
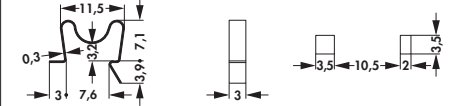
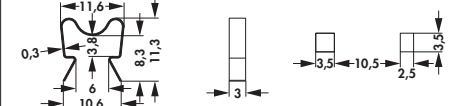
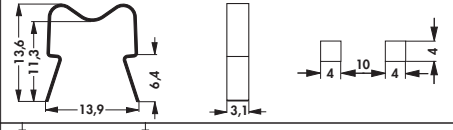
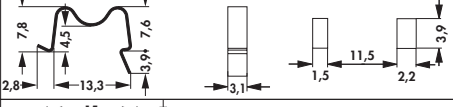
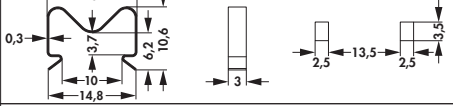
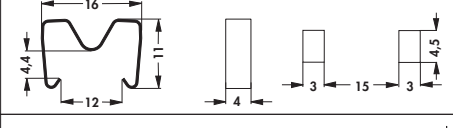

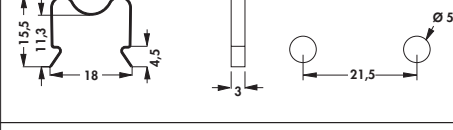
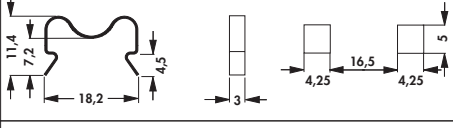
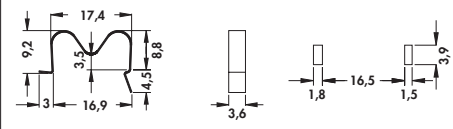
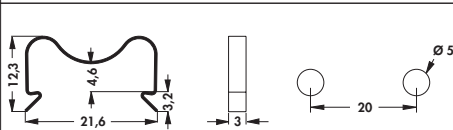
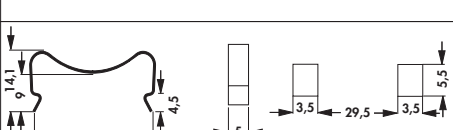
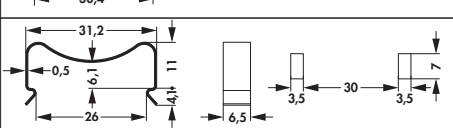
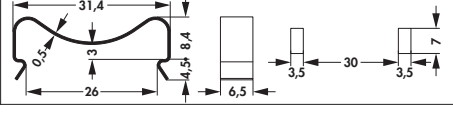

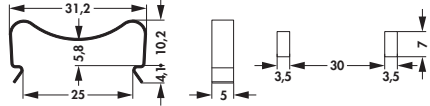
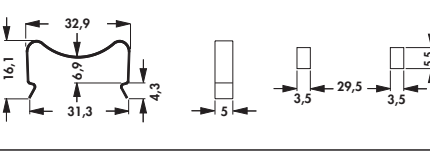
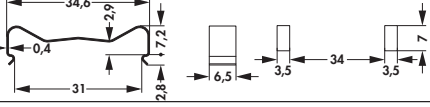
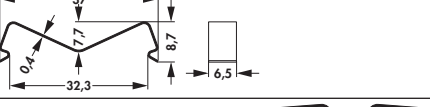
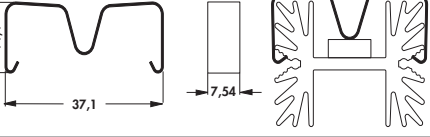
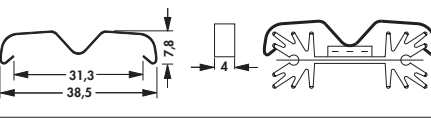



