

- DEREN PRODUCT SPEC:
  　　　　　DDR4: DR-PS-0046
  　　　　　DDR5: DR-PS-0115

APPLICATION SPEC

- Wave solder peak temperature: Max. 265°C , 10S
- Reflow temperature profile:
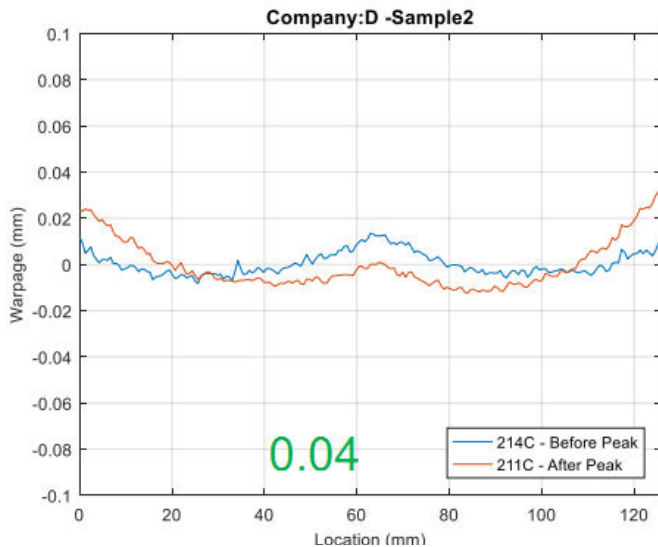

- Recommended SMT stencil thickness: 0.15mm

http://www.deren.com.cn
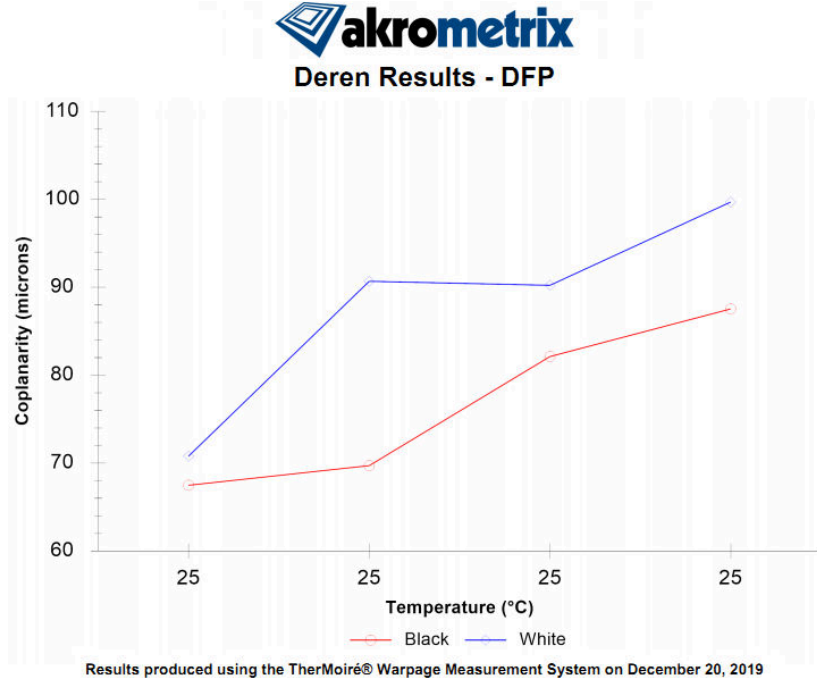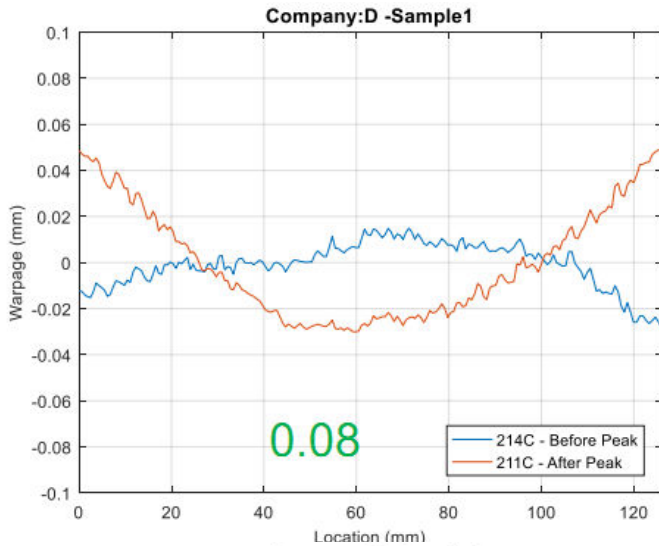E-mail: sales@deren.com
Tel:0755-3326000

