

Thermal Cut-Off

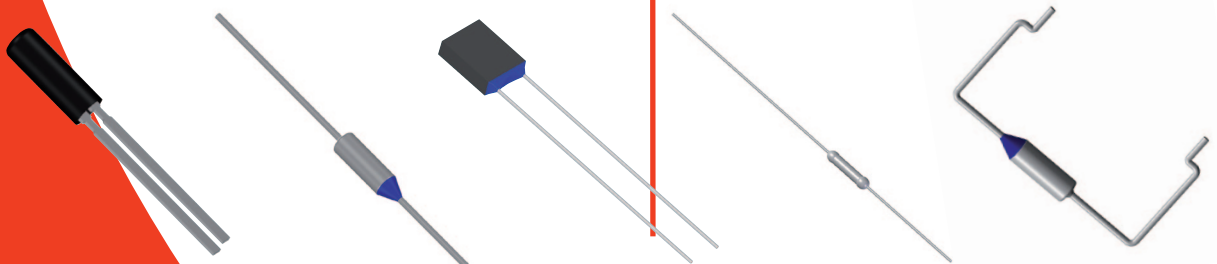
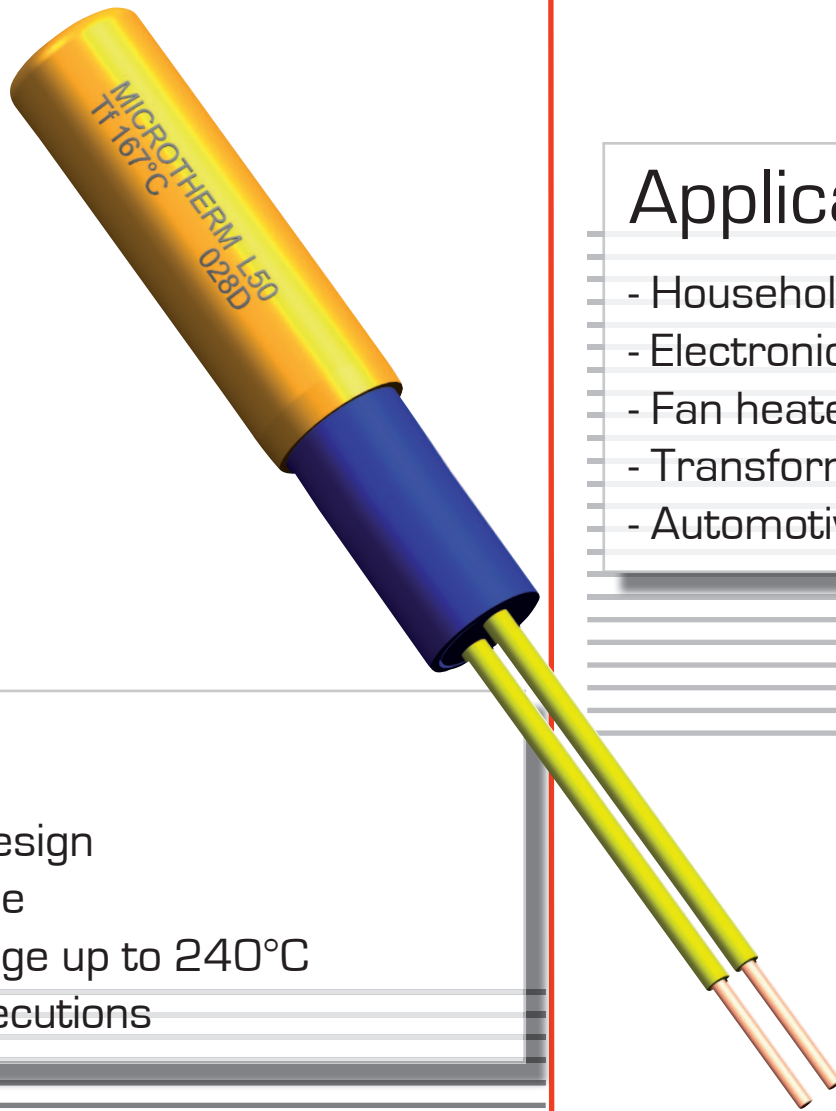
HDM
L10
L50
MTEF
MTHF
MTKF
MTML
MTNF
MTR1
MTS1
MTTF
MTYF
MWS
SDF
S3M

Applications

- Household appliances
- Electronic appliances
- Fan heaters
- Transformers
- Automotive industry

Benefits

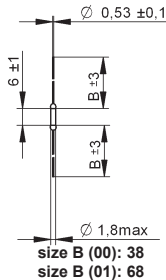
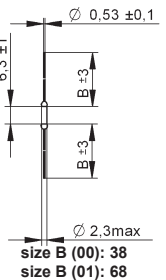
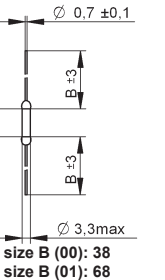
- Small compact design
- Broad product line
- Temperature range up to 240°C
- Custom-made executions