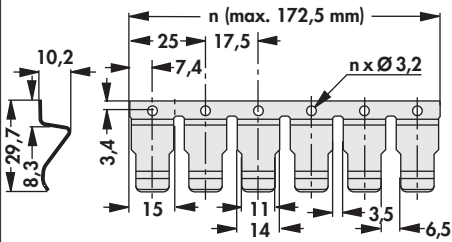

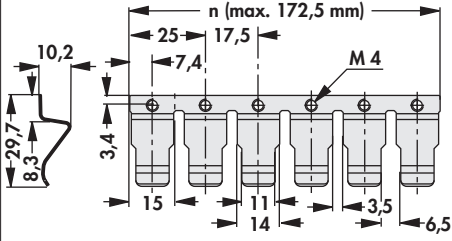

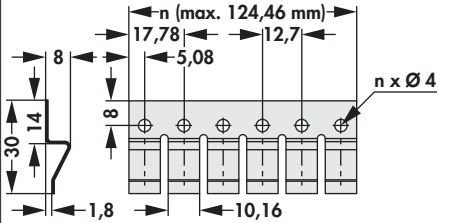

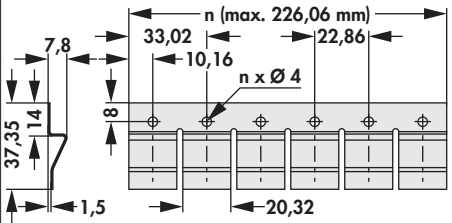
art. no.	for transistor-housing	suitable for heatsinks	plate thickness [mm]	material	
<b>THF 126 11</b>	TO 126	-	2	stainless steel	
<b>THF 126 12</b>	TO 126	-	2	stainless steel	
<b>THF 129 TO 220</b>	TO 220	FK 219/ FK 222/ SK 129	1-2	stainless steel	
<b>THF 220</b>	TO 220	FK 219/ FK 222	1-2	stainless steel	
<b>THF 220 15</b>	TO 220	-	1.5-2.0	stainless steel	
<b>THF 249</b>	TO 220	FK 249	1.0-1.5	spring steel, corrosion protected	
<b>THF 409 TO 220</b>	TO 220/ TO 247/ TO 248/ TO 3 P	SK 409	1.5-3.0	stainless steel	
<b>THF 409 220 2</b>	TO 218/ TO 220/ TO 247/ TO 248/ TO 3 P	SK 145/ SK 185/ SK 437	4	stainless steel	
<b>THF 409 SOT 32</b>	TO 126/ SOT 32/ SOT 82	SK 409	2-3	stainless steel	
<b>THF 220 17</b>	TO 218/ TO 220/ TO 247/ TO 248/ TO 3 P	-	1.0-1.5	stainless steel	
<b>THF 409 220 1</b>	TO 218/ TO 220/ TO 247/ TO 248/ TO 3 P	SK 409/ SK 459	2-3	stainless steel	
<b>THF 247</b>	TO 220/ TO 247/ TO 248/ TO 3 P	SK 484	2	stainless steel	
<b>THF 247 15</b>	TO 247/ TO 248/ TO 3 P	SK 460	4	stainless steel	
<b>THF 247 11</b>	-	-	1.5	stainless steel	

**Retaining springs for transistors**

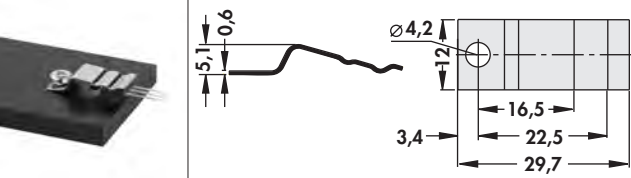
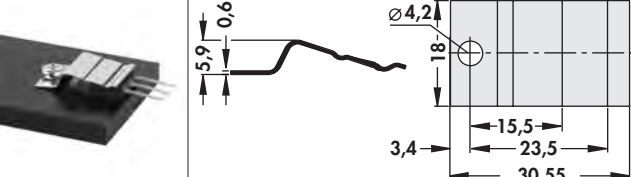
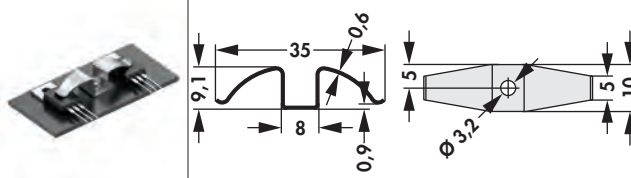
art. no.	for transistor-housing	suitable for heatsinks	plate thickness [mm]	material	
<b>THF 247 14</b>	TO 247/ TO 248/ TO 3 P	SK 484	2	stainless steel	
<b>THF 247 4</b>	TO 218/ TO 220/ TO 247/ TO 248/ TO 3 P	SK 460	4	stainless steel	
<b>THF 220 35</b>	2 x TO 220	-	1.0-1.5	stainless steel	
<b>THF 126 37</b>	TO 126	-	4	stainless steel	
<b>THF 600</b>	TO 218/ TO 220/ TO 247/ TO 3 P	SK 600	2.5	spring steel, corrosion protected	
<b>THF 104</b>	TO 220/ TO 247/ TO 248/ TO 3 P	SK 104	1-2	stainless steel	

