

Amphenol

COMMUNICATIONS SOLUTIONS

DDR5 Memory Modules



01

Trusted DDR Supplier

Amphenol is an active member of DDR specifications committee & DDR connector supplier to world leading enterprise server customers.

02

High Performance

Our high density, high speed DDR5 connectors perform to JEDEC SO-024 and JEDEC MO-337 specifications.

03

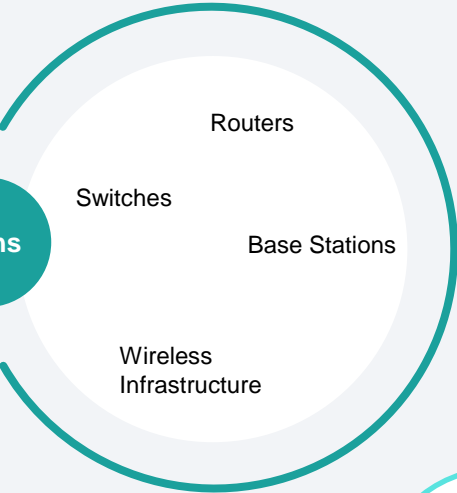
Standard & Customized Products

Standing products include SO-DIMM, DIMM, SMT in vertical and right-angle orientations. Customized features are available to address various requirements.

