

СОЕДИНИТЕЛИ СЕРИИ АТСА



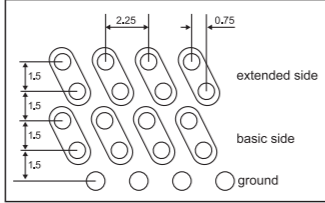
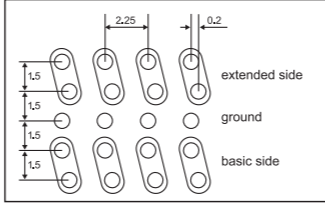
Производство компании ЕРТ

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РСР

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Technical specifications AdvancedTCA® and MicroTCA® signal connector

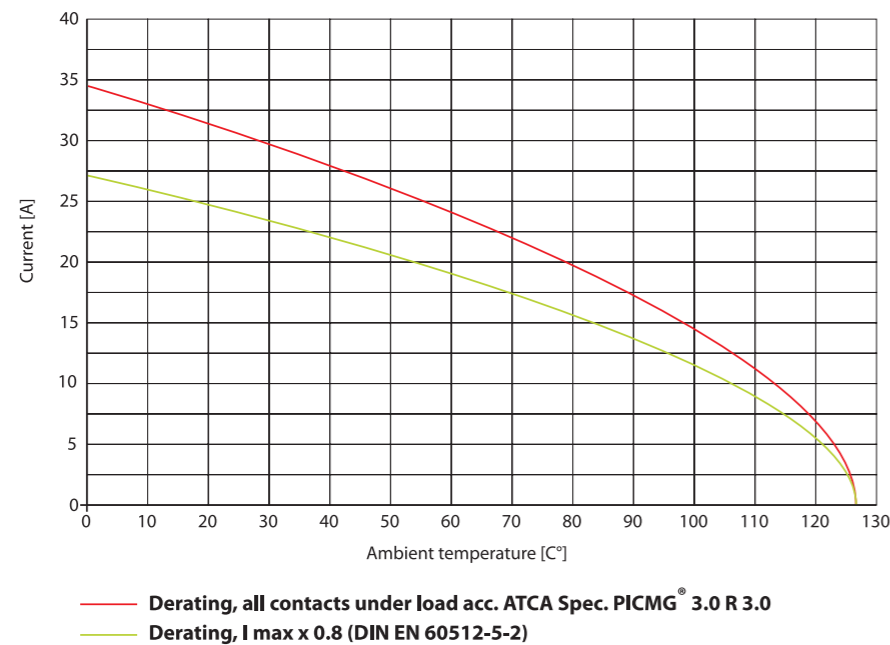
System	AdvancedTCA®	MicroTCA®
Type	AMC B+ signal connector CardEdge	AMC signal connector CardEdge
Specification	PICMG® AMC.0	PICMG® MTCA.0 R1.0
No. of contacts	170	170
Contact spacing	0.75 mm	0.75 mm
Clearance and creepage distance between the contacts	min. 0.1 mm	min. 0.1 mm
Operational current of 8 power contacts according to specification	1.52 A @ 70 °C max. 30 °C temperature rise	1.52 A @ 70 °C max. 30 °C temperature rise
Operating temperature range	- 55 °C to + 105 °C	- 55 °C to + 105 °C
Test voltage	80 V _{r.m.s}	80 V _{r.m.s}
Contact resistance	max. 60 mΩ (ground contacts) max. 90 mΩ (signal, power, general purpose contacts)	max. 25 mΩ
Insulation resistance	10 ⁸ Ω	10 ⁸ Ω
Mating cycles	200	200
Termination technology	Compliant Pin	Compliant Pin
Engaging force	max. 100 N	max. 100 N
Separating force	max. 65 N	max. 65 N
Impedance (nominal differential)	100 Ω ± 10 %	100 Ω ± 10 %
Cross talk (NEXT - pair to pair) @ 30 ps rise time	basic to basic < 0.6 % basic to extended < 0.9 % extended to extended < 0.6 % diagonal < 0.3 % multiline < 3.0 %	basic to basic < 0.5 % basic to extended < 0.2 % diagonal < 0.1 % multiline < 2.0 %
		