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TECHNICAL INFORMATION

High Temperature Warpage Performance of SMT Type

Pass JEDEC high temperature warpage evaluation
(Company D = Deren)

Coplanarity measurement before and after reflow (3 times)

Results produced using the TherMoiré® Warpage Measurement System on December 20, 2019

Deren Results - DFP

Coplanarity (microns) vs Temperature

Temperature, °C	25	25	25	25
Black	67.4	69.7	82.1	87.5
White	70.8	90.7	90.2	99.7

CARD EDGE PRODUCT FAMILY
DDR DIMM
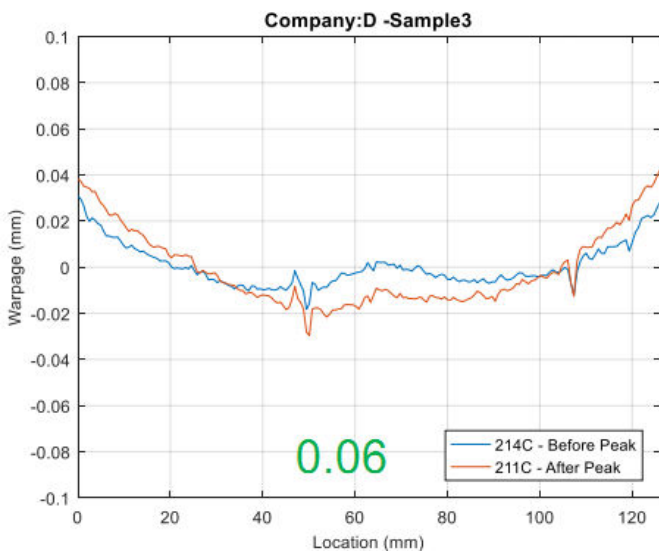
PART NUMBERS & STRUCTRUE

DDR4 288 DIP

Part Number Description:

For wave solder process:

40-42181 -288*****THF
Series No.

RoHS code:
  HF: Halogen free

Package code:
  T: Soft tray

Logo code:
  1: No logo   2: DEREN Logo

Plating code:
  1: GF   2: Au15u"
  3: Au20u"   4: Au30u"

Extractor color code:
  1: Black   2: White   3: Blue
  4: Green   5: Grey

Housing color code:
  1: Black   2:White   3:Blue284C
  4: Blue2935U 5: Green 6: 287C
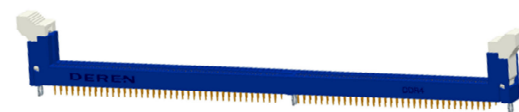 7: Grey432U   8: Red186C
  9: Green375C   0: Yeloow107C

Tail length: 0: 2.1   1: 2.4
             2: 2.7   3: 3.1
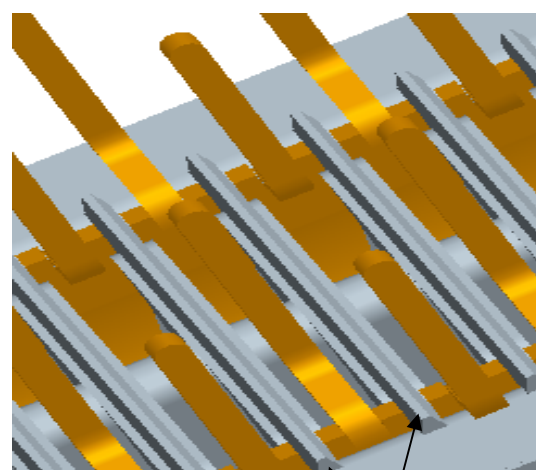
Pin number code: 288 pins

