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Since 1945

# har-flex HD-Card Edge 20p PL1 SAMPLE

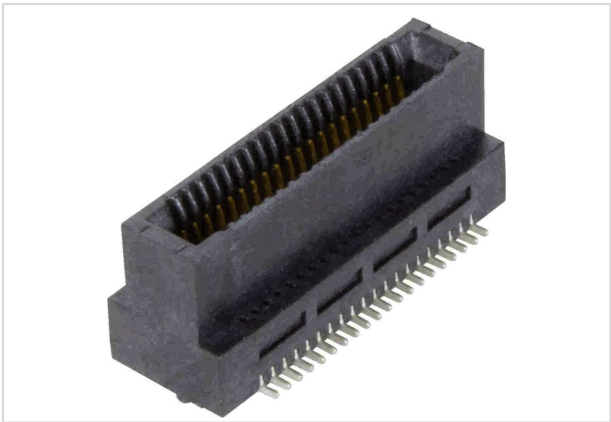


Image is for illustration purposes only. Please refer to product description.

|                    |                                                                                             |
|--------------------|---------------------------------------------------------------------------------------------|
| Part number        | 15 03 020 2001 333                                                                          |
| Specification      | har-flex HD-Card Edge 20p PL1<br>SAMPLE                                                     |
| HARTING eCatalogue | <a href="https://b2b.harting.com/15030202001333">https://b2b.harting.com/15030202001333</a> |

## Identification

|                |              |
|----------------|--------------|
| Category       | Connectors   |
| Series         | har-flex®    |
| Identification | HD-Card Edge |
| Element        | Connector    |

## Version

|                    |                                          |
|--------------------|------------------------------------------|
| Termination method | Reflow soldering termination (SMT)       |
| Connection type    | Motherboard to daughtercard<br>Mezzanine |
| Number of contacts | 20                                       |
| Pack contents      | Sample                                   |

## Technical characteristics

|                                    |                                                                 |
|------------------------------------|-----------------------------------------------------------------|
| Contact rows                       | 2                                                               |
| Contact spacing (termination side) | 0.8 mm                                                          |
| Contact spacing (mating side)      | 0.8 mm                                                          |
| Data rate                          | 25 Gbit/s                                                       |
| Clearance distance                 | ≥0.2 mm Backplane<br>≥0.53 mm Connector<br>≥0.1 mm Daughtercard |
| Creepage distance                  | ≥0.2 mm Backplane<br>≥0.53 mm Connector<br>≥0.1 mm Daughtercard |
| Limiting temperature               | -55 ... +125 °C                                                 |
| Insertion force                    | ≤15 N                                                           |



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## Technical characteristics

|                                  |                                     |
|----------------------------------|-------------------------------------|
| Withdrawal force                 | ≥4 N                                |
| Performance level                | 1                                   |
| Mating cycles                    | ≥200                                |
| Isolation group                  | IIIa ( $175 \leq CTI < 400$ )       |
| Moisture Sensitivity Level (MSL) | 1 acc. to ECA/IPC/JEDEC J-STD-020D  |
| Process Sensitivity Level (PSL)  | R0 acc. to ECA/IPC/JEDEC J-STD-020D |
| Coplanarity of contacts          | ≤0.1 mm                             |

## Material properties

|                                           |                                                                |
|-------------------------------------------|----------------------------------------------------------------|
| Material (insert)                         | Liquid crystal polymer (LCP)                                   |
| Colour (insert)                           | Black                                                          |
| Material (contacts)                       | Copper alloy                                                   |
| Surface (contacts)                        | Noble metal over Ni Mating side<br>Sn over Ni Termination side |
| Material flammability class acc. to UL 94 | V-0                                                            |
| RoHS                                      | compliant                                                      |
| ELV status                                | compliant                                                      |
| China RoHS                                | e                                                              |
| REACH Annex XVII substances               | Not contained                                                  |
| REACH ANNEX XIV substances                | Not contained                                                  |
| REACH SVHC substances                     | Not contained                                                  |
| California Proposition 65 substances      | Not contained                                                  |

## Commercial data

|                                |                                          |
|--------------------------------|------------------------------------------|
| Packaging size                 | 1                                        |
| Country of origin              | China                                    |
| European customs tariff number | 85366990                                 |
| GTIN                           | 5713140205406                            |
| ETIM                           | EC002637                                 |
| eCl@ss                         | 27460201 PCB connector (board connector) |



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## Data Transmission Protocols

| har-flex HD-Card Edge Family Product Data Rate: 25Gbit/s |                         |                                |                                |                               |
|----------------------------------------------------------|-------------------------|--------------------------------|--------------------------------|-------------------------------|
| Protocol                                                 | Serial Data Rate / Pair | Single Interface Short Channel | Double Interface Short Channel | Double Interface Long Channel |
| 40GBASE-KR4                                              | 56 Gbit/s               | Not recommended                | Not recommended                | Not recommended               |
| 100GBASE-KR4                                             | 25 Gbit/s               | suitable                       | Not recommended                | Not recommended               |
| 40GBASE-KR4                                              | 10 Gbit/s               | suitable                       | suitable                       | suitable                      |
| Infiniband HDR                                           | 50 Gbit/s               | Not recommended                | Not recommended                | Not recommended               |
| Infiniband HDR                                           | 25.8 Gbit/s             | Not recommended                | Not recommended                | Not recommended               |
| Infiniband FDR                                           | 14 Gbit/s               | suitable                       | suitable                       | suitable                      |
| PCIe Gen 4                                               | 16 Gbit/s               | suitable                       | suitable                       | suitable                      |
| PCIe Gen 3                                               | 8 Gbit/s                | suitable                       | suitable                       | suitable                      |
| PCIe Gen 2                                               | 5 Gbit/s                | suitable                       | suitable                       | suitable                      |
| USB 3.1                                                  | 5 Gbit/s                | suitable                       | suitable                       | suitable                      |
| USB 3.0                                                  | 5 Gbit/s                | suitable                       | suitable                       | suitable                      |
| Hypertransport 3                                         | 5.2 Gbit/s              | suitable                       | suitable                       | suitable                      |
| SATA 3.2                                                 | 16 Gbit/s               | suitable                       | suitable                       | suitable                      |
| SAS 4.0                                                  | 22.5 Gbit/s             | Not recommended                | Not recommended                | Not recommended               |
| SAS 3.0                                                  | 12 Gbit/s               | suitable                       | suitable                       | suitable                      |
| SAS 2.0                                                  | 6 Gbit/s                | suitable                       | suitable                       | suitable                      |

The protocol recommendations are based on a set of defined channels. For more information please refer to the reference channel descriptions:

[https://www.harting.com/sites/default/files/2022-09/2022-01\\_eBook%20Reference%20Channels\\_en\\_V1.pdf](https://www.harting.com/sites/default/files/2022-09/2022-01_eBook%20Reference%20Channels_en_V1.pdf)