Differential signal propagation time	Basic side: 125 ps Extended side: 145 ps	Basic side: 75 ps Extended side: 75 ps
Differential signal propagation difference	Between basic and extended side: 20 ps Within basic and extended side: ± 2 ps	Between basic and extended side: ± 2 ps Within basic and extended side: ± 2 ps
Insulator material	LCP, UL 94-V0	LCP, UL 94-V0
Contact material	Copper alloy	Copper alloy
Contact surface	Pd/Ni	Pd/Ni
Environment/approvals	RoHS compliant/UL (file: E130314)	RoHS compliant/UL (file: E130314)

Technical specifications AdvancedTCA® and MicroTCA® power connector

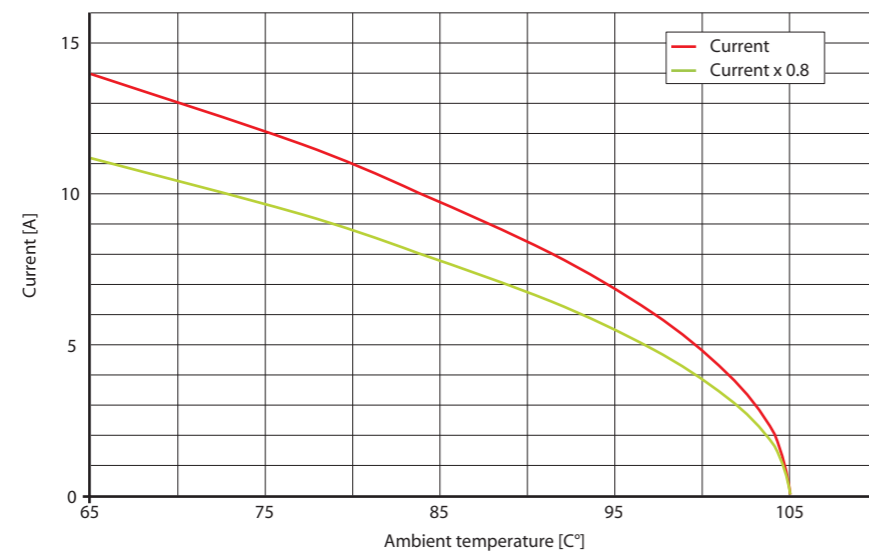
System	AdvancedTCA®	MicroTCA®
Type	Power connector Female and male connector	Power connector Backplane and power module output
Specification	PICMG® 3.0 R2.0	PICMG® MTCA.0 R1.0
No. of contacts	30	96
Power contacts	8	24
Signal contacts	22	72
Operational current	Power contacts: max. 16 A Signal contacts: max. 1 A	Power contacts: max. 12 A Signal contacts: max. 1 A
Operating temperature range	- 55 °C to + 125 °C	- 55 °C to + 105 °C
Test voltage	Contact 1 – 16 1000 V _{r.m.s} Contact 17 – 34 2000 V _{r.m.s}	80 V _{r.m.s}
Contact resistance	Power contacts: ≤ 2,2 mΩ Signal contacts: ≤ 8,5 mΩ	Power contacts: ≤ 5 mΩ Signal contacts: ≤ 25 mΩ
Insulation resistance	≥ 10 ¹⁰ Ω	≥ 10 ⁸ Ω
Mating cycles	250	200
Termination technology	Compliant Pin	Compliant Pin
Engaging force	max. 67 N	max. 50 N
Separating force	max. 67 N	max. 50 N
Insulator material	PBT glass filled, UL 94 V-0	PBT glass filled, UL 94 V-0
Contact material	Copper alloy	Copper alloy
Contact surface	Au	Power: Au Signal: Pd/Ni
Environment/approvals	RoHS compliant/UL (file: E130314)	RoHS compliant/UL (file: E130314)