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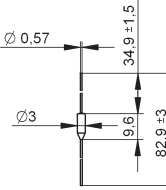
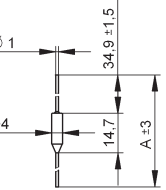
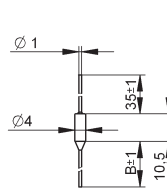
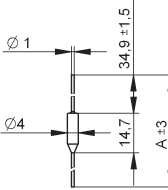
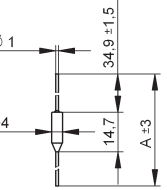
Thermal Cut-Off 250 Vac

	MTKF 1A	MTTF 2A	MTYF 5A						
									
ceramic housing	size B (00): 38 size B (01): 68	size B (00): 38 size B (01): 68	size B (00): 38 size B (01): 68						
temperature rating (°C)									
T _f	type	T _h	T _m	type	T _h	T _m	type	T _h	T _m
65	K06F	55	200	T06F 2)	50	200	Y06 1) 3)	45	200
76	K0F	55	200	T0F 2)	55	200	Y0F	55	200
86	K1F	60	200	T1F 2)	60	200	Y1F	60	200
102	K2F	80	200	T2F	75	200	Y2F	70	200
115	K3F	99	200	T3F	95	200	Y3F	90	200
127	K4F	110	200	T4F	110	200	Y4F	100	200
133	K13F	110	200	T13F	105	200	Y13F	100	200
136	K5F	115	200	T5F	105	200	Y5F	105	200
139	K6F	120	200	T6F	120	200	Y6F	115	200
145	K7F	125	200	T7F	125	200	Y7F	125	200
tolerance (K)	0 / -10			0 / -10			0 / -10		
wire (mm)	Ø 0.53			Ø 0.53			Ø 0.70		

¹⁾ VDE approved only ²⁾ 1A only ³⁾ 4A only

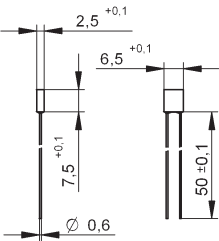
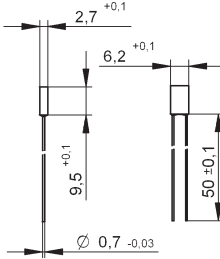
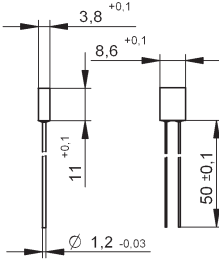
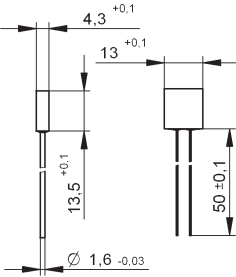
T _f	Functioning open temperature.
T _h	Holding temperature: Maximum continuous exposure temperature during operation.
T _m	Maximum overshoot temperature: Above this temperature the TCO might conduct again.

All current ratings relate to resistive loads.

