



Power connector for AdvancedTCA®, male



General information

Design	PICMG® 3.0 R2.0			
No. of contacts	Power contacts	8	Signal contacts	22, max. 26
Test voltage	Contacts 1-16	1000 V r.m.s.	Contacts 17-34	2000 V r.m.s.
Contact resistance	Power contacts	≤ 2,2 mOhm	Signal contacts	≤ 8,5 mOhm
Working current	Power contacts	16 A @ 70°C	Signal contacts	1 A @ 70°C
Insulation resistance	≥ 10 ¹⁰ Ohm			
Temperature range	-55°C ... +125°C			
Termination technology	press-in			
Clearance & creepage distance	Contacts	5-16	0,7 mm	
	Contacts	17-24	2,5 mm	
	Contacts	25-26	5,5 mm	
	Contacts	27-34	1,4 mm	
	Contacts	13-16 to 17-20	3,0 mm	
	Contacts	21-24 to 25-26	1,0 mm	
Sequential contact engagement	Contacts	25-26 to 27-29	2,0 mm	
	1st:	25, 26, 28, 29, 30, 31	3rd:	5-24, 34
	2nd:	33	4th:	27, 32
	Insertion & withdrawal force	< 67 N		
Mating cycles	250			
UL file	E102079			
RoHS - compliant	Yes			
Leadfree	Yes			

Insulator material

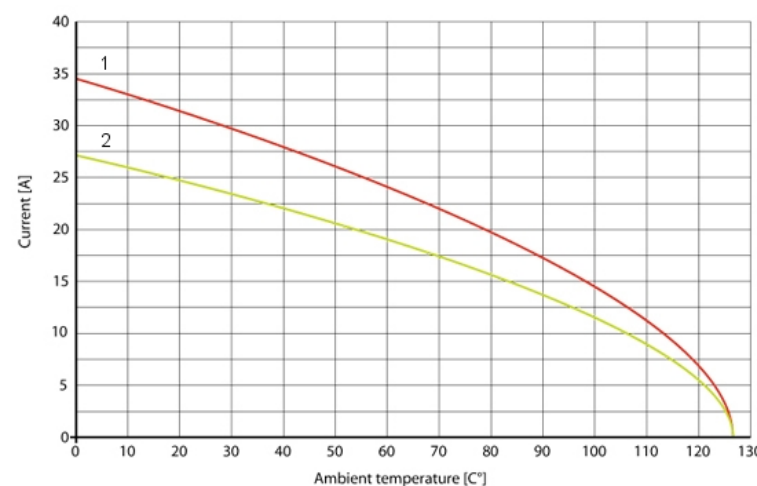
Material	PBT (thermoplastics, glass fiber reinforcement)
Color	grey
UL classification	UL 94-V0
Material group acc. IEC 60664-1	IIIa (175 ≤ CTI < 400)

Contact material

Contact material	Copper alloy
Plating termination zone	Sn over Ni
Plating contact zone	Au (0,8 µm) over Ni

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

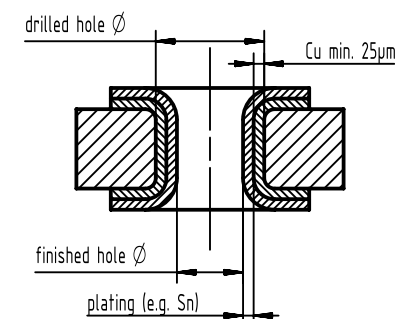
- nominal derating, all contacts under load acc. to ATAC spec. PICMG® 3.0 R2.0
- derating curve at I*0,8 (IEC 512)



Recommended configuration of plated through holes for press-in termination

The press-in zone of the AdvancedTCA® 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 $\varnothing 1,00 +0,09/-0,06$ mm for signal contacts (drilled hole $\varnothing 1,15 \pm 0,025$ mm) and $\varnothing 1,60 +0,09/-0,06$ mm for power contacts (drilled hole $\varnothing 1,75 \pm 0,025$ 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. To achieve the recommended plated through hole diameter, it is important to specify especially the drilled hole diameter of $\varnothing 1,15 \pm 0,025$ mm resp. $\varnothing 1,75 \pm 0,025$ mm to your PCB supplier.



Plating	Plating	Signal contacts		Power contacts	
		Drilled hole \varnothing	Finished hole \varnothing	Drilled hole \varnothing	Finished hole \varnothing
Tin plated PCB (HAL)	Sn	$1,15 \pm 0,025$ mm	5 - 15 µm	$1,75 \pm 0,025$ mm	5 - 15 µm
	finished hole \varnothing	1,00 - 1,10 mm	1,60 - 1,70 mm		
Chemical tin plated PCB	Sn	$1,15 \pm 0,025$ mm	0,8 - 1,5 µm	$1,75 \pm 0,025$ mm	0,8 - 1,5 µm
	finished hole \varnothing	1,00 - 1,10 mm	1,60 - 1,70 mm		
Gold /Nickel plated PCB	Drilled hole \varnothing	$1,15 \pm 0,025$ mm	$1,75 \pm 0,025$ mm		
	Ni	3 - 7 µm	3 - 7 µm		
	Au	0,05 - 0,12 µm	0,05 - 0,12 µm		
Silver plated PCB	Drilled hole \varnothing	$1,15 \pm 0,025$ mm	$1,75 \pm 0,025$ mm		
	Ag	0,1 - 0,3 µm	0,1 - 0,3 µm		
Copper plated PCB (OSP)	Drilled hole \varnothing	$1,15 \pm 0,025$ mm	$1,75 \pm 0,025$ mm		
	finished hole \varnothing	1,00 - 1,10 mm	1,60 - 1,70 mm		
All surfaces	Pad size \varnothing	min. 1,4 mm	min. 2,0 mm		

	All Dimensions in mm Original Size DIN A3	Scale 1:1	Free size tol.	Ref.	Sub.	
	All rights reserved Department EC PD - DE	Created by POPESCUD	Inspected by PRIESTER	Standardisation HOFFMANN	Date 2018-06-05	State Final Release
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HARTING Electronics GmbH D-32339 Espelkamp		Type DS	Number 16300000101	Rev. B	Page 1/1	

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