Derating diagrams

Derating diagram AdvancedTCA® Power



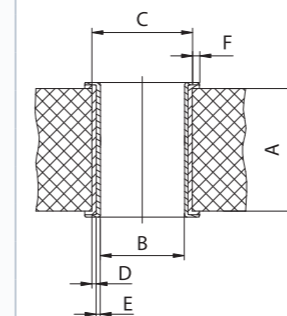
Derating diagram MicroTCA® Power



AMC signal connector for AdvancedTCA® and MicroTCA®

Plated through-hole according to IEC 60352-5

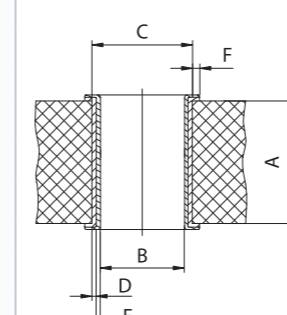
	Nominal hole	Ø 0.55 mm
imm. Sn printed circuit boards		
A	PCB thickness	min. 1.4 mm
B	Plated hole	Ø 0.55 ± 0.05 mm
C	Drill hole	Ø 0.64 ± 0.01 mm
D	Cu plating	min. 25 µm
E	Imm. Sn plating	max. 1.5 µm
F	Annular ring	min. 0.15 mm
Ni, Au printed circuit boards		
A	PCB thickness	min. 1.4 mm
B	Plated hole	Ø 0.55 ± 0.05 mm
C	Drill hole	Ø 0.64 ± 0.01 mm
D	Cu plating	min. 25 µm
E	Ni, Au plating	0.05 – 0.2 µm Au over 2.5 – 5 µm Ni
F	Annular ring	min. 0.15 mm



AdvancedTCA® power male connector

Plated through-hole according to IEC 60352-5

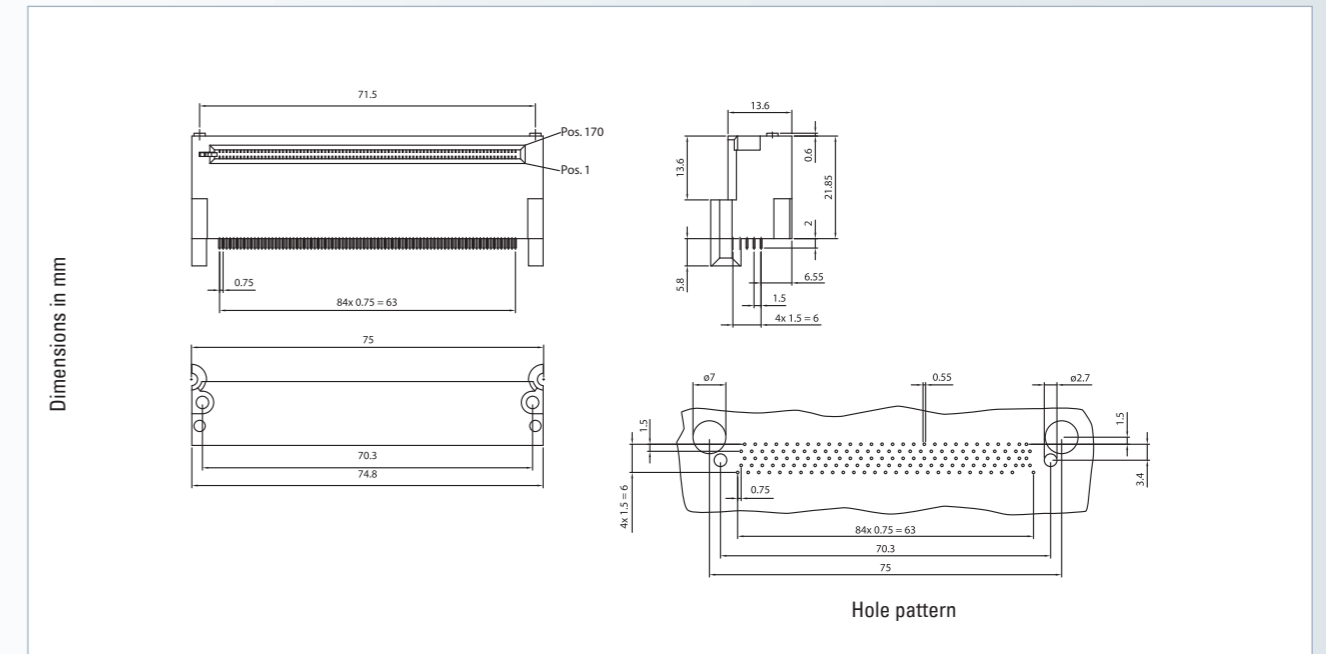
	Nominal hole	Ø 1.0 mm	Ø 1.6 mm
imm. Sn printed circuit boards			
A	PCB thickness	min. 1.4 mm	min. 1.4 mm
B	Plated hole	Ø 1 + 0.09/-0.06 mm	Ø 1.6 + 0.09/-0.06 mm
C	Drill hole	Ø 1.15 ± 0.025 mm	Ø 1.75 ± 0.025 mm
D	Cu plating	min. 25 µm	min. 25 µm
E	Imm. Sn plating	max. 1.5 µm	max. 1.5 µm
F	Annular ring	min. 0.1 mm	min. 0.1 mm
Ni, Au printed circuit boards			
A	PCB thickness	min. 1.4 mm	min. 1.4 mm
B	Plated hole	Ø 1 + 0.09 mm/-0.06 mm	Ø 1.6 + 0.09 mm/-0.06 mm
C	Drill hole	Ø 1.15 ± 0.025 mm	Ø 1.75 ± 0.025 mm
D	Cu plating	min. 25 µm	min. 25 µm
E	Ni, Au plating	0.05 – 0.2 µm Au over 2.5 – 5 µm Ni	0.05 – 0.2 µm Au over 2.5 – 5 µm Ni
F	Annular ring	min. 0.1 mm	min. 0.1 mm