	S3M7 5A	S3M4 10A	SDFS/SDFL 15A	S3M5 20A	S3M8 25A												
																	
metal housing		size A (00): 63.8 size A (01): 82.9	size B (S): 25.4 size B (L): 35	size A (00): 63.8 size A (01): 82.9	size A (00): 63.8 size A (01): 82.9												
temperature rating (°C)																	
T _f	type	T _h	T _m	type	T _h	T _m	type	T _h	T _m (VDE)	T _m (UL)	type	T _h	T _m	type	T _h	T _m	
66	-	-	-	-	-	-	DF	42	110	130	-	-	-	-	-	-	
70	E7F	55	125	E4A	55	130	-	-	-	-	E5A	55	175	E8A	45	175	
72	-	-	-	E4A	57	100	DF	50	115	110	E5A	57	175	E8A	47	175	
77	E7F	62	125	E4A	62	125	DF	55	120	110	E5A	62	200	E8A	52	200	
84	E7F	69	125	E4A	69	125	DF	60	125	114	E5A	69	200	E8A	59	200	
91	-	-	-	-	-	-	DF	67	135	121	-	-	-	-	-	-	
93	E7F	78	140	E4A	78	140	-	-	-	-	E5A	78	215	E8A	68	215	
98	E7F	83	140	E4A	83	140	DF	76	140	130	E5A	83	215	E8A	73	215	
100	E7F	85	130	E4A	85	140	DF	78	135	250	E5A	85	215	-	-	-	
104	-	-	-	E4A	89	150	DF	80	150	150	E5A	89	225	E8A	79	225	
110	E7F	95	140	E4A	95	150	DF	88	140	140	E5A	95	225	E8A	85	225	
117	E7F	102	150	E4A	102	160	-	-	-	-	E5A	102	235	E8A	92	235	
119	-	-	-	-	-	-	DF	95	170	170	-	-	-	-	-	-	
121	E7F	106	150	E4A	106	160	-	-	-	-	E5A	106	235	E8A	96	235	
128	E7F	113	150	E4A	113	205	DF	106	155	155	E5A	113	235	E8A	103	235	
141	-	-	-	-	-	-	DF	117	171	171	-	-	-	-	-	-	
144	E7F	129	175	E4A	129	240	DF	120	250	250	E5A	129	250	E8A	119	250	
152	E7F	137	175	E4A	137	205	DF	128	176	175	E5A	137	250	E8A	-	-	
167	E7F	152	200	E4A	152	240	-	-	-	-	E5A	152	285	E8A	142	285	
170	-	-	-	-	-	-	DF	146	300	190	-	-	-	-	-	-	
172	E7F	157	200	E4A	157	240	-	-	-	-	E5A	157	350	-	-	-	
184	E7F	169	200	E4A	169	210	DF	160	300	214	E5A	169	350	E8A	159	350	
190	E7F	175	270	E4A	175	310	-	-	-	-	E5A	175	350	-	-	-	
192	-	-	-	E4A	177	210	DF	162	290	222	E5A	177	350	E8A	167	350	
205	-	-	-	E4A	189	310	-	-	-	-	E5A	189	375	-	-	-	
216	-	-	-	E4A	200	375	DF	191	241	-	E5A	200	375	-	-	-	
228	-	-	-	-	-	-	DF	193	300	300	-	-	-	-	-	-	
229	-	-	-	E4A	200	375	-	-	-	-	E5A	200	375	E8A	200	375	
240	-	-	-	E4A	200	450	DF	200	290	260	E5A	200	375	E8A	200	375	
tolerance (K)	0 / -5			0 / -5			0 / -5				0 / -5				0 / -5		
wire (mm)	Ø 0.57			Ø 1.0			Ø 1.02 / AWG18				Ø 1.0				Ø 1.0		

	MTNF 1A	MTML 2A	MTHF ¹⁾ 2/3A	MTEF 3A								
plastic housing	housing: white	size E (S): 36 size E (L): 68	size E (S): 36 size E (L): 65									
temperature rating (°C)												
T _f	type	T _h	T _m	type	T _h	T _m	type	T _h	T _m	type	T _h	T _m
65	N06F ²⁾	50	200	-	-	-	H06F	50	200	E06F	50	200
76	N0F	50	200	-	-	-	H0F	50	200	E0F	55	200
86	N1F	60	200	-	-	-	H1F	60	200	E1F	65	200
102	N2F	75	200	L10	75	165	H2F	75	200	E2F	70	200
115	N3F	95	200	L20	85	165	H3F	95	200	E3F	90	200
125	-	-	-	L30	90	165	-	-	-	-	-	-
127	N4F	105	200	-	-	-	H4F	100	200	E4F	95	200
130	-	-	-	L33	100	165	-	-	-	-	-	-
133	N13F	105	200	-	-	-	H13F	100	200	E13F	95	200
136	N5F	100	200	-	-	-	H5F	100	200	E5F	95	200
139	N6F	110	200	-	-	-	H6F	110	200	E6F	105	200
145	N7F	125	200	-	-	-	H7F	110	200	E7F	115	200
tolerance (K)	0 / -10			0 / -10			0 / -10			0 / -10		
wire (mm)	Ø 0.53			Ø 0.52			Ø 0.55			Ø 0.70		

¹⁾ Current value depends on temperature and approval (UL, VDE) ²⁾ VDE approved only

	MTR1 ³⁾ 3A	MTS1 5A	MWS1 15A	MWS2 20A								
 plastic housing												
temperature rating (°C)												
T _f	type	T _h	T _m	type	T _h	T _m	type	T _h	T _m	type	T _h	T _m
98	R-95	70	180	-	-	-	-	-	-	-	-	-
100	-	-	-	S95 ⁴⁾	70	180	S95H ⁴⁾	70	180	S95 ⁴⁾	70	180
108	R-105	80	180	-	-	-	-	-	-	-	-	-
110	-	-	-	S105 ³⁾	80	180	S105H ³⁾	80	180	S105 ³⁾	80	180
130	R-125	100	180	S125 ³⁾	100	180	S125H ⁴⁾	100	180	-	-	-
143	-	-	-	S138 ³⁾	110	180	-	-	-	-	-	-
150 ⁵⁾	-	-	-	-	-	-	S145H ⁴⁾	120	180	S145 ³⁾	120	180
tolerance (K)	0 / -10			0 / -10			0 / -10			0 / -10		
wire (mm)	Ø 0.60			Ø 0.70			Ø 1.20			Ø 1.60		