Standard through hole type

Small extractor through hole type

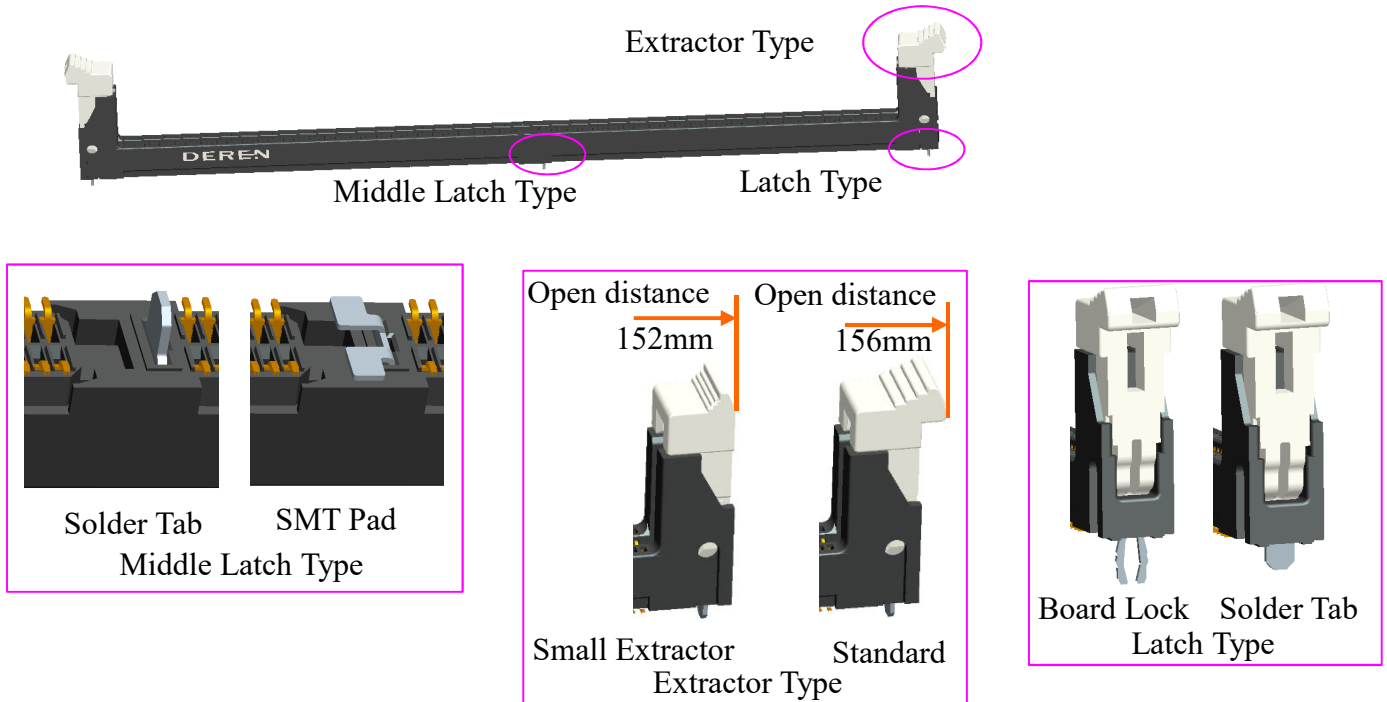One extractor fixed through hole type

Product Structure :

