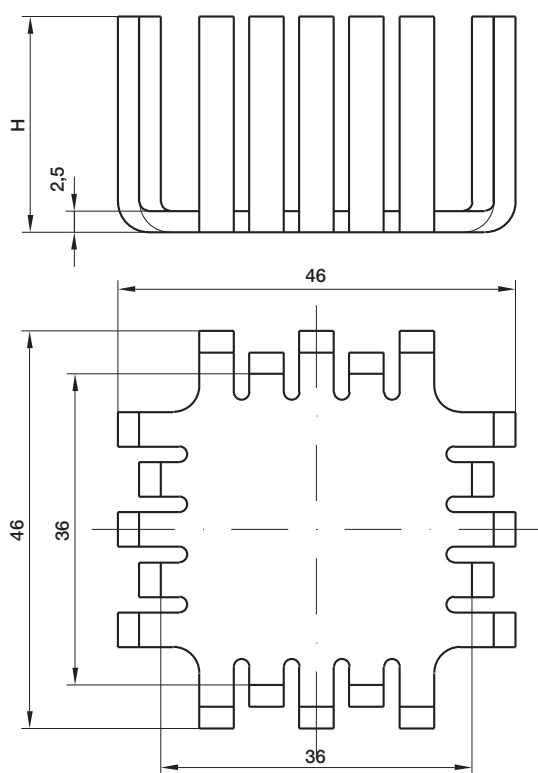


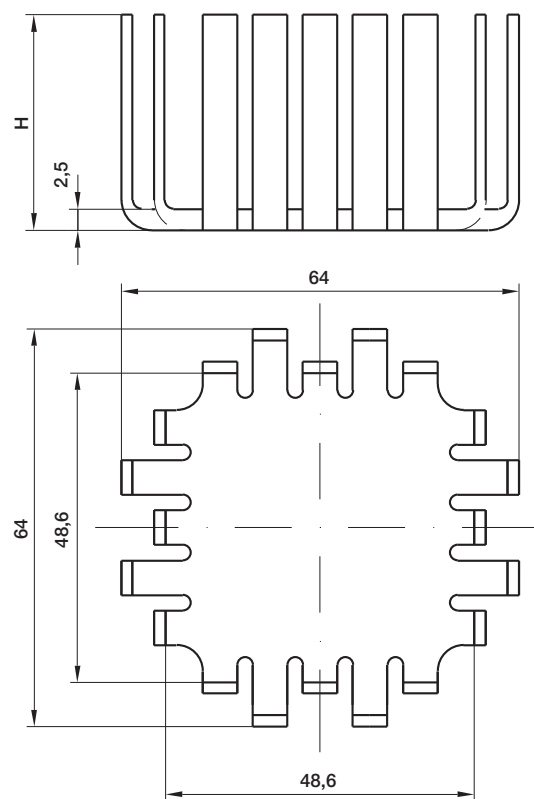
KL-151



KL-150 + 151



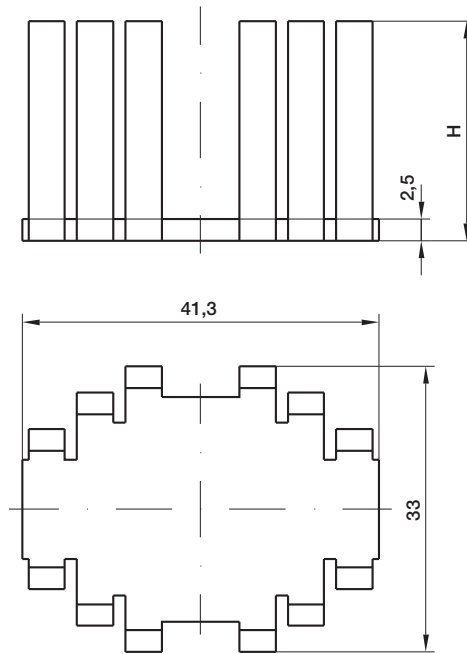
KL-152 + 153



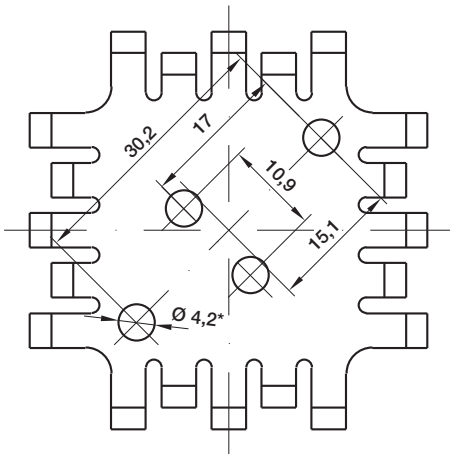
Typ	Artikel-Nr.	Material	Oberfläche	Lochbild	Abmessung H	Thermischer Widerstand(K/W)
KL-150/3/sw	1500011	Al 99,5	sw	T0-3	12,5	7,0
KL-150/3/9/32/66/sw	1500031	Al 99,5	sw	T0-3/9/32/66	12,5	7,0
KL-151/3/sw	1510011	Al 99,5	sw	T0-3	25,4	6,0
KL-151/3/9/32/66/sw	1510031	Al 99,5	sw	T0-3/9/32/66	25,4	6,0
