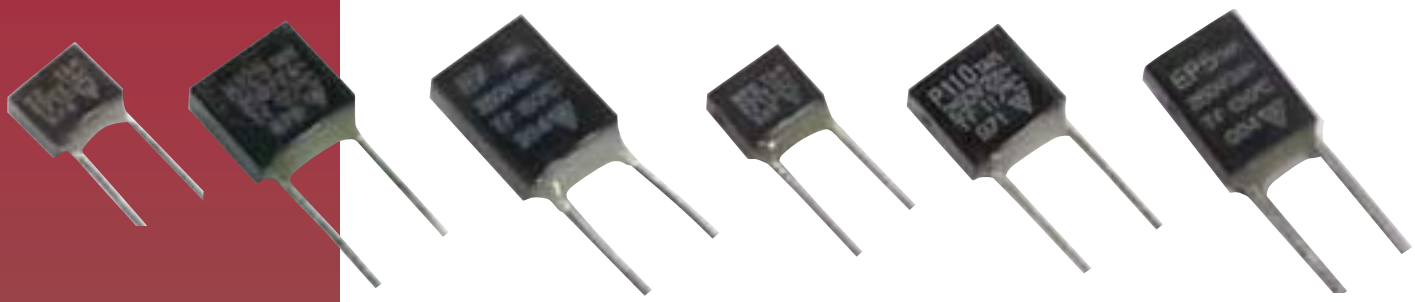
1/2 Amp - 7 Amp Thermal Cutoffs



FEATURES

- Various temperature settings
- Miniature size
- Current rating: Up to 7 Amps
- Economical
- Accurate
- Large inventory; same day shipping
- Various mounting options
- ROHS compliant ratings available

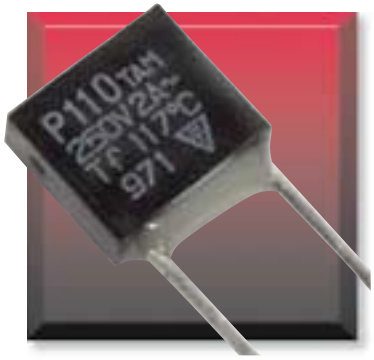
APPLICATIONS

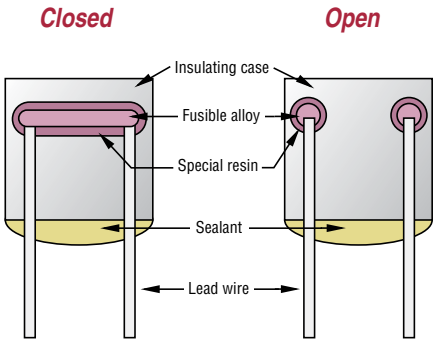
Thermal cutoffs are widely used to prevent damage from overheating in electrical products.

- APPLIANCES - space heaters, irons, stoves, electric blankets, hair dryers, clothes dryers, cookers, toaster ovens, crock pots, mixers, toasters, microwave ovens, etc.
- MOTORS - air conditioners, copiers, fans, washing machines, compressors, etc.
- ELECTRONICS - TVs, stereos, tape recorders, video recorders, fluorescent lamps, transformers, computers, surge suppressors, telecommunication equipment, etc

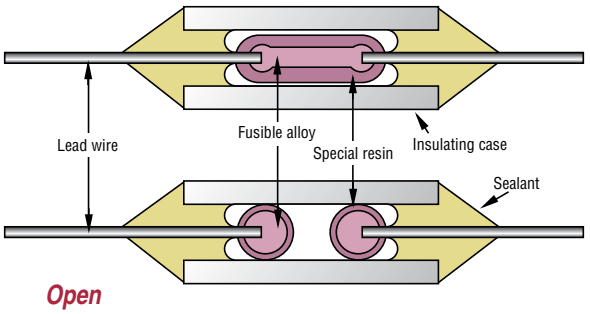
Thermal cutoffs are single action devices that open when a preset temperature is reached. They do not reset. The active component of a thermal cutoff is a fusible alloy surrounded by a special resin. Under normal operating temperatures the fusible alloy joins the two lead wires within the body of the cutoff. When the preset temperature of the cutoff is reached, the fusible alloy melts and with the aid of the special resin, complete cutoff is ensured. Thermal cutoffs are available in both Axial and Radial configurations as shown and with current ratings from 1/2 Amp to 7 Amps.

Radial Type





Axial Type



Terminology:

Functioning Temperature (TF)
The temperature at which a thermal cutoff changes its state of conductivity to open a circuit with detection current of 10mA or less as the only load. The temperature tolerance for the UL and CSA standard is +0°C / -10°C.

Holding Temperature (TH)
The maximum temperature at which a thermal cutoff can be maintained while conducting rated current for 168 hours without functioning.

Maximum Temperature (TM)
The maximum temperature at which mechanical and electrical properties of a thermal cutoff can be maintained for 10 minutes without resuming conductivity after functioning.

