



# AdvancedMC™ connector for AdvancedTCA®



## General information

|                                     |                                                              |
|-------------------------------------|--------------------------------------------------------------|
| Design                              | PICMG AMC.0, Rev. 2.0                                        |
| No. of contacts                     | 170                                                          |
| Contact spacing                     | 0,75 mm                                                      |
| Test voltage                        | 80 V r.m.s.                                                  |
| Contact resistance                  | ground contacts < 60 mOhm<br>other contacts < 90 mOhm        |
| Insulation resistance               | > 10 <sup>9</sup> Ohm                                        |
| Nominal differential impedance      | 100 Ohm ± 10%                                                |
| Working current as defined in AMC.0 | min. 1,52 A @ 70°C, max 30°C temperature rise                |
| Temperature range                   | -55°C ... +105°C                                             |
| Termination technology              | press-in                                                     |
| Clearance & creepage distance       | > 0,1 mm                                                     |
| Insertion force                     | < 100 N (typically 60-95 N depending on the AdvancedMC card) |
| Withdrawal force                    | < 65 N (typically 30-45 N depending on the AdvancedMC card)  |
| Mating cycles                       | 200                                                          |
| UL file                             | E102079                                                      |
| RoHS - compliant                    | Yes                                                          |
| Leadfree                            | Yes                                                          |

## Insulator material

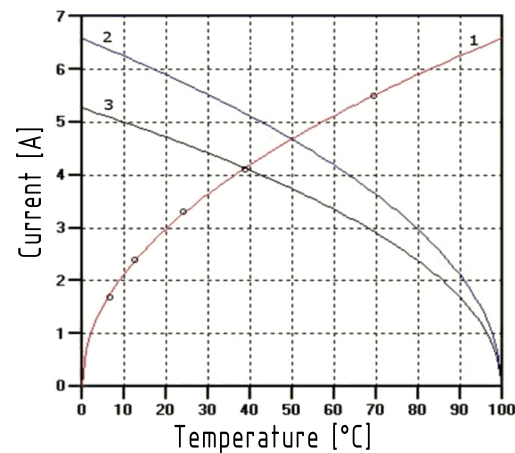
|                                 |                                                                 |
|---------------------------------|-----------------------------------------------------------------|
| Material                        | LCP (liquid crystalline polymer, glass fiber reinforcement 30%) |
| Color                           | black                                                           |
| UL classification               | UL 94-V0                                                        |
| Material group acc. IEC 60664-1 | IIIa (175 ≤ CTI < 400)                                          |

## Contact material

|                       |                    |
|-----------------------|--------------------|
| Contact material      | Copper alloy       |
| Plating press-in zone | Ni                 |
| Plating contact zone  | Au over Pd over Ni |

## Derating diagram acc. to IEC 60512-5 (Current carrying capacity)

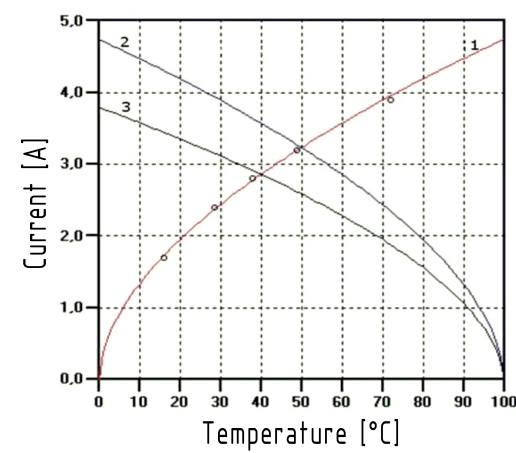
Power conductor, requirement min. 1,52 A @ 70° C