KL-152/3/sw	1520011	Al 99,5	sw	T0-3	23	4,3
KL-152/3/9/32/66/sw	1520031	Al 99,5	sw	T0-3/9/32/66	23	4,3
KL-153/3/sw	1530011	Al 99,5	sw	T0-3	32	3,2
KL-153/3/9/32/66/sw	1530031	Al 99,5	sw	T0-3/9/32/66	32	3,2



KL-157

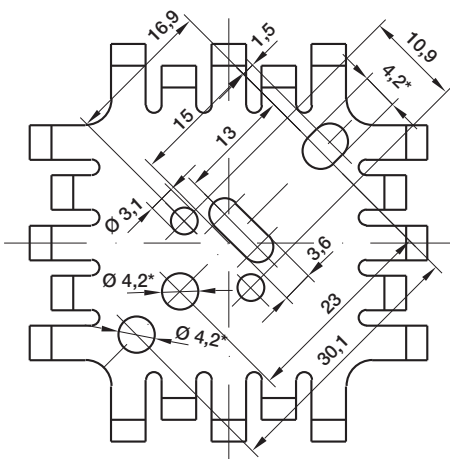


KL-155-158

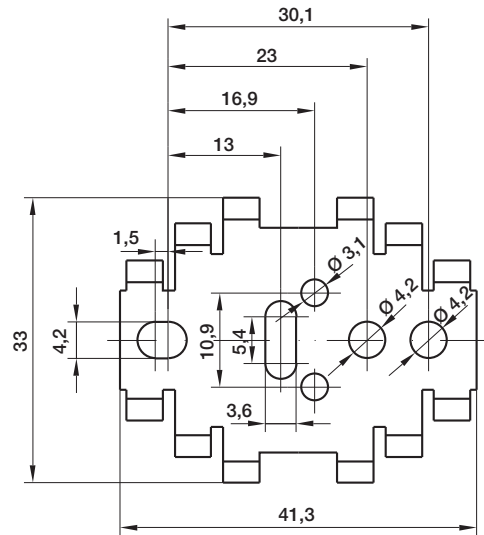


TO-3

- Serienmäßige Lochstellung
- Standard hole positions
- Perforation en série

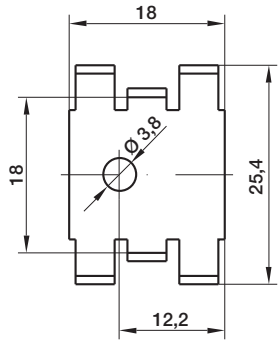
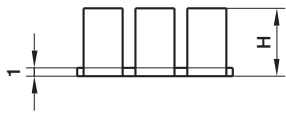


