Please send us:		
<image/>	Catalogue <b>f.cool</b> Extruded heatsinks LED heatsinks Cooling aggregates Thermally conductive material	Company:
		Attn.:
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		Street:
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	Catalogue <b>f.case</b> Cases 19" technology Accessories	Please also send data to following place:
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		to cool to protect to connect
		Fischer Elektronik GmbH & Co. KG
		Nottebohmstraße 28 58511 Lüdenscheid GERMANY fon +49 2351 435-0 fax +49 2351 45754 info@fischerelektronik.de
		www.fischerelektronik.de



Desk consoles and shell cases Combination cases / Universal tube cases Miniature aluminium casings Design cases



#### Desk consoles and shell cases

- multi-purpose desk consoles and shell cases made of aluminium; – for the accommodation of non-standard PC boards and components
- with integrated guide grooves with a modular spacing of 1 U
- customized printing of the front panels
- special dimensions, processing and surface finish according to the customers' specification



#### Miniature aluminium casings

- casing designed as tube or as half shell segments with spring and groove
- with integrated cooling fins
- internal guide groove for accommodating printed circuits or mounting boards
- D-Sub connectors can be mounted without front panel
- cut-outs, special lengths and surfaces finish in accordance with customers specifications



#### Combination cases and universal tube cases

- suitable for all common Eurocard formats,
- many combinations are possible – available as desktop case or for guide rail mounting
- available as desktop case or for guide rall mounting
   sealed up to protective class IP 54
- design in accordance with EMC by electrically
- conductive surfaces and seals
   special profiles, special designs and solutions to meet customers' requirements



#### **Design cases**

- innovative cases with a striking design with functional properties
- aluminium case suitable for 100 mm Eurocards, non-standardized components or PCBs
- possibility to install front foils, membrane keyboards and touch systems
   individal colour design of the aluminium profiles,
- individal colour design of the aluminium profiles front panels and plastic covers



19" system cases 19" subracks 19" plug-in boxes 19" insert modules



#### 19" system cases

- modular design made of aluminium profiles and -sheets for various types of case construction
- outside dimensions identical with subracks, therefore also suitable for an installation in 19" cabinets
- installation of part front or rear panels and BUS backplanes
- all dimensions, dividing possibilities and colours in accordance with customers' specifications



#### 19" plug-in boxes

- for the accommodation of horizontal PCBs or non-standardized components
- from 1 U to 6 U, with or without handle
- side panels made of aluminium sheet or extruded profile
- versatile variants with removable cover and bottom plates
- durable silkscreen print in all common RAL colours
- customer-specific perforation and profile processing



#### 19" subracks

- for standard and EMC applications
- integrated modular rails with positioning aid for accommodating guide rails
- designs with various height units
   large range of accessories and modification possibilities
- rack units with all possibilities of extension individually designed for your specific application



#### 19" insert modules

- integrated T-slots for insulation or threaded rails or square nuts
- EMC protected design ensured by electrically conductive surfaces and seals
- with internal PCB guidance in modular design 1 U
- outside screw channels to avoid short circuits due to chips from screwing
- customized solutions are possible

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# to cool to protect to connect



Extruded heatsinks LED heatsinks Finger shaped heatsinks Cooling aggregates Cases 19" technology Sockets Connectors Brackets for PC



## **Processed extruded heatsinks** Extruded heatsinks with soldered pins LED heatsinks Fin coolers



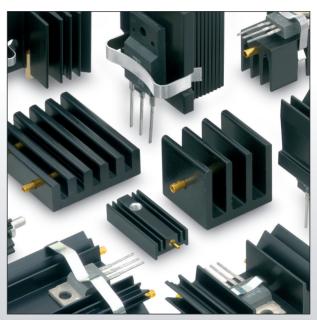
#### **Processed extruded heatsinks**

- several hundred profiles always in store
- maximum precision ensured by advanced
- processing machines
- profile processing up to 1600 mm
   special CNC processing to meet your requirements
- any desired surface finish
- processing of previously anodized heatsinks
- special profiles to meet your specific demands