AdvancedTCA® power female connector

Plated through-hole according to IEC 60352-5

		Nominal hole	Ø 1.0 mm	Ø 1.6 mm
imm. Sn printed circuit boards				
	A	PCB thickness	min. 2.9 mm	min. 2.9 mm
	B	Plated hole	Ø 1 + 0.09/-0.06 mm	Ø 1.6 + 0.09/-0.06 mm
	C	Drill hole	Ø 1.15 ± 0.025 mm	Ø 1.75 ± 0.025 mm
	D	Cu plating	min. 25 µm	min. 25 µm
	E	Imm. Sn plating	max. 1.5 µm	max. 1.5 µm
	F	Annular ring	min. 0.1 mm	min. 0.1 mm
Ni, Au printed circuit boards				
A	PCB thickness	min. 2.9 mm	min. 2.9 mm	min. 2.9 mm
B	Plated hole	Ø 1 + 0.09/-0.06 mm	Ø 1.6 + 0.09/-0.06 mm	Ø 1.6 + 0.09/-0.06 mm
C	Drill hole	Ø 1.15 ± 0.025 mm	Ø 1.75 ± 0.025 mm	Ø 1.75 ± 0.025 mm
D	Cu plating	min. 25 µm	min. 25 µm	min. 25 µm
E	Ni, Au plating	0.05 – 0.2 µm Au over 2.5 – 5 µm Ni	0.05 – 0.2 µm Au over 2.5 – 5 µm Ni	0.05 – 0.2 µm Au over 2.5 – 5 µm Ni
F	Annular ring	min. 0.1 mm	min. 0.1 mm	min. 0.1 mm



MicroTCA® power (backplane and power module output)