TO-3/9/32/66



*KL-152 + 153: Ø 5

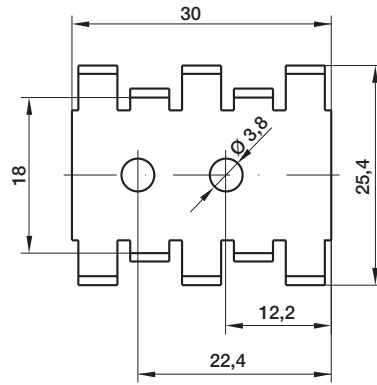
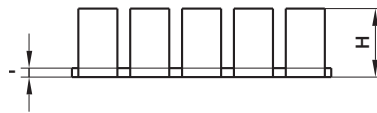
Typ	Artikel-Nr.	Material	Oberfläche	Lochbild	Abmessung H	Thermischer Widerstand(K/W)
KL-155/3/9/32/66/sw	1550031	Al 99,5	sw	TO-3/9/32/66	12,7	14,0
KL-156/3/9/32/66/sw	1560031	Al 99,5	sw	TO-3/9/32/66	19,1	12,0
KL-157/3/9/32/66/sw	1570031	Al 99,5	sw	TO-3/9/32/66	25,4	10,5
KL-158/3/9/32/66/sw	1580031	Al 99,5	sw	TO-3/9/32/66	31,8	9,0