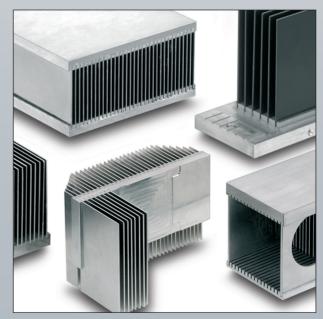
#### **LED-heatsinks**

- innovative product development and capability for dissipating heat from LEDs
- in-house measuring lab for the thermal analysis of customer-specific cooling concepts, prototype construction
- LED installation using screws, thermally conductive washers or adhesives
- advice and construction support including application-related "Thermal Management"



#### Extruded heatsinks with soldered pins

- pressed in solder pins for direct solder fastening
- solder pins with insulating ring or as threaded bolt for horizontal or vertical PCB installation
- fast and easy installation of semiconductors using
- special transistor retaining springs high contact force and firm hold on the semiconductors thanks to various types of retaining springs
- customized designs and modifications



#### **Fin coolers**

- fin coolers made of aluminium or copper specially designed for forced convection compact design with very low
- heat resistance
- precisely flat milled surface on one or both sides
- additional processes, modifications or
- special designs to meet customers' requirements

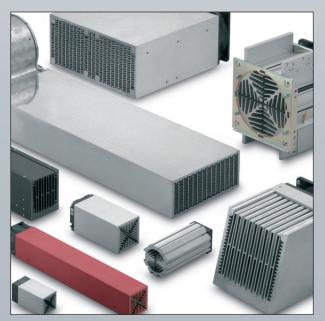


Heatsinks and fan coolers for processors Finger-shaped and small heatsinks Cooling aggregates Thermally conductive material



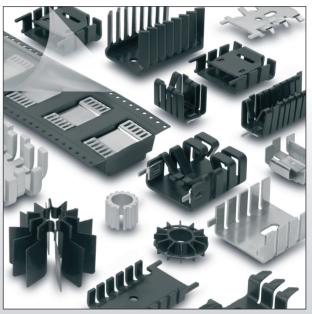
### Heatsinks and fan coolers for processors

- very high degree of thermal efficiency due to optimised geometry of the fins for an optimised air flow easy installation with the integrated clip fastening,
- double-sided thermally conductive washer or thermally conductive adhesive
- compact design with high mechanical stability
  high-end industrial design
- customised versions and processing



#### Cooling aggregates

- segment, hollow fin, miniature and high capacity cooling aggregates
- effective design with axial, diagonal and radial fan motors
- precisely milled flat surfaces of the semiconductor
- optimised geometry of the fins for an optimised air flow
- fixed lengths with optimum adaptation to the fan motor
- additional processing to meet customers' requirements



#### Finger shaped heatsinks and small heatsinks

- made of spring bronze, aluminium or copper
- effective heat dissipation of small transistors
- semiconductor fastened by a screw or an integrated spring clamp can be soldered directly into the PCB thanks to
- solderable surfaces or snap-in pins special packaging such as tape & reel, magazine
- and tray for fully automatic processing

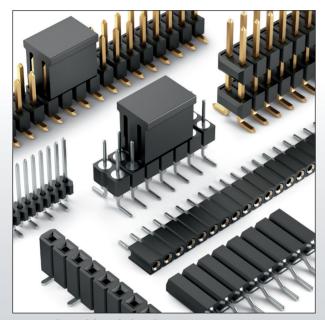


#### Thermally conductive material

- heat conductive and electrically insulating washers
- thermal transfer compounds with silicon, without silicon, with graphitic materials
- various materials such as silicon elastomer, gel and foam foils, polyimides etc. large standard range of cuttings, strips, plates, hoses
- and caps
- customised manufacture of our thermally conductive materials according to customers' drawing