## Retaining springs for transistors

- universal **retaining spring** for transistor housings types TO 218, TO 220, TO 247, TO 264, SOT 32 and various SIP Multiwatt etc.
- fast and easy mounting of the transistors
- number of retaining spring elements can be chosen (**n = max. 10**)
- **THFMG** with thread M 4
- specific versions and modifications on customer's request


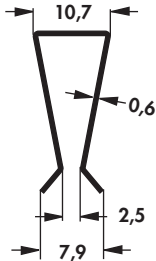
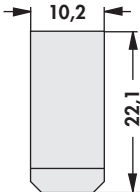

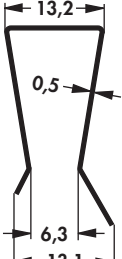
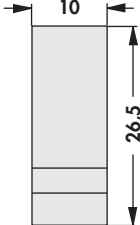

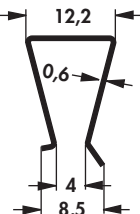
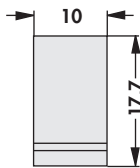

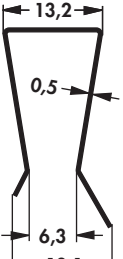
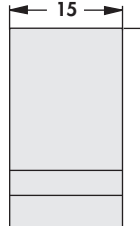

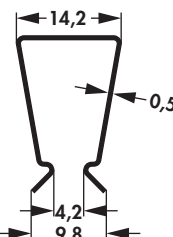
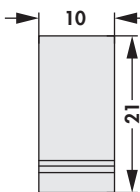
art. no.	for transistor-housing	spring force [N]	material		
<b>THFM ...</b>	TO 218/ TO 220/ TO 247/ TO 264/ SOT 32/ SIP Multiwatt	55 ±5	stainless steel		
<b>THFMG ...</b>	TO 218/ TO 220/ TO 247/ TO 264/ SOT 32/ SIP Multiwatt	55 ±5	stainless steel		
<b>THFM 11 ...</b>	TO 220	45 ±5	stainless steel		
<b>THFM 20 ...</b>	TO 247/ TO 264	70 ±5	stainless steel		
<b>please indicate: ... number of retaining-spring elements 1 - 10</b>					