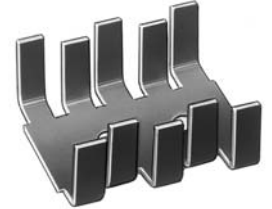
KL-162 + 166



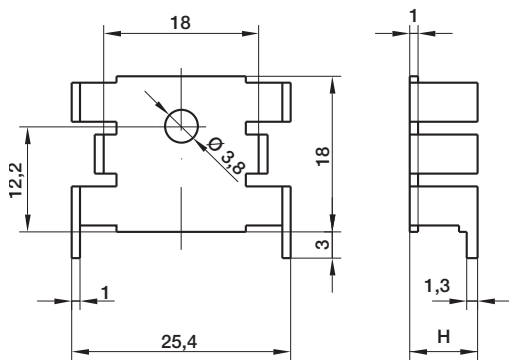
KL-166



KL-163 + 167



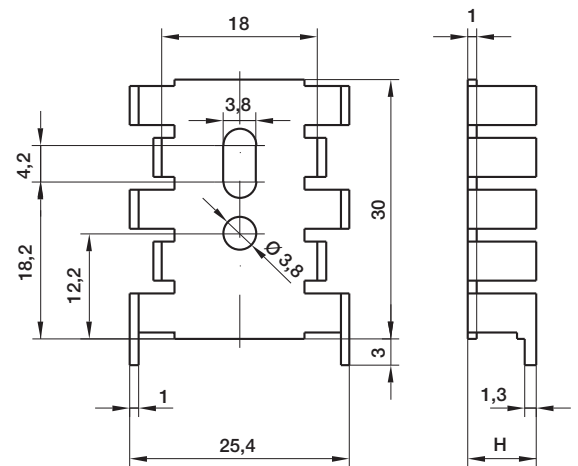
KL-167



KL-164 + 168



KL-168



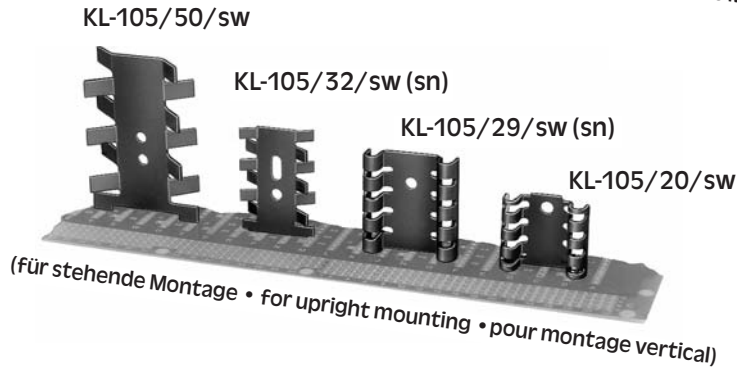
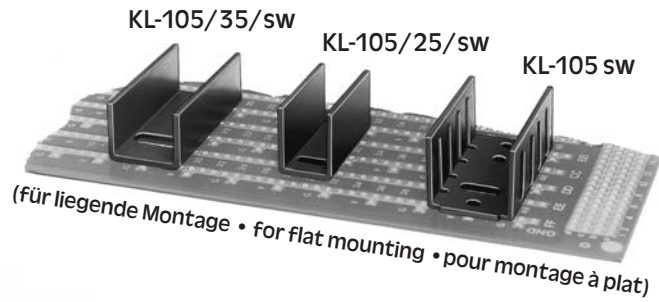
KL-165 + 169

KL-169



Typ	Artikel-Nr.	Material	Oberfläche	Abmessung H	Thermischer Widerstand (K/W)
KL-162/sw	1620041	Al 99,5	sw	7,9	25
KL-163/sw	1630041	Al 99,5	sw	7,9	18
KL-164/sw	1640041	Al 99,5	sw	7,9	24
KL-164/sn	1640044	Al 99,5	sn	7,9	25
KL-165/sw	1650041	Al 99,5	sw	7,9	18
KL-165/sn	1650044	Al 99,5	sw	7,9	19
KL-166/sw	1660041	Al 99,5	sw	12,7	21
KL-167/sw	1670041	Al 99,5	sw	12,7	15
KL-168/sw	1680041	Al 99,5	sw	12,7	20
KL-168/sn	1680044	Al 99,5	sn	12,7	21
KL-169/sw	1690041	Al 99,5	sw	12,7	15
KL-169/sn	1690044	Al 99,5	sn	12,7	16

- für Halbleiter im Plastikgehäuse
- for plastic-cased semiconductors
- pour semi-conducteurs dans boîtiers plastique



Gefertigt aus Al 99, Oberfläche schwarz eloxiert, geeignet für liegende bzw. stehende Montage von Plastiktransistoren im TO-220 Gehäuse. Die Verrippungen in den Längsseiten der Kühlkörper ergeben bei jeder Einbaulage immer optimale thermische Werte. Die Typen KL-105/29/sn, KL-105/32/sn, KL-164/sn, KL-165/sn, KL-168/sn und KL-169/sn sind verzinkt und gut lötlbar.

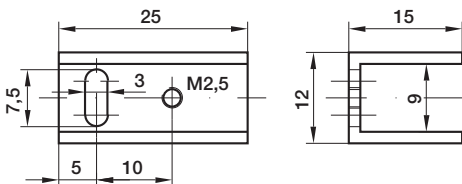
Manufactured from Al 99 and black anodized, suitable for horizontal or vertical mounting of TO-220 plastic transistors. The ribbing in the sides of the heat sinks ensures optimum thermal values in any position. Types KL-105/29/sn, KL-105/32/sn, KL-164/sn, KL-165/sn, KL-168/sn and KL-169/sn are tinned and easily solderable.

En Al 99, anodisé noir, destinés au montage à plat ou vertical de transistors plastiques en boîtiers TO-220. Les nervures latérales du dissipateur, assurent quel que soit la position de montage, un rendement thermique optimum. Les types KL-105/29/sn, KL-105/32/sn, KL-164/sn, KL-165/sn, KL-168/sn et KL-169/sn est étamé et bien brasable.