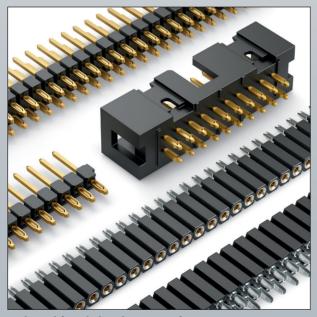


SMD male and female headers ... in SMD ... in soldering technique ... in press-fit mounting Packaging formats for automatic picking and placing



#### SMD male and female headers

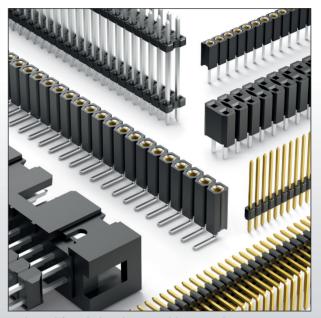
- single and double row contacts
- modular sizes: 2.54 mm, 2.00 mm, 1,27 mm
  high temperature-resistant plastic insulators
- with or without pick-and-place pad
- vertical and horizontal designs
- various contact surfaces
- special packaging formats such as tape and reel or bar magazine



#### Male and female headers, press-fit mounting

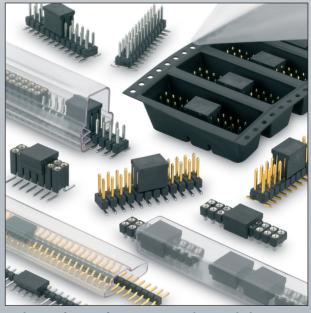
- press-fit mounting without soldering, resilient press-fit area; - easy insertion into PCB
- for PCB layout in accordance to DIN EN 60352-5 PCB thickness ≥1.6 mm

- single or double row design, straight version
  shroud male headers, 10-20 contacts
  contact surfaces tinned or gilded, number of contacts according to customers' specification



Male and female headers in soldering technique

- modular sizes: 2.54 mm, 2.00 mm, 1.27 mm
- male headers in single or double row design, straight or angled version, contact length up to 65 mm
- shroud male headers, 10-50 poles; female header, single or double row design, straight or angled version with stamped contacts or precision contacts stackthrough female headers, single or double row
- design



- Packaging formats for automatic picking and placing bar magazine made of robust plastic material
- including special locking systems tape and reel, reel diameter 330 mm
- male and female headers in packaging material both with centrally arranged pick-and-place pad
- customer specific designs, tape widths and reel diameters



**Sockets Ribbon cables D-Sub** connectors **Brackets and PC board holders** 



#### **Sockets**

- for DIL-IC, PLCC, crystals, TO cases and power transistors
- precision sockets and sockets for SMD-
- and soldering technique
- various contact surfaces
- sockets with low profile
- insulators made of material according to per UL 94 V-0



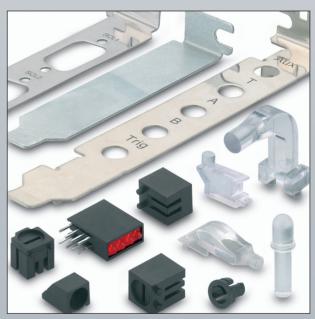
#### **D-Sub connectors**

- male and female headers for press-fit mounting, SMD and insulation displacement screw clamp technology
- high-density connectors with clamping spring screening
   multiple D-Sub connectors / multiple layout connectors
- with high power and signal contacts various designs and numbers of contacts



#### **Ribbon cables**

- female multipoint connector for flat ribbon cables, with or without locking and strain relief
- shrouded male headers suitable for lockable female multipoint connector, two rows: 6-50 contacts in a modular size of 2.54 mm; – printed circuit connectors, single row, double or quadruple rows
- contact surfaces tin plated or gilded
- accessories and processing tools



**Brackets and PC board holders** 

- PC board holder, with or without fixing tab, customer-specific cut-outs and imprints
- low profile PCI holders
- LED holder with or without LED for front panel and PC board installation
- rigid and angular light pipes for SMD components

- large range of D-Sub accessories