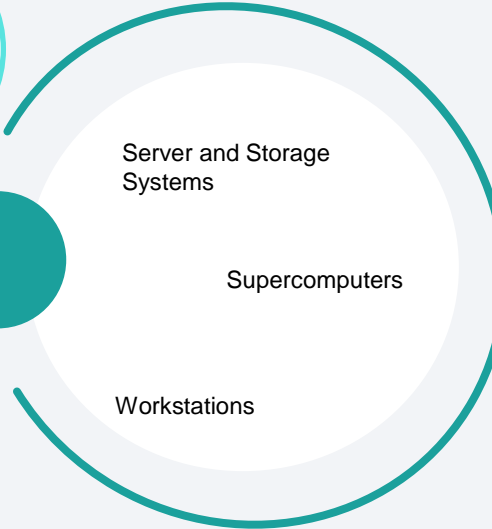
DDR5 Memory Module Market Applications



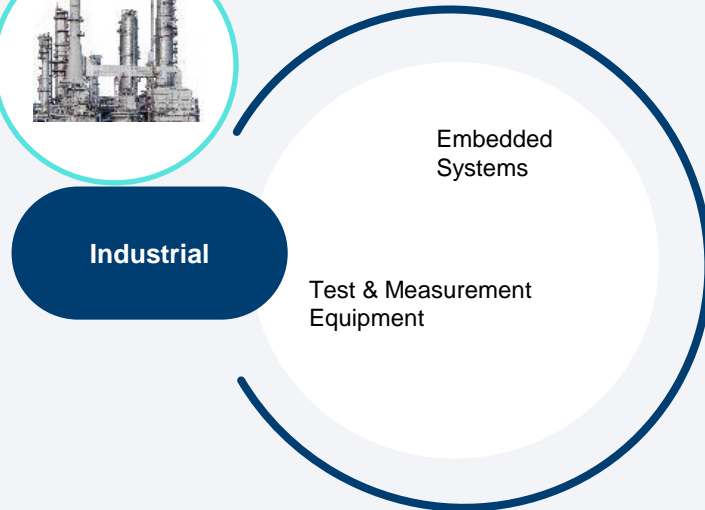
Communications



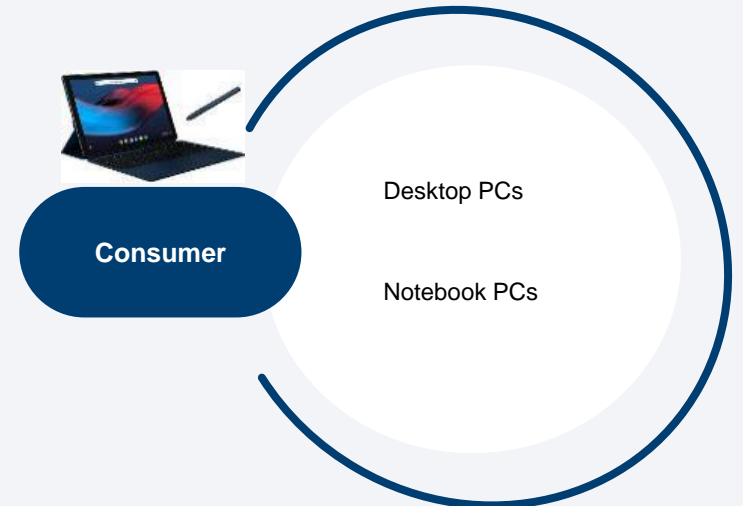
Data



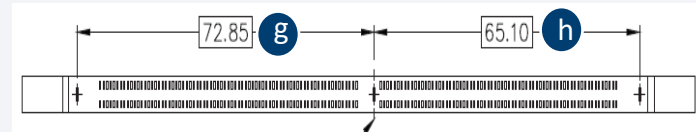
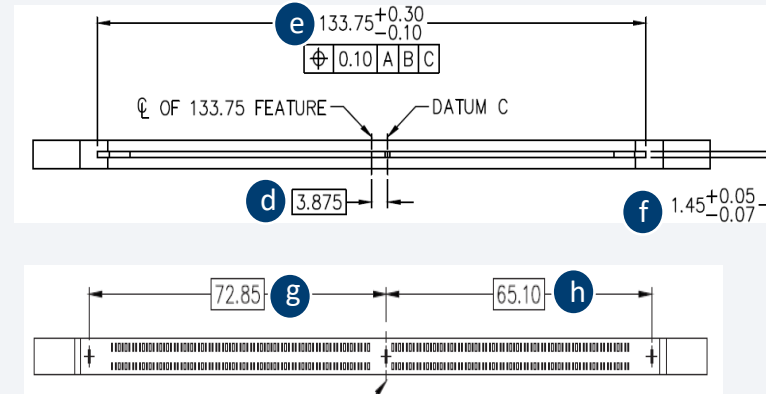
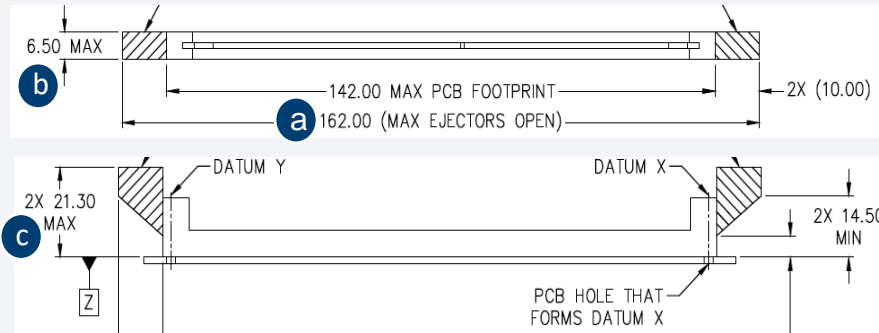
Industrial