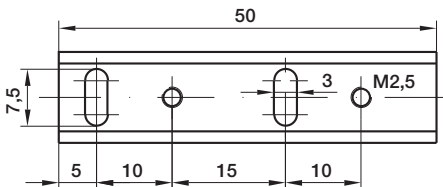
Typ	Artikel-Nr.	Länge in mm	Abmessung A	Material	Oberfläche	Thermischer Widerstand (K/W)
KL-105/sw	1050341	35		Al 99,5	sw	15
KL-105/25/sw	1051041	25	M 2,5	Al 99,5	sw	22
KL-105/25/3,2/sw	1051141	25	3,2	Al 99,5	sw	22
KL-105/35/sw	1052041	35	M 3	Al 99,5	sw	21
KL-105/35/3,2/sw	1052141	35	3,2	Al 99,5	sw	21
KL-105/20/sw	1050141	20		Al 99,5	sw	21
KL-105/29/sw	1050241	29		Al 99,5	sw	19
KL-105/29/sn	1050243	29		Al 99,5	sn	20,2
KL-105/32/sw	1050841	32		Al 99,5	sw	20,2
KL-105/32/sn	1050843	32		Al 99,5	sn	21
KL-105/50/sw	1053041	50		Al 99,5	sw	12



KL-109



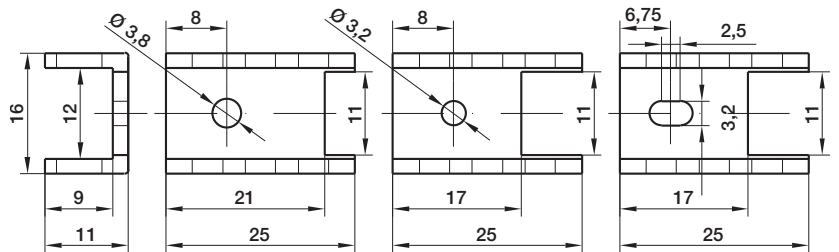
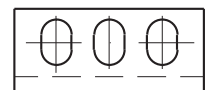
KL-109/25 sw