Plated through-hole according to IEC 60352-5

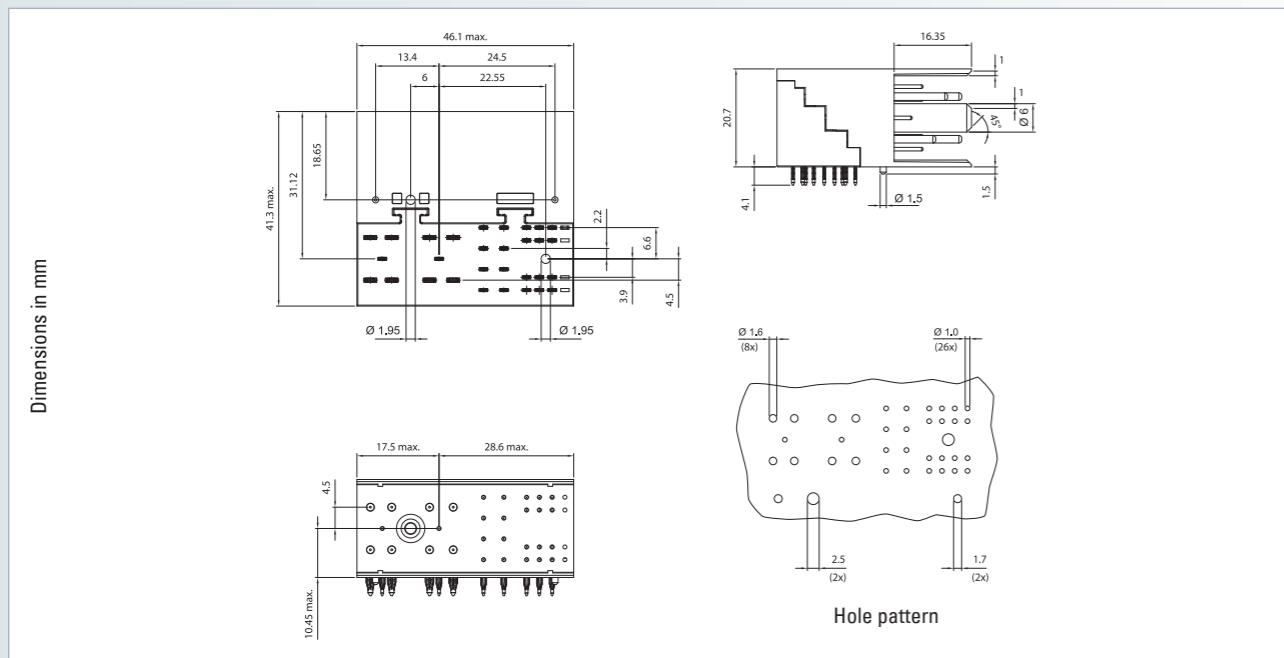
		Nominal hole	Ø 0.60 mm
imm. Sn printed circuit boards			
	A	PCB thickness	min. 1.4 mm
	B	Plated hole	Ø 0.60 ± 0.05 mm
	C	Drill hole	Ø 0.70 ± 0.02 mm
	D	Cu plating	min. 25 µm
	E	Imm. Sn plating	max. 1.5 µm
	F	Annular ring	min. 0.1 mm
Ni, Au printed circuit boards			
A	PCB thickness	min. 1.4 mm	min. 1.4 mm
B	Plated hole	Ø 0.60 ± 0.05 mm	Ø 0.60 ± 0.05 mm
C	Drill hole	Ø 0.70 ± 0.02 mm	Ø 0.70 ± 0.02 mm
D	Cu plating	min. 25 µm	min. 25 µm
E	Ni, Au plating	0.05 – 0.5 µm Au over 2.5 – 5 µm Ni	0.05 – 0.5 µm Au over 2.5 – 5 µm Ni
F	Annular ring	min. 0.1 mm	min. 0.1 mm

No. of contacts	Press-fit technology	
	Without peg	With peg
170	512-22170-453	512-23170-453

Accessories
 – Press-fit tool (see page 194)
 – Support tool (see page 195)

