



Power connector for AdvancedTCA®



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	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

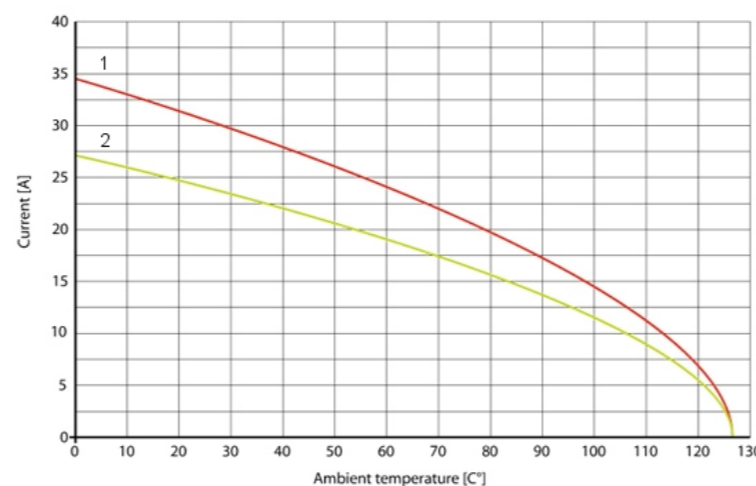
Material	PBT (thermoplastics, glass fiber reinforcement)
Color	grey
UL classification	UL 94-V0
Material group acc. IEC 60664-1	IIIa (175 ≤ CTI < 400)

Contact material

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

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

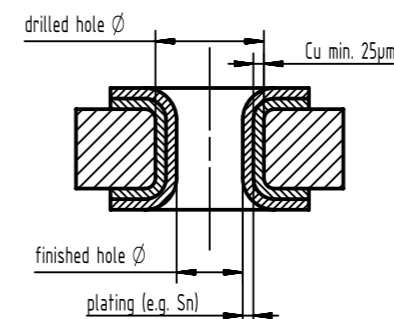
- nominal derating, all contacts under load acc. to ATAC spec. PICMG® 3.0 R2.0
- derating curve at I*0,8 (IEC 512)



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

	All Dimensions in mm Original Size DIN A3	Scale 1:1	Free size tol.	Ref. Sub. DS 16 30 000 01 01, ECO2426, 29.04.2011
	All rights reserved Department EC PD - DE	Created by THIELEMANN	Inspected by TADJE	Standardisation KOHLER
		Date 2014-07-16	State Final Release	
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