**Retaining springs for transistors**


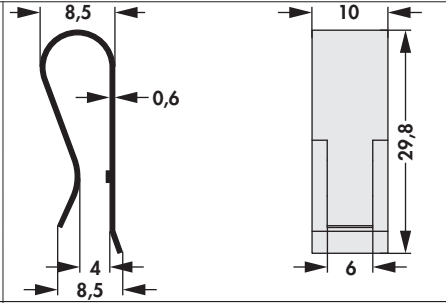

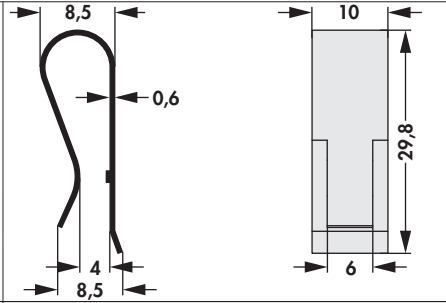

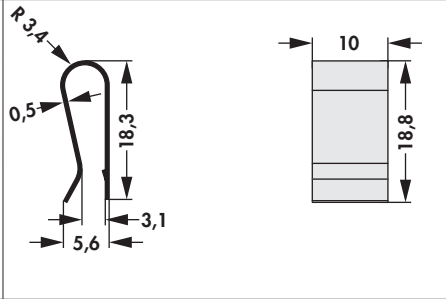

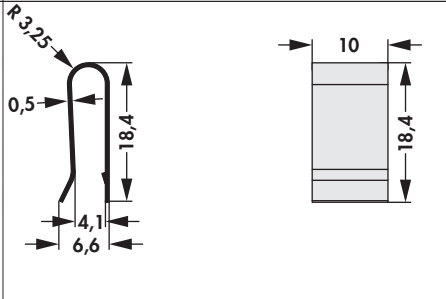

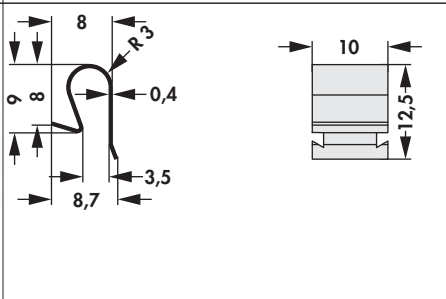

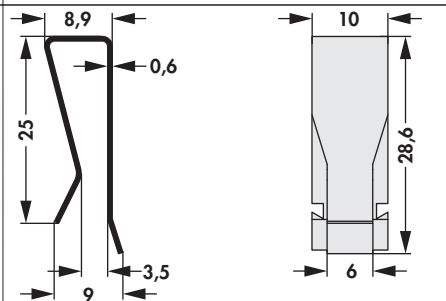
art. no.	for transistor-housing	spring force [N]	material	
<b>THFK 220</b>	TO 220	79	spring steel, corrosion protected	
<b>THFK 247</b>	TO 218/ TO 247	119	spring steel, corrosion protected	
<b>THFK 36</b>	TO 218/ TO 220/ TO 247/ TO 3 P	40	stainless steel	

## Retaining springs for transistors

- able to slide on the transistor and mounting plate
- easy mounting
- high pressure force and firm grip
- specific versions upon customer's request

art. no.	for transistor-housing	plate thickness [mm]	holding force [N]	material			
<b>THFA 1</b>	TO 220	2	20	stainless steel			
<b>THFA 2</b>	TO 220	6.5	20	spring steel, corrosion protected			
<b>THFA 3</b>	TO 220	5.5	33	spring steel, corrosion protected			
<b>THFA 4</b>	TO 218/ TO 247	6.5	59	spring steel, corrosion protected			
<b>THFA 5</b>	TO 220/ TO 3 P	5	13	stainless steel			

**Retaining springs for transistors**

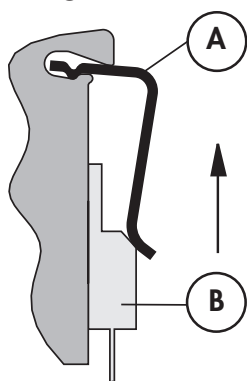
art. no.	for transistor-housing	plate thickness [mm]	holding force [N]	material	 
<b>THFA 6</b>	TO 220/ TO 3 P	3	28	spring steel, corrosion protected	 
<b>THFA 7</b>	TO 220/ TO 3 P	3	50	spring steel, corrosion protected	 
<b>THFA 8</b>	TO 220/ TO 3 P	3	55	spring steel, corrosion protected	 
<b>THFA 9</b>	TO 220/ TO 3 P	1	20	stainless steel	 
<b>THFA 10</b>	TO 220/ TO 3 P	4	32	spring steel, corrosion protected	 

## Retaining springs for transistors

- universal lock-in retaining spring for types TO 218, TO 220, TO 247, TO 264 and various SIP-Multiwatt etc. transistor housings
- clip fastening also for power transistors without holes, MAX types etc.
- easy assembly and secure hold when using a special groove geometry in heatsinks, housing parts etc.
- optimal heat transfer between component and cooling element
- various spring clip shapes available for fastening the components (see sketch)
- the indicated spring forces **THFU 1-7** refer to a transistor thickness of 4.5 mm (TO 220)
- the range of suitable heat sinks is continuously extended
- versions specifically designed to meet customers requirements on request