Isolation rib

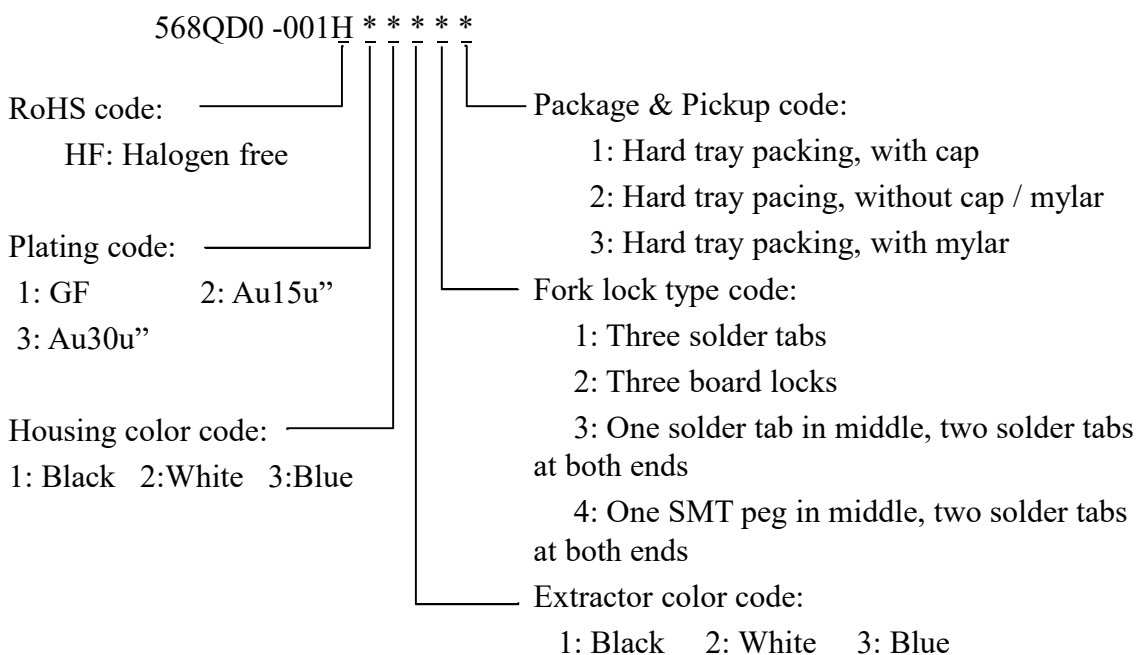| P/N Series No.	Pitch	Extractor open distance	Width	Height	Process	Q'ty/tray	Q'ty/Box	Remark
40-42181-	0.85	162.00	6.30	21	Wave solder	50/tray	500	Standard type
40-42344-	0.85	152.00	6.30	21	Wave solder	50/tray	500	Small latch
40-42448-	0.85	152.00	6.30	21	Wave solder	50/tray	500	One latch fixed
40-42287-	0.85	162.00	6.30	21	Reflow	50/tray	500	Standard type

PART NUMBERS & STRUCTRUE

DDR4 288P SMT

Product Structure (optional):

Extractor Type

Middle Latch Type   Latch Type

Solder Tab   SMT Pad
Middle Latch Type

Open distance   Open distance
152mm   156mm

Small Extractor   Standard
Extractor Type

Board Lock   Solder Tab
Latch Type

DDR4 288 SMT

Part Number Description (new):

568QD0 -001H * * * * *

RoHS code:
　HF: Halogen free

Plating code:
　1: GF   2: Au15u"
　3: Au30u"

Housing color code:
1: Black   2:White   3:Blue

Package & Pickup code:
　1: Hard tray packing, with cap
　2: Hard tray pacing, without cap / mylar
　3: Hard tray packing, with mylar

Fork lock type code:
　1: Three solder tabs
　2: Three board locks
　3: One solder tab in middle, two solder tabs at both ends
　4: One SMT peg in middle, two solder tabs at both ends