Curve 1 shows raise in temperature

Curve 2 shows nominal derating

Diff. pair conductor, requirement min. 0,1 A @ 70° C

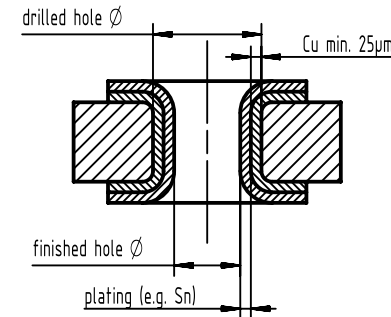


Curve 3 shows reduced values as per IEC512

## Recommended configuration of plated through holes for press-in termination

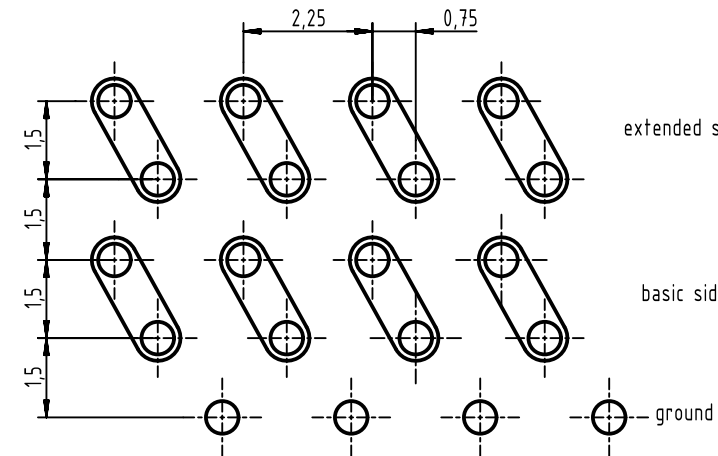
The press-in zone of the AdvancedMC™ connector is tested according to Telcordia/Bellcore GR 1217CORE Part7. It is approved to be used with a plated through hole according IEC 60352-5 with a diameter of 0.55±0.05 mm (drilled hole 0.64±0.01 mm).

Based on our experiences regarding the production process of the PCB manufacturer we recommend a plated through hole configuration like shown in the table on the right side. To achieve the recommended plated through hole diameter, it is important to specify especially the drilled hole diameter of 0.64±0.01 mm to your PCB supplier. For drillings use e.g. drill bit # 72 (0.025" ≈ 0.64 mm).



|                         |                 |                |
|-------------------------|-----------------|----------------|
| Tin plated PCB (HAL)    | Drilled hole Ø  | 0,64 ± 0,01 mm |
|                         | finished hole Ø | 0,53 - 0,60 mm |
| Chemical tin plated PCB | Drilled hole Ø  | 0,64 ± 0,01 mm |
|                         | finished hole Ø | 0,56 - 0,60 mm |
| Gold /Nickel plated PCB | Drilled hole Ø  | 0,64 ± 0,01 mm |
|                         | Ni              | 3 - 7 µm       |
|                         | Au              | 0,05 - 0,12 µm |
| Silver plated PCB       | Drilled hole Ø  | 0,64 ± 0,01 mm |
|                         | Ag              | 0,1 - 0,3 µm   |
| Copper plated PCB (OSP) | Drilled hole Ø  | 0,64 ± 0,01 mm |
|                         | finished hole Ø | 0,56 - 0,60 mm |
| All surfaces            | Pad size Ø      | min. 0,95 mm   |

## Pin grid at termination side



Available on request:

- PCB library (PADS/Dx-Designer)
- SPICE models
- S-Parameter

|                                |                                 |        |
|--------------------------------|---------------------------------|--------|
| Differential propagation delay | Basic side                      | 125 ps |
|                                | Extended side                   | 145 ps |
| Differential skew              | Between basic and extended side | 20 ps  |
|                                | Within basic and extended side  | ± 2 ps |

## Crosstalk

|                                                     |              |
|-----------------------------------------------------|--------------|
| Max. crosstalk @ 25 ps risetime                     | Bottom route |
| Adjacent                                            | 0.55%        |
| Basic-to-extended (diagonal)                        | 0.68%        |
| Basic-to-extended (opposite)                        | 0.39%        |
| Multiline (five multi-aggressor differential pairs) | 2.74% max.   |



All Dimensions in mm  
Original Size DIN A3

Scale  
1:1

Free size tol.

Ref.

Sub. DS 16 04 220 01 01 Mod. EC02426 2011-04-29



All rights reserved  
Department EC PD - DE

Created by  
THIELEMAN

Inspected by  
TADJE

Standardisation  
KOHLE

Date  
2014-07-16

State  
Final Release

Title  
AdvancedMC connector for AdvancedTCA

Doc-Key / ECM-Nr.  
100580851/UGD/000/A  
500000076062

HARTING Electronics GmbH  
D-32339 Espelkamp

Type  
DS

Number  
16042200101

Rev.  
A

Page  
1/1

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

HARTING:

[16041705104000](#) [16041705106000](#)