KL-109/50 sw



KL-112/25/A/B/C/sw

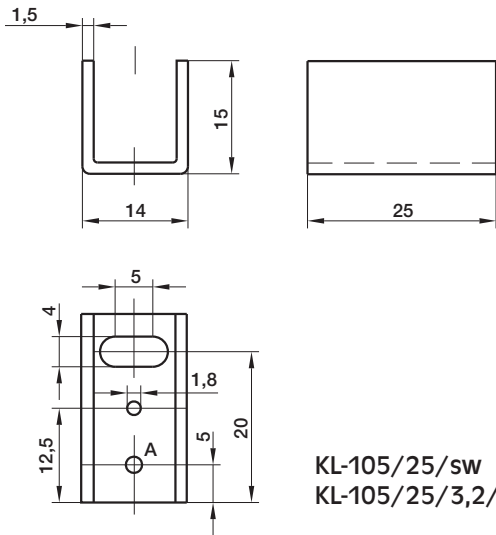


KL-112/25/a/sw

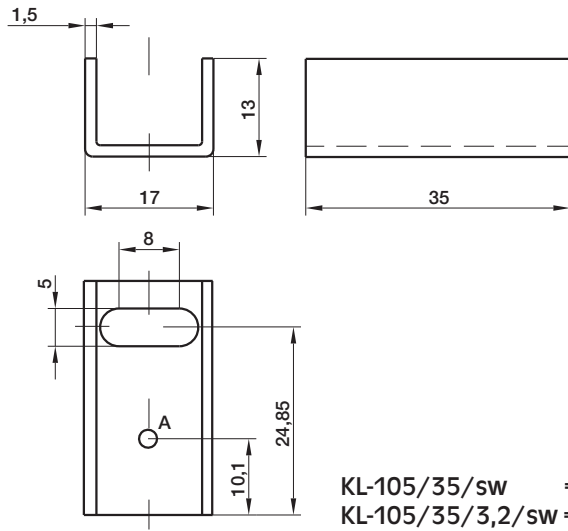
KL-112/25/b/sw

KL-112/25/c/sw

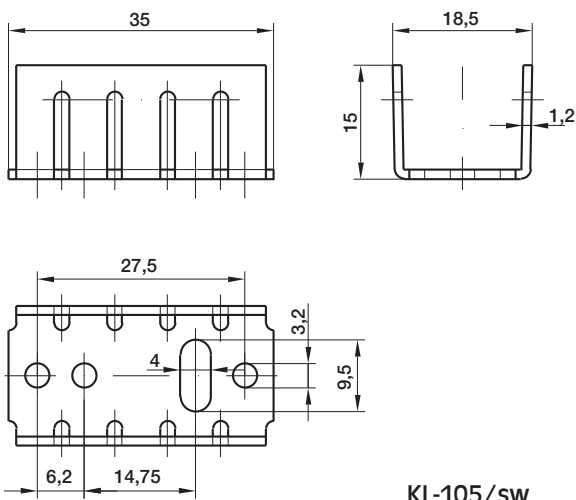
Typ	Artikel-Nr.	Länge in mm	Material	Oberfläche	Thermischer Widerstand (K/W)
KL-109/25/sw	1090841	25	Al 99,5	sw	25,5
KL-109/50/sw	1090241	50	Al 99,5	sw	12,8
KL-109/1000/m	1090900	1000	Al 99,5	m	
KL-109/1000/sw	1090901	1000	Al 99,5	sw	
KL-112/25/a/sw	1120100	25	Al 99,5	sw	18
KL-112/25/b/sw	1120110	25	Al 99,5	sw	18
KL-112/25/c/sw	1120150	25	Al 99,5	sw	18



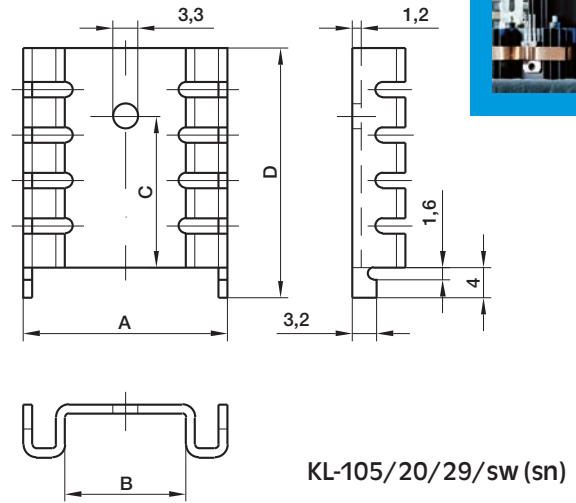
KL-105/25/sw = M 2,5
 KL-105/25/3,2/sw = Ø 3,2