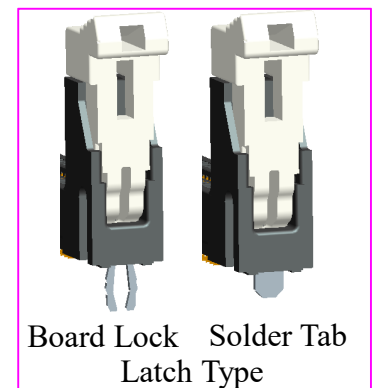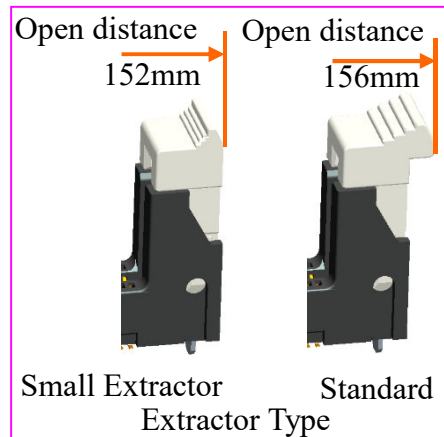Extractor color code:
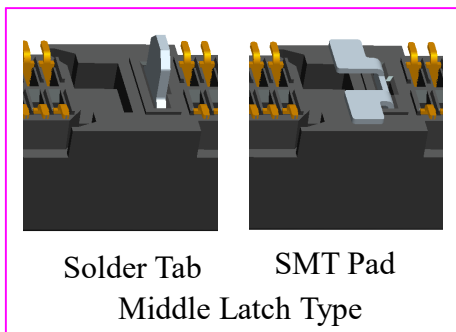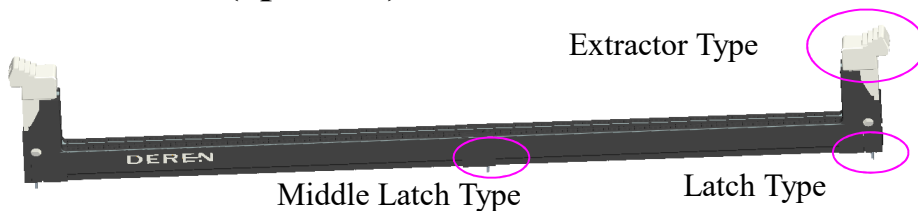　1: Black   2: White   3: Blue

PART NUMBERS & STRUCTRUE

DDR 4 288 SMT

Part Number Description （old part number):

P/N Base code	Gen	Pitch	Extractor Type	Both End Latch Type	Middle Latch Type	Pickup Cap	Extractor Open Distance	W	H	Q'ty /tray	Q'ty /Box	Remark
568Q07-	DDR4	0.85	Standard type	Solder tab	Solder tab	With	156	6	20.6	32	320	Recommended
568Q08-	DDR4	0.85	Small extractor	Solder tab	Solder tab	With	152	6	20.6	32	320	Common
568Q10-	DDR4	0.85	Small extractor	Solder tab	SMT pad	With	152	6	20.6	32	320	Common
568Q11-	DDR4	0.85	Standard type	Solder tab	None	With	156	6	20.6	32	320	
568Q12-	DDR4	0.85	Standard type	Solder tab	Board lock	With	156	6	20.6	32	320	
568Q13-	DDR4	0.85	Standard type	Solder tab	SMT pad	With	156	6	20.6	32	320	Common
568Q14-	DDR4	0.85	Standard type	Solder tab	SMT pad	None	156	6	20.6	32	320	Common
568Q15-	DDR4	0.85	Small extractor	Solder tab	SMT pad	None	152	6	20.6	32	320	Common
568Q16-	DDR4	0.85	Standard type	Solder tab	Solder tab	None	156	6	20.6	32	320	Recommended
568Q17-	DDR4	0.85	Small extractor	Solder tab	Solder tab	None	152	6	20.6	32	320	Common
568Q18-	DDR4	0.85	Small extractor	Solder tab	Solder tab	With	152	6	20.6	32	320	No Logo
568Q21-	DDR4	0.85	Standard type	Solder tab	Board lock	None	156	6	20.6	32	320	

Product Structure (optional):

Extractor Type

Middle Latch Type   Latch Type

Solder Tab   SMT Pad
Middle Latch Type

Open distance   Open distance
152mm   156mm

Small Extractor   Standard
Extractor Type

Board Lock   Solder Tab
Latch Type

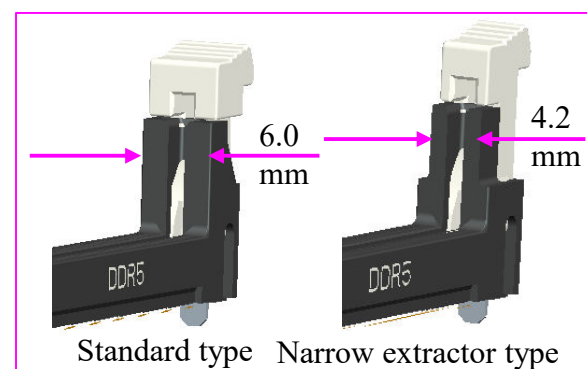http://www.deren.com.cn
E-mail: sales@deren.com
Tel:0755-3326000