Consumer



DDR5 socket vs. DDR4 socket



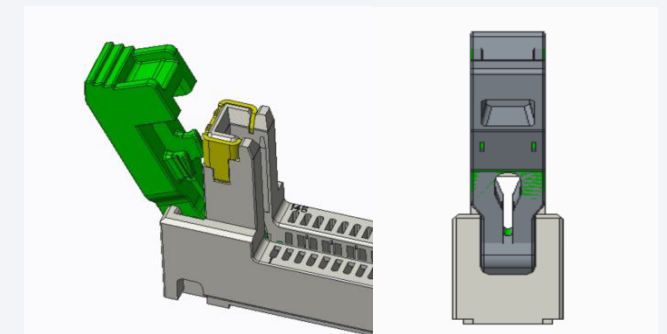
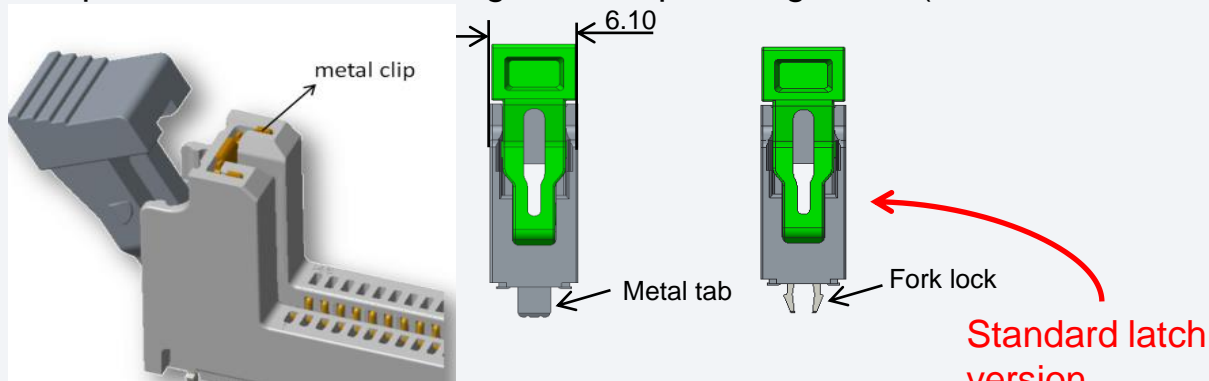
Item	DDR4 SPEC	DDR5 SPEC
Pitch	0.85 mm	0.85 mm
No. of position	288	288
a Socket Length	142mm Max.	142mm Max.
b Socket Width	6.5mm Max.	6.5mm Max.
c Socket Height	21.3mm Max.	21.3mm Max.
d Key position	5.575	3.875
e Slot length	133.75+/-0.10	133.75+0.30/-0.10
f Slot width	1.58+0.05/-0.07 mm	1.45+0.05/-0.07 mm
g Fork lock spacing	63.4 mm	65.1 mm
h Fork lock spacing	75.44 mm	72.85 mm

Vertical DDR5 DIMM sockets from Amphenol provide 288 contacts on 0.85mm pitch and are designed to accept DDR5 memory modules that conform to JEDEC MO-329. Amphenol also offers standard and narrow latch versions for DDR5 products. The narrow latch version can help to facilitate more airflow as the DIMM sockets are expected to be placed next to each other.

- **DDR5 : P/N DDR504xxx (standard latch version) / DDR506xxx (narrow latch version) – surface mount**

