



# Power connector for MicroTCA™



### General information

Design	PICMG® MTCA.0 R1.0			
No. of contacts	Power contacts	24	Signal contacts	72
Test voltage	80 V r.m.s.			
Contact resistance	Power contacts	≤ 5 mOhm	Signal contacts	≤ 25 mOhm
Working current	Power contacts	9,3 A @ 70°C	Signal contacts	1 A @ 70°C
Insulation resistance	≥ 10 <sup>8</sup> Ohm			
Temperature range	-55°C ... +105°C			
Termination technology	press-in			
Sequential contact engagement	1st	Power 4-11		
	2nd	Power 1-3, power 12-24		
	3rd	Signal A2-H9		
	4th	Signal A1		
Insertion force	< 145 N			
Withdrawal force	< 110 N			
Mating cycles	250			
UL file	E102079			
RoHS - compliant	Yes			
Leadfree	Yes			

### Insulator material

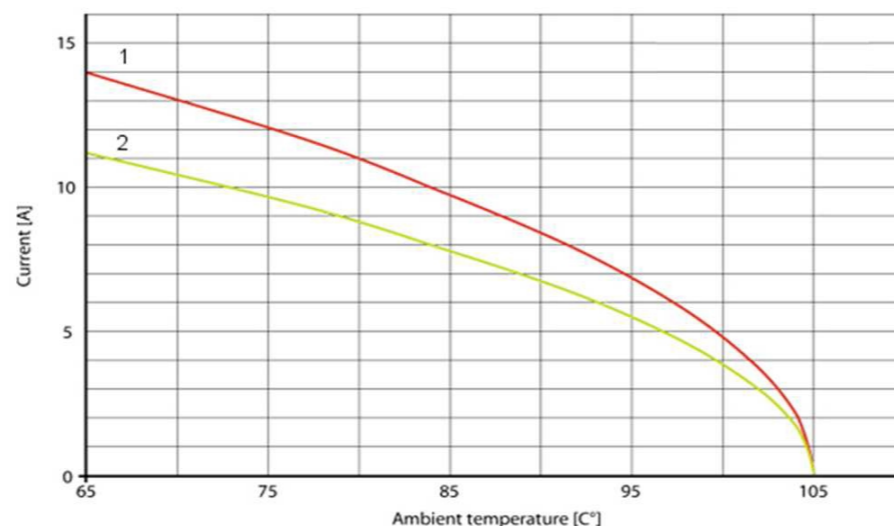
Material	PBT (thermoplastics, glass fiber reinforcement)
Color	grey
UL classification	UL 94-V0
Material group acc. IEC 60664-1	IIIa (175 ≤ CTI < 400)

### Contact material

Contact material	Copper alloy
Plating power contacts	Au over Ni
Plating signal contacts	Au over Pd over Ni

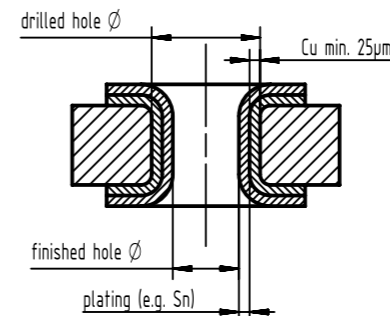
### Derating diagram acc. to IEC 60512-5 (Current carrying capacity)

- nominal derating, all contacts under load acc. to PICMG® spec. MTCA.0 R1.0
- derating curve at I\*0,8 (IEC 60512-5)



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

The press-in zone of the MicroTCA™ power 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 0.60±0.05 mm (drilled hole 0.70±0.02 mm).  
Based on our experiences regarding the production process of the PCB manufacturer we recommend a plated through hole configuration like shown in the above spreadsheet.  
To achieve the recommended plated through hole diameter, it is important to specify especially the drilled hole diameter of 0.70±0.02 mm to your PCB supplier.



Plating	Drilled hole Ø	0,7 ± 0,02 mm
	Tin plated PCB (HAL)	Sn
Chemical tin plated PCB	finished hole Ø	0,60 - 0,65 mm
	Drilled hole Ø	0,7 ± 0,02 mm
Gold /Nickel plated PCB	Sn	0,8 - 1,5 µm
	finished hole Ø	0,60 - 0,65 mm
Silver plated PCB	Drilled hole Ø	0,7 ± 0,02 mm
	Ni	3 - 7 µm
Copper plated PCB (OSP)	Au	0,05 - 0,12 µm
	finished hole Ø	0,60 - 0,65 mm
All surfaces	Drilled hole Ø	0,7 ± 0,02 mm
	Ag	0,1 - 0,3 µm
All surfaces	finished hole Ø	0,60 - 0,65 mm
	Pad size Ø	min. 1,0 mm

	All rights reserved	Created by	Inspected by	Standardisation	Date	State
	Department EC PD - DE	THIELEMANN	TADJE	KOHLER	2014-07-16	Final Release
Title: Power connector for MicroTCA						Doc-Key / ECM-Nr.
HARTING Electronics GmbH						100580918/UGD/000/A
D-32339 Espelkamp						500000076062
Type	DS	Number	16300000102		Rev.	Page
					A	1/1