KL-105/35/sw = M 3
 KL-105/35/3,2/sw = Ø 3,2

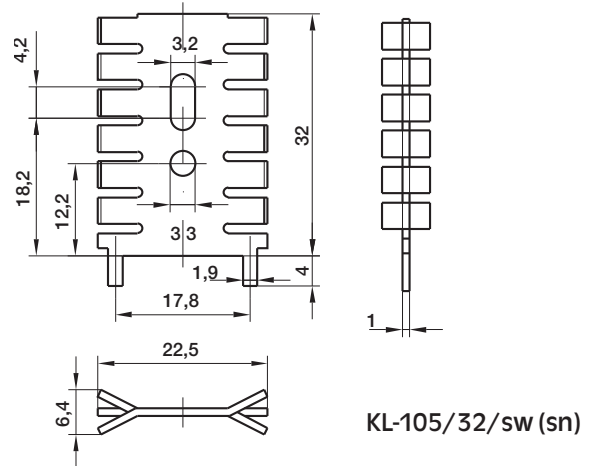


KL-105/sw

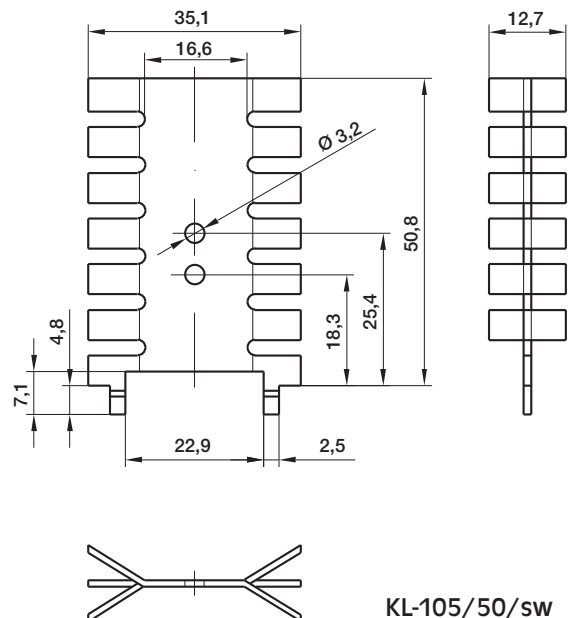


KL-105/20/29/sw (sn)

Typ	A	B	C	D
KL-105/20/sw	24	13	17	24
KL-105/29/sw(sn)	27	16	20,5	33



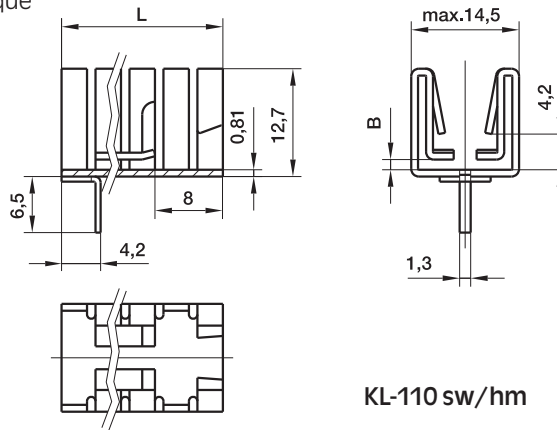
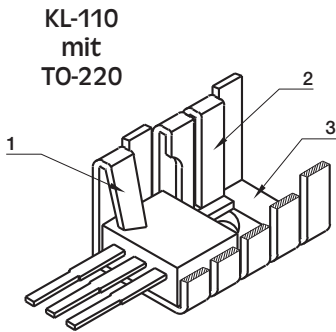
KL-105/32/sw (sn)



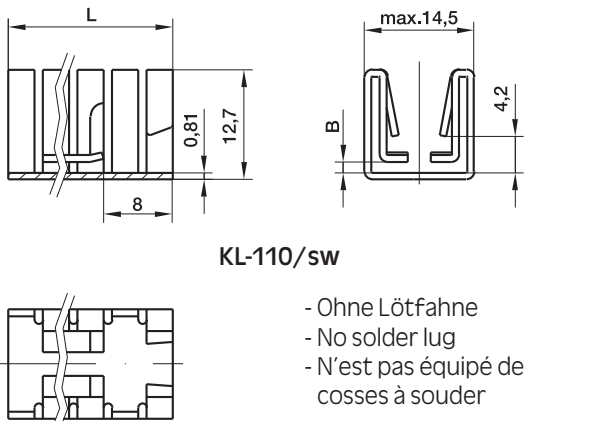
KL-105/50/sw



- für Halbleiter im Plastikgehäuse
- for plastic-cased semiconductors
- pour semi-conducteurs dans boîtiers plastique