- **Features:**

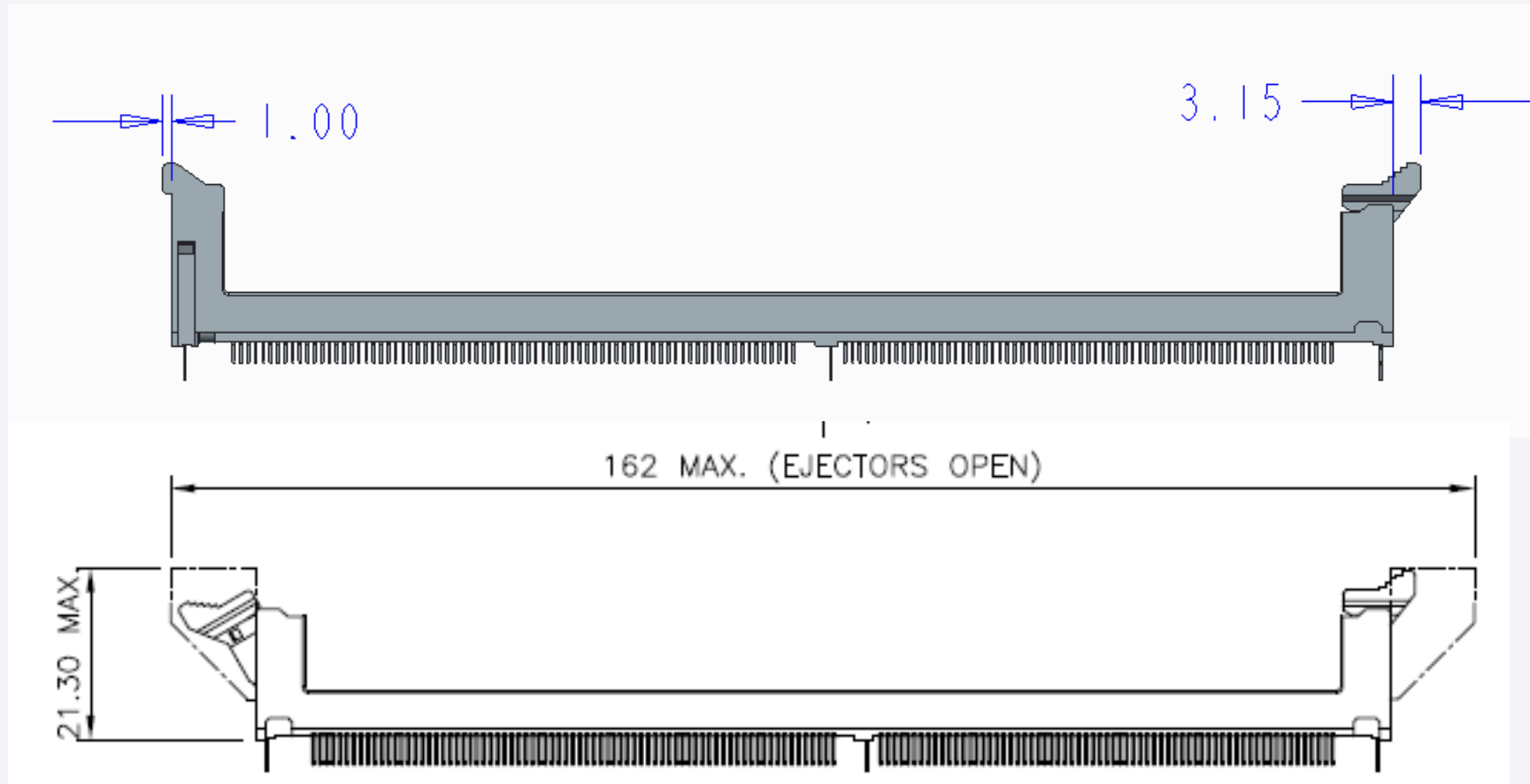
- Pitch:0.85mm,288P (same as DDR4)
- 2.0mm Max module seating plane, 1.45mm slot width.
- The width of housing is 6.10mm.
- Low insertion force design for user-friendly
- Narrow latch and enhanced housing design to optimize airflow
- Flexible housing and latch design to enable different thermal solution
- Data rates up to 6.4Gb/s base on single ended pin assignment (DDR4 is 3.2Gb/s)



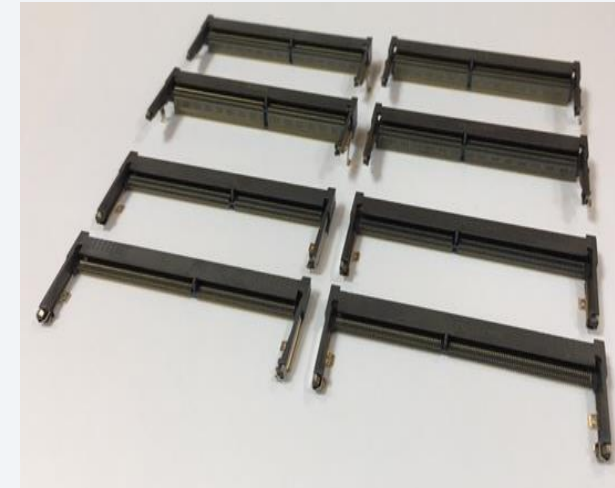
Narrow latch version

DDR4/5 with Single Fixed Latch

- One latch fixed solution will help to reserve space on board.
- Both right or left side fixed latch can be provided.
- Both DD4/5 SMT and DDR4 TH could provide this offering.