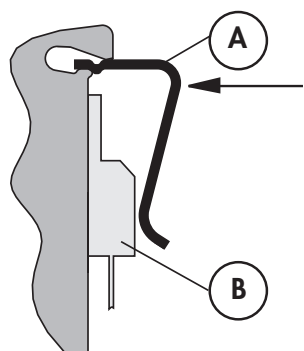
### Installation

#### THFU 1

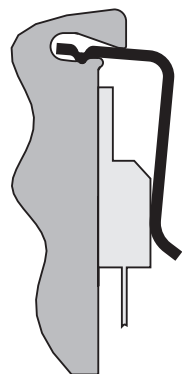


- **insert** the lock-in retaining spring for transistors THFU 1 (A) into the groove of the profile
- **push** transistor (B) below the spring in

#### THFU 2, THFU 3, THFU 4, THFU 5, THFU 6, THFU 7




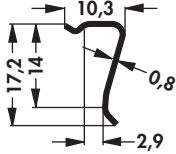
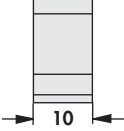
- **place** transistor (B) onto the mounting area
- **press** the lock-in retaining spring for transistors THFU 2 - 7 (A) into the groove of the profile (a suitable installation aid will facilitate pressing in)



- Once in place, the spring will keep its position and fix the transistor with a high contact pressure on the installation surface (the spring remains in its position and it can neither be moved in a lengthwise direction nor fall it can out of the groove in a cross direction).

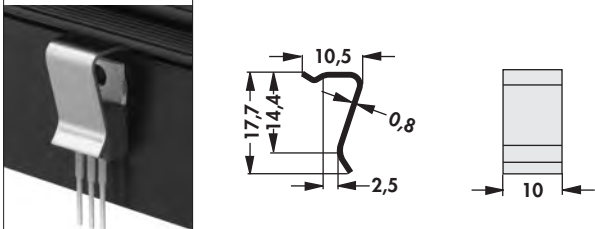
material:	stainless steel
material thickness:	0.8 mm

**Lock-in retaining spring for transistors**

art. no.	for transistor-housing	suitable for heatsinks	spring force [N]	material	
<b>THFU 1</b>	TO 218/ TO 220/ TO 247/ TO 262/ TO 3 P/ SOT 199/ SOT 429	SK 480/ SK 481/ SK 482/ SK 483/ SK 487/ SK 489/ SK 490/ SK 492/ SK 495/ SK 499/ SK 512/ SK 514/ SK 573/ SK 574/ SK 575/ SK 576/ SK 589/ SK 593/ SK 617/ SK 637/ SK 638/ SK 639/ SK 640/ SK 641/ SK 662/ SK 664/ SK 665/ SK 669/ SK 681/ LAM 3 K/ LAM 3 D K/ LAM 4 K/ LAM 4 D K/ LAM 5 K/ LAM 5 D K/ LAM 6 K/ LA 27 K	60 ±5	stainless steel	  



Lock-in retaining spring for transistors

art. no.	for transistor-housing	suitable for heatsinks	spring force [N]	material	
<b>THFU 2</b>	TO 218/ TO 220/ TO 247/ TO 262/ TO 3 P/ SOT 199/ SOT 429	SK 480/ SK 481/ SK 482/ SK 483/ SK 487/ SK 489/ SK 490/ SK 492/ SK 495/ SK 499/ SK 512/ SK 514/ SK 573/ SK 574/ SK 575/ SK 576/ SK 589/ SK 593/ SK 617/ SK 637/ SK 638/ SK 639/ SK 640/ SK 641/ SK 662/ SK 664/ SK 665/ SK 669/ SK 681/ LAM 3 K/ LAM 3 D K/ LAM 4 K/ LAM 4 D K/ LAM 5 K/ LAM 5 D K/ LAM 6 K/ LA 27 K	60 ±5	stainless steel	

B

C

D

E

F

G

H


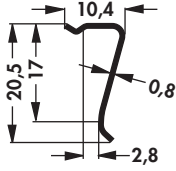
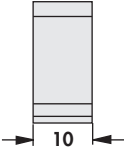
I