PART NUMBERS & STRUCTRUE

DDR5 288 SMT TYPE:

Product Structure (optional):

Extractor Type

Latch Type

6.0 mm

4.2 mm

Standard type   Narrow extractor type

Open distance 152mm   Open distance 156mm
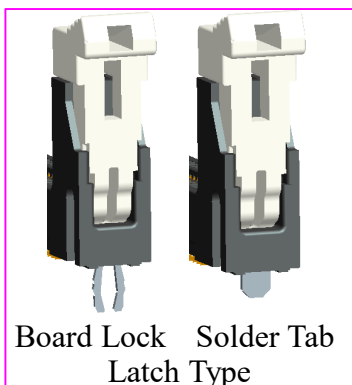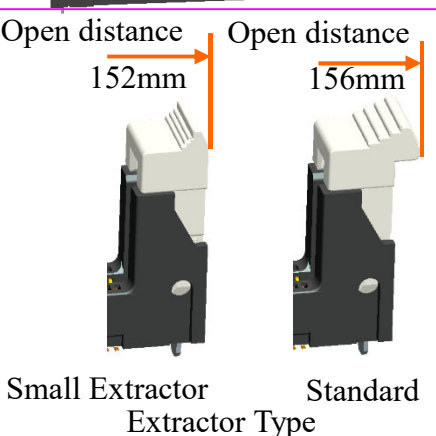
Small Extractor   Standard Extractor Type

Board Lock   Solder Tab Latch Type

With metal insert in latch tower   W/o metal insert in latch tower
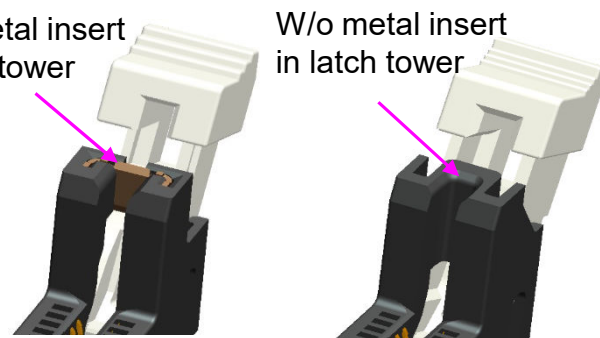
Latch Tower Metal Plate Options

Part Number Description:

568QD1 -001H * * * * *

Series No.

RoHS code:
  HF: Halogen free

Plating code:
  1: GF
  2: Au15u"
  3: Au30u"

Housing color code:
  1: Black
  2: White
  3: Blue

Package & Pickup code:
  1: Hard tray packing, with cap
  2: Hard tray pacing, without cap / mylar
  3: Hard tray packing, with mylar

Fork lock & DIMM type code:
  1: Solder tab DIM. H=2.0mm, RDIMM
  2: Board lock DIM. H=3.25mm, RDIMM
  3: Solder tab DIM. H=2.0mm, UDIMM
  4: Board lock DIM. H=3.25mm, UDIMM
  5: Solder tab DIM. H=2.6mm, RDIMM
  6: Solder tab DIM. H=2.6mm, UDIMM

Extractor color code: 1: Black   2: White 3: Blue

P/N Series No.	Pitch	Extractor open distance	Width	Height	Process	Q'ty /tray	Q'ty /Box	Remark
568QD1-001H*	0.85	156.0	6.0	20.6	SMT	32/tray	320	Big Extractor
568QD1-002H*	0.85	152.0	6.0	20.6	SMT	32/tray	320	Small Extractor
568QD1-003H*	0.85	156.0	6.0	20.6	SMT	32/tray	320	Big Extractor with metal plate
568QD1-004H*	0.85	152.0	6.0	20.6	SMT	32/tray	320	Big Extractor with metal plate
568QD1-005H*	0.85	162.0	6.0	20.6	SMT	32/tray	320	Narrow Extractor