³⁾ UL approved only ⁴⁾ not approved ⁵⁾ not RoHS compliant

Ordering examples

L50N 090 05 L440 G900 10A
 model functioning open temperature T_f temperature tolerance 0 / -5 K wire, solid L440 AWG20 plastic housing type with S3M4 cut-off

S3M4 E4A 00 121
 sales name type (manufacturer designation) construction / code: 00 / S (one side short); 01 / L (both sides long) functioning open temperature T_f



2002/95/EG

DIN EN 60691

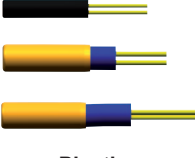
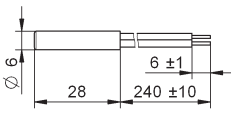
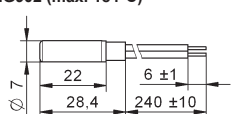
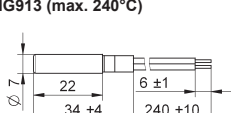
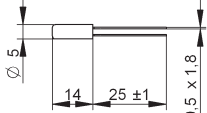
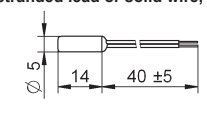
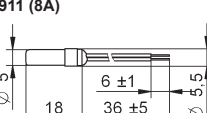
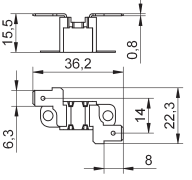
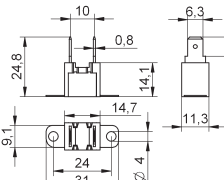
UL 60691

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Microtherm International Cooperation

Thermal Cut-Off 250 Vac

	L50N ¹⁾ 5/10/20A	L10N ¹⁾ 3/8A		HDMV, HDMH ²⁾ 15A
 Plastic or metal housing	L50NG900 (max. 184 °C)  L50NG902 (max. 184 °C)  L50NG913 (max. 240 °C) 	L10N (flat terminal, 8A)  L10N (stranded lead or solid wire, 3A)  L10NG911 (8A) 		HDMH  HDMV 

temperature rating (°C)

T _f	type	T _h	T _m	type	T _h	T _m	T _f	type	T _h	T _m
		ratings see S3M4, S3M5 caution: self-heating in case of high current					78	DM	62	250
71	-			L10N	55	175	90	DM	68	250
72	L50N			-	-	-	99	DM	83	250
77	L50N			L10N	55	175	110	DM	86	250
84	L50N			-	-	-	120	DM ⁴⁾	96	250
85	-			L10N	55	175	130	DM	112	250
90	-			L10N	60	175	140	DM	125	250
93	L50N			-	-	-	150	DM ⁴⁾	135	250
98	L50N			-	-	-	170	DM ¹⁾	145	250
100	L50N			L10N	70	175	182	DM	163	250
104	L50N			-	-	-	190	DM	170	250
108	-			L10N	78	175				
110	L50N			-	-	-				
117	L50N			-	-	-				
118	-			L10N	88	175				
121	L50N			-	-	-				
128	L50N			-	-	-				
130	-			L10N	100	175				
140	-			L10N	110	175				
144	L50N			-	-	-				
150	-			L10N	120	175				
152	L50N			-	-	-				
165				L10N	135	175				
167	L50N			-	-	-				
172	L50N			-	-	-				
184	L50N			-	-	-				
190	L50N			-	-	-				
192	L50N			-	-	-				
205	L50N ³⁾			-	-	-				
216	L50N ³⁾			-	-	-				
229	L50N ³⁾			-	-	-				
240	L50N ³⁾			-	-	-				
tolerance (K)				0 / -5		0 / -5				0 / -7
wire		see chart below		see chart below				6.3 x 0.8 mm		

¹⁾ not approved ²⁾ UL approved only ³⁾ T_f > 200 °C on request ⁴⁾ VDE approved only

type	lead	code	temperature max.	operating voltage max.	approx. diameter insulation	approx. cross section / diameter	UL style
L10N	stranded white	L360	200 °C	600 V	1.20 mm	AWG24 / 0.25 mm ²	10086
L10N G911	stranded white	L370	200 °C	600 V	1.60 mm	AWG20 / 0.50 mm ²	10086
L50N	stranded white	L380	200 °C	600 V	1.80 mm	AWG18 / 1.00 mm ²	10086
L50N	solid yellow	L440	200 °C	300 V	1.54 mm	AWG20 / 0.80 mm	1332

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Deviations from standard types on request.

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