K



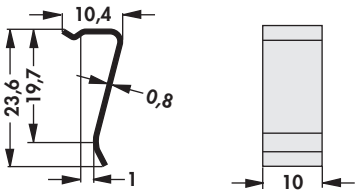

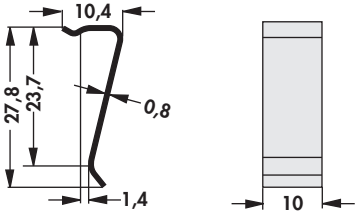
L

M

**Lock-in retaining spring for transistors**

art. no.	for transistor-housing	suitable for heatsinks	spring force [N]	material	
<b>THFU 3</b>	TO 218/ TO 220/ TO 247/ TO 262/ TO 3 P/ SOT 199/ SOT 429	SK 480/ SK 481/ SK 482/ SK 483/ SK 487/ SK 489/ SK 490/ SK 492/ SK 495/ SK 499/ SK 514/ SK 573/ SK 574/ SK 575/ SK 576/ SK 589/ SK 593/ SK 617/ SK 637/ SK 638/ SK 639/ SK 640/ SK 641/ SK 662/ SK 664/ SK 665/ SK 669/ SK 681/ LAM 3 K/ LAM 3 D K/ LAM 4 K/ LAM 4 D K/ LAM 5 K/ LAM 5 D K/ LAM 6 K/ LA 27 K	50 ±5	stainless steel	  

Lock-in retaining spring for transistors

art. no.	for transistor-housing	suitable for heatsinks	spring force [N]	material		
<b>THFU 4</b>	TO 218/ TO 202/ TO 220/ TO 248/ TO 262/ TO 264/ TO 3 P/ SOT 199	SK 480/ SK 481/ SK 482/ SK 483/ SK 487/ SK 489/ SK 490/ SK 495/ SK 499/ SK 514/ SK 575/ SK 589/ SK 593/ SK 617/ SK 638/ SK 639/ SK 640/ SK 641/ SK 662/ SK 664/ SK 665/ SK 669/ SK 681/ LAM 5 K/ LAM 5 D K/ LAM 6 K/ LA 27 K	32 ±5	stainless steel		
<b>THFU 5</b>	TO 218/ TO 202/ TO 220/ TO 247/ TO 248/ TO 262/ TO 264/ TO 3 P/ SOT 199/ SOT 429	SK 490/ SK 589/ SK 617/ SK 639/ SK 662/ SK 664/ SK 665/ SK 669/ LAM 5 K/ LAM 5 D K/ LAM 6 K/ LA 27 K	25 ±5	stainless steel		

B

C

D

E

F

G

H

I


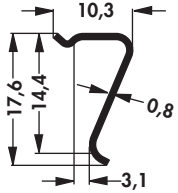
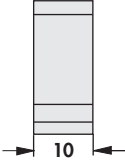
K

L

M

N

**Lock-in retaining spring for transistors**

art. no.	for transistor-housing	suitable for heatsinks	spring force [N]	material	
<b>THFU 6</b>	TO 126/ TO 218/ TO 220/ TO 225/ TO 247/ TO 248/ TO 251/ TO 3 P/ SOT 32	SK 480/ SK 481/ SK 482/ SK 483/ SK 487/ SK 489/ SK 490/ SK 492/ SK 495/ SK 499/ SK 512/ SK 514/ SK 573/ SK 574/ SK 575/ SK 576/ SK 589/ SK 593/ SK 617/ SK 637/ SK 638/ SK 639/ SK 640/ SK 641/ SK 662/ SK 664/ SK 665/ SK 669/ SK 681/ LAM 3 K/ LAM 3 D K/ LAM 4 K/ LAM 4 D K/ LAM 5 K/ LAM 5 D K/ LAM 6 K/ LA 27 K	65 ±5	stainless steel	  
<b>THFU 7</b>	eSIP	SK 480/ SK 482/ SK 483/ SK 487/ SK 490/ SK 492/ SK 495/ SK 573/ SK 574/ SK 576/ SK 637/ SK 638/ SK 681/ LAM 3 K/ LAM 3 D K/ LAM 6 K	40 ±5	stainless steel	