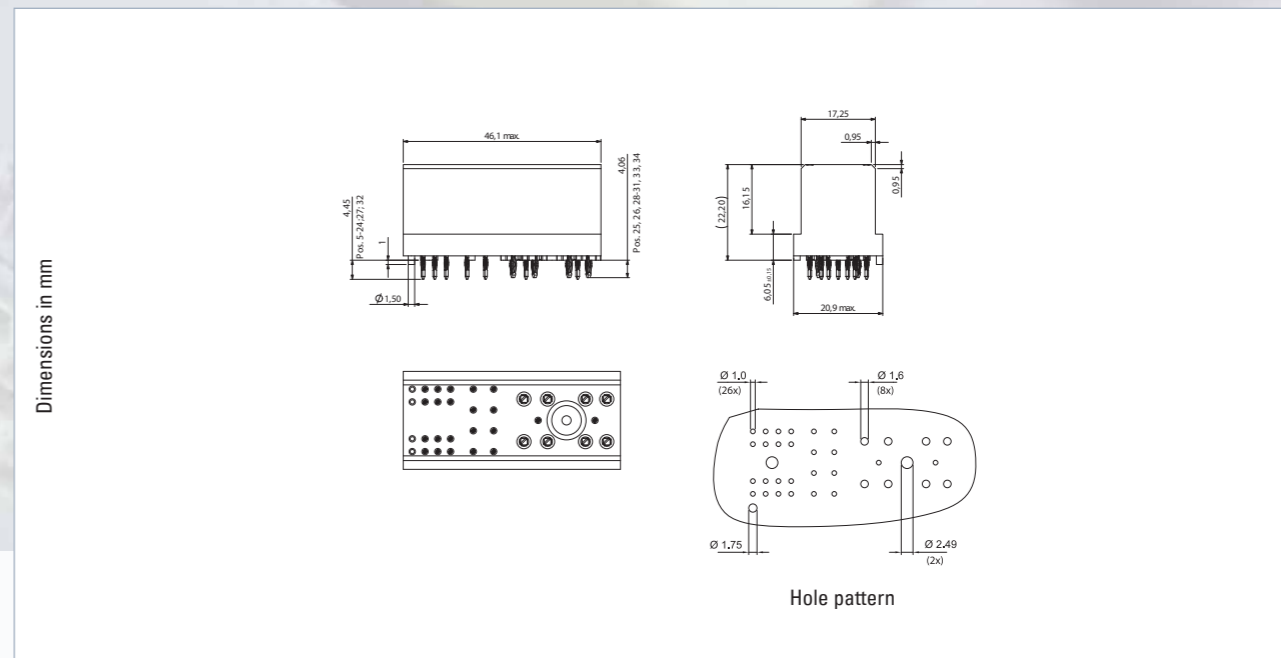
Cross reference
 – Function GuideSpring/con:card+® (see page 13)





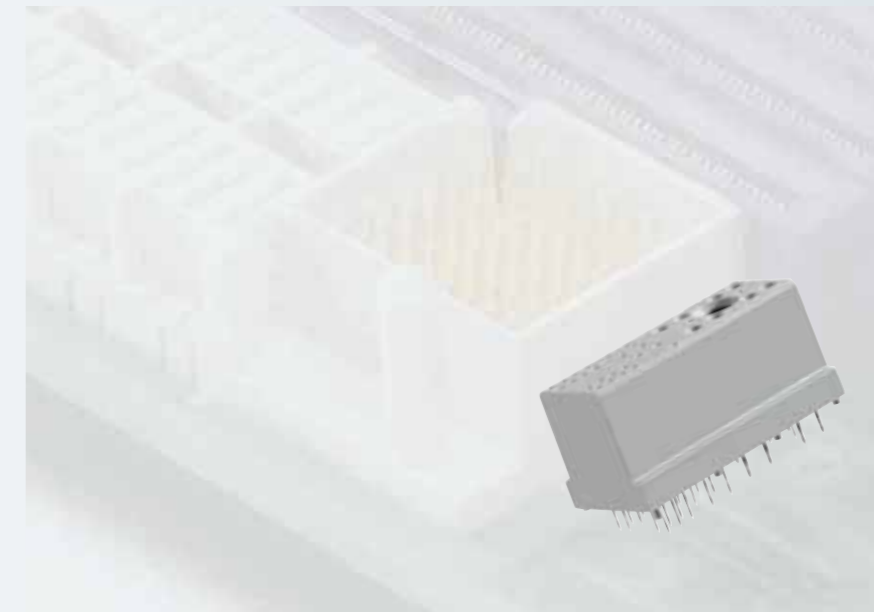
No. of contacts	Press-fit technology
	Part number
22 Signal 8 Power	511-50500-163
26 Signal 8 Power	511-50501-163

On request	Accessories
– Other contact numbers	– Press-fit tool (see page 194) – Support tool (see page 195)



No. of contacts	Press-fit technology
	Part number
22 Signal 8 Power	512-50500-163
26 Signal 8 Power	512-50501-163

On request	Accessories
– Other contact numbers	– Press-fit tool (see page 194) – Support tool (see page 195)





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