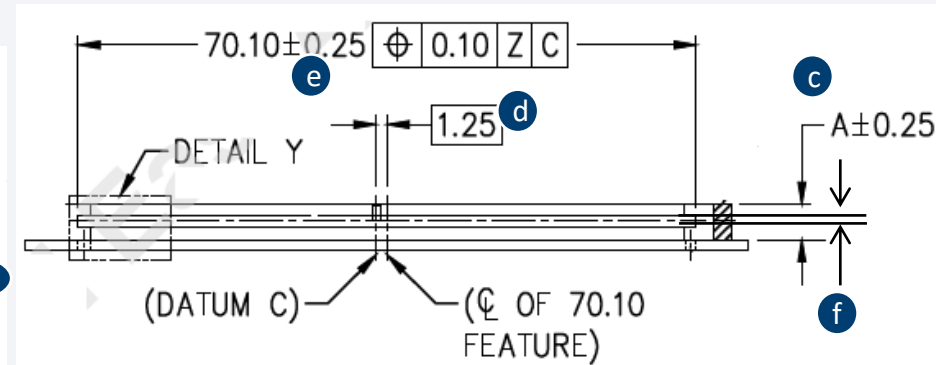
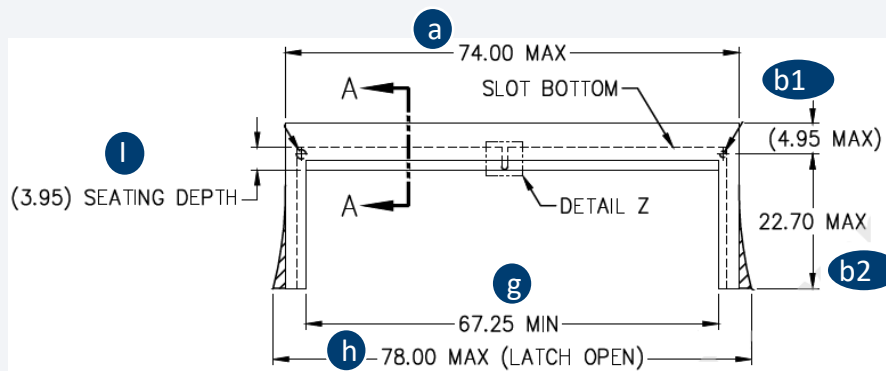
- Amphenol is part of DDR5 SODIMM spec design committee with JEDEC & Intel
- **General Spec.**
 - Height: 5.2H /9.2H/ 4.0H/8.0H
 - PCB Mount Type: SMT
 - Orientation: Right Angle & Vertical, Standard/Reverse
- **Application**
 - High-End Notebook
 - Switch
 - Multifunctional printer
 - IPC



	DDR4 SO DIMM	DDR5 SO DIMM	
Pin count	260	262	
Card thickness	1.20+/-0.10	1.20+/-0.10	
Pitch	0.5mm	0.5mm	
Operation voltage	1.2V	1.1V	
Current (max)	0.5A	0.75A	
Low level contact resistance (mac)	60mΩ initial	60mΩ initial	
Dielectric withstanding voltage	250 VAC	250 VAC	
Insulation resistance (min)	1MΩ Min	1MΩ Min	
Transfer Speed	3.2Gbps	6.4Gbps	
Terminal retention force (min)	1.0N	1.0N	
Durability (mating cycles)	25	25	
Operation temperature	-40°C to +85°C	-40°C to +85°C	
JEDEC Standards	Mechanical Outline	MO-310	TBD
	Socket Outline	SO-018	TBD
Compliance	Rohs,UL 94V0		