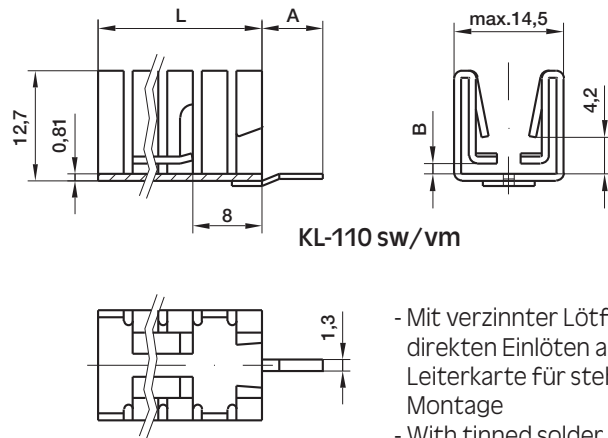


- Mit verzinnter Lötflanke zum direkten Einlöten auf der Leiterkarte für liegende Montage
- With tinned solder lug for direct soldering flat to pcb
- Équipé d'une cosse à souder étannée pour le soudage direct à plat des cartes de circuits imprimés (pcb).



KL-110/sw

- Ohne Lötflanke
- No solder lug
- N'est pas équipé de cosse à souder

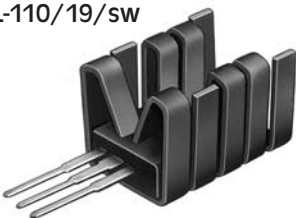


KL-110 sw/vm

- Mit verzinnter Lötflanke zum direkten Einlöten auf der Leiterkarte für stehende Montage
- With tinned solder lug for direct soldering upright to pcb
- Équipé d'une cosse à souder étannée pour le soudage direct à la verticale des cartes de circuits imprimés (p.c.b.).

Typ	Artikel-Nr.	Abmessung			Material	Oberfläche	Thermischer Widerstand (K/W)
		L	A	B			
KL-110/19/sw	1100100	19		1,2	Al 99,5	sw	21
KL-110/19/sw/hm	1100110	19		1,2	Al 99,5	sw	21
KL-110/19/sw/vm	1100150	19	6	1,2	Al 99,5	sw	21
KL-110/19/sw/vm/9,5	1100155	19	9,5	1,2	Al 99,5	sw	21
KL-110/19/0,5/sw	1101100	19		0,5	Al 99,5	sw	21
KL-110/19/0,5/sw/hm	1101110	19		0,5	Al 99,5	sw	21
KL-110/19/0,5/sw/vm	1101150	19	6	0,5	Al 99,5	sw	21
KL-110/38,1/sw	1100200	38,1		1,2	Al 99,5	sw	16
KL-110/38,1/sw/hm	1100210	38,1		1,2	Al 99,5	sw	16
KL-110/38,1/sw/vm	1100250	38,1		1,2	Al 99,5	sw	16

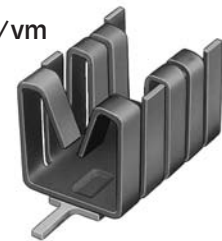
KL-110/19/sw



KL-110/19/sw/hm



KL-110/19/sw/vm



Mit max. 14,5 mm Breite sehr schmale Ausführung bei minimalem Platzbedarf. Einfache Montage durch Aufschieben. Die Klemmfederfunktion (1 und 2) bewirkt einen festen Andruck zwischen TO-220 Gehäuse mit Befestigungsflansch und Kühlkörper (3). Optimaler Wärmeübergang durch gleichmäßigen Andruck über die gesamte Kontaktfläche. Günstige Wärmeableitung bei jeder Montageart – liegend oder stehend.

Very narrow components only 14,5 mm (max.) wide where space is at a premium. Simple snap-on assembly. The spring clips (1 and 2) provide firm contact pressure between the TO-220 housing with connecting flange and the heat sink. Even pressure over the full contact area ensures optimal heat transfer. Excellent heat dissipation in any position – flat or upright.

Très petits composants de 14,5 mm (max.) de large seulement, utilisé où l'espace vaut de l'or. Assemblage à encliquetage simple. Les pinces à ressort (1 et 2) assurent une pression de contact ferme entre le logement du TO-220, la bride de liaison et le dissipateur de chaleur. Une pression uniforme appliquée au dessus de toute la surface de contact assure un transfert optimum de chaleur. Une dissipation de chaleur excellente dans toutes les positions: à plat ou à la verticale.