Description	Plating option
Right-Angle, H=4.0mm, Standard	G/F, 10Au, 15Au, 30Au
Right-Angle, H=4.0mm, Reverse	G/F, 10Au, 15Au, 30Au
Right-Angle, H=5.2mm, Standard	G/F, 10Au, 15Au, 30Au
Right-Angle, H=5.2mm, Reverse	G/F, 10Au, 15Au, 30Au
Right-Angle, H=8.0mm, Standard	G/F, 10Au, 15Au, 30Au
Right-Angle, H=8.0mm, Reverse	G/F, 10Au, 15Au, 30Au
Right-Angle, H=9.2mm, Standard	G/F, 10Au, 15Au, 30Au
Right-Angle, H=9.2mm, Reverse	G/F, 10Au, 15Au, 30Au
Vertical, DDR5 SODIMM	G/F, 10Au, 15Au, 30Au

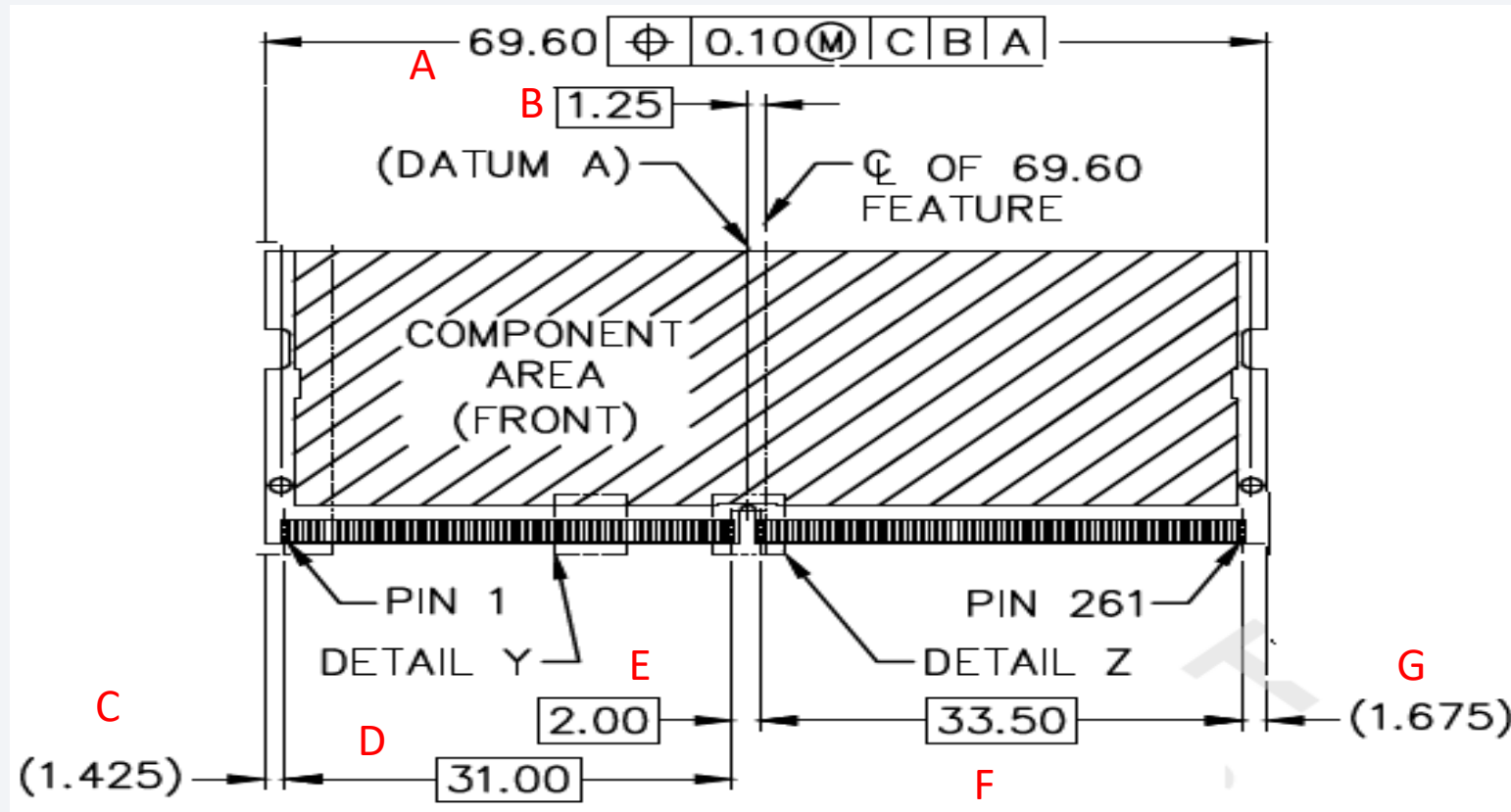
DDR5 SODIMM vs. DDR4 SODIMM



Item	DDR5 SPEC	DDR4 SPEC
Pitch	0.50 mm	0.50mm
No. of position	262	260
a Socket Length	74.0mm Max.	74.0mm Max.
b Socket Width b1/b2	4.95/22.7 mm Max.	4.90/24.0mm Max.
c Socket Height	4.0/5.2/8.0/9.2mm Max.	4.0/5.2/8.0/9.2mm Max.
d Key position	1.25 mm	3.50mm
e Slot length	70.1+/-0.25mm	70.1+/-0.25mm
f Slot width	1.35mm	1.35mm
g Fork lock spacing	67.25 mm	67.25mm
h Fork lock spacing	78.0 mm	78.0 mm
l Seating depth	3.95 mm	3.90mm

DDR5 SODIMM Card vs. DDR4 SODIMM Card

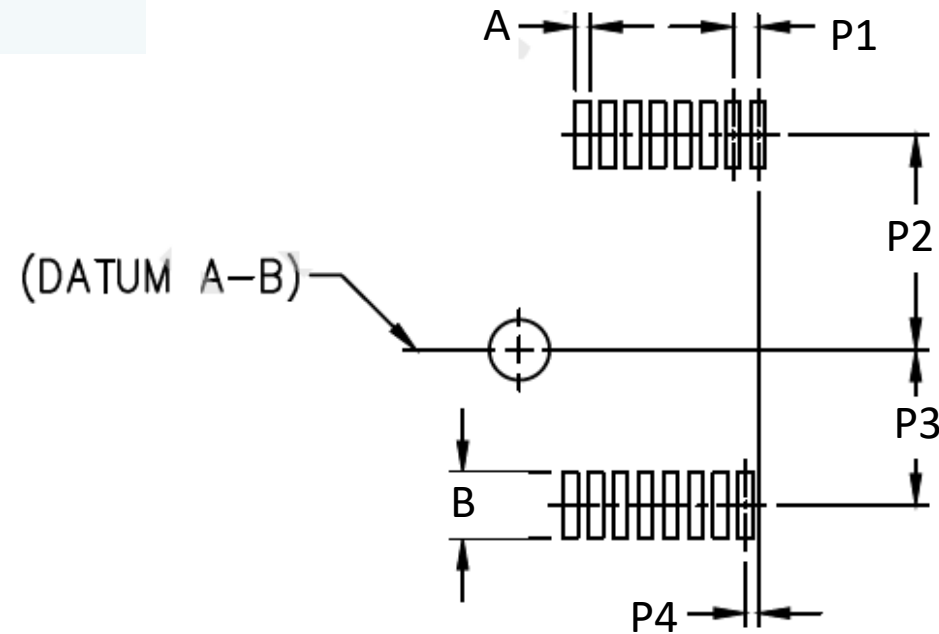
Unit: mm	A	B	C	D	E	F	g
DDR5	69.6	1.25	1.425	31.0	2.00	33.5	1.675
DDR4	69.6	3.50	1.425	35.5	2.50	28.5	1.675



DDR5 SODIMM Footprint vs DDR4 SODIMM Footprint

✓ Narrower PCB PAD for DDR5

Unit: mm	A	B	P1	P2	P3	P4
DDR5	0.30	1.50	0.50	4.30	3.10	0.25
DDR4	0.30	1.70	0.50	4.10	4.10	0.25



OUTER LOCUS OF SMT SOLDER LEAD POSITION

Thank You

For more information visit: <https://amphenol-cs.com>

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