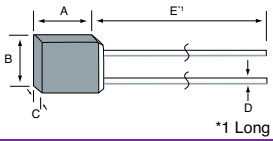
NOTE: Select Axial and Radial cutoffs are available with a special higher temperature sealant making these devices suitable for automatic wave soldering. Devices possessing this characteristic are noted as “designed for automatic wave soldering.”

www.thermtrol.com
E-mail: sales@thermtrol.com

8914 Pleasantwood Ave., NW • P.O. Box 2501 • North Canton, OH 44720 • (330) 497-4148 • Fax (330) 497-4189
IN ASIA: Thermtrol Asia, Ltd. • Hong Kong • China • (852) 2873-3788 • Fax (852) 2873-3718 • chinasales@thermtrol.com

NF Series

UL: E73591
CSA: LR60621
VDE: 40009789
BEAB: C1121



Dimensions [mm]		
	A	4.1±0.5
	B	5.2±0.5
	C	2.0±0.3
	D	0.53±0.1
	E	36±3.0

*1 Long lead type 68±3.0mm [N-F-L]

NF Series

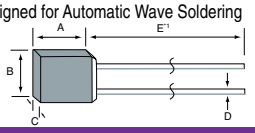
Type No.	Tf [°C]	Functioning Temperature [°C]	Rating			TH [°C]	TM [°C]	● Approved				
			AC/DC	Voltage [V]	Current [A]			UL C-UL	VDE	BEAB	CCC	RoHS
N06F	65	61±3	AC	250	1	50	200		●	●	●	●
N0F	76	72±3	AC	250	1	50	200	●	●	●	●	●
				125	2	50		●	●	●		●
N1F	86	81±2	AC	250	1	60	95	●	●	●	●	●
			DC	50	2.5	60		●	●	●		●
N2F	102	98±3	AC	250	1	75	200	●	●	●	●	●
				125	2.5	65		●	●	●		●
			DC	50	3	60		●	●	●		●
N3	117	112±2	AC	250	1	85	180	●	●	●	●	●
			DC	50	3	85		●	●	●		●
N3F	115	111±2	AC	250	1	95	200	●	●	●	●	●
				125	2.5	90		●	●	●		●
			DC	50	3	90		●	●	●		●
N4F	127	123±2	AC	250	1	105	200	●	●	●	●	●
				125	2.5	100		●	●	●		●
			DC	50	3	95		●	●	●		●
N13F	133	129±3	AC	250	1	105	200	●	●	●	●	●
				125	2.5	100		●	●	●		●
			DC	50	3	95		●	●	●		●
N5F	136	131±2	AC	250	1	100	200	●	●	●	●	●
				125	2.5	95		●	●	●		●
			DC	50	3	90		●	●	●		●
N6F	139	134±2	AC	250	1	110	200	●	●	●	●	●
				125	2.5	105		●	●	●		●
			DC	50	3	100		●	●	●		●

All products are approved by DENAN (AC250V)

NX Series

Designed for Automatic Wave Soldering

UL: E73591
CSA: LR60621
VDE: 40009789
BEAB: C1121



Dimensions [mm]		
	A	4.1±0.5
	B	5.2±0.5
	C	2.0±0.3
	D	0.53±0.1
	E	36±3.0

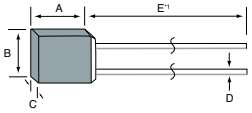
NX Series

Type No.	Tf [°C]	Functioning Temperature [°C]	Rating			TH [°C]	TM [°C]	● Approved				
			AC/DC	Voltage [V]	Current [A]			UL C-UL	VDE	BEAB	CCC	RoHS
N06X	65	61±3	AC	250	1	50	200		●	●	●	●
N0X	76	72±3	AC	250	1	50	200	●	●	●	●	●
				125	2	50		●	●	●		●
N1X	86	81±3	AC	250	1	60	200	●	●	●	●	●
				125	2	60		●	●	●		●
N2X	102	98±3	AC	250	1	75	200	●	●	●	●	●
				125	2.5	65		●	●	●		●
			DC	50	3	60		●	●	●		●
N3X	115	111±2	AC	250	1	95	200	●	●	●	●	●
				125	2.5	90		●	●	●		●
			DC	50	3	90		●	●	●		●
NP3	117	112	AC	250	1	85	180	●	●	●	●	●
			DC	50	3	85		●	●	●		●
N4X	127	123±2	AC	250	1	105	200	●	●	●	●	●
				125	2.5	100		●	●	●		●
			DC	50	3	95		●	●	●		●
N13X	133	129±3	AC	250	1	105	200		●	●	●	●
				125	2.5	100		●	●	●		●
			DC	50	3	95		●	●	●		●
N5X	136	131±2	AC	250	1	100	200	●	●	●	●	●
				125	2.5	95		●	●	●		●
			DC	50	3	90		●	●	●		●
N6X	139	134±2	AC	250	1	110	200	●	●	●	●	●
				125	2.5	105		●	●	●		●
			DC	50	3	100		●	●	●		●

All products are approved by DENAN (AC250V)

HF Series

UL: E73591
CSA: LR60621
VDE: 40009806
BEAB: C1120



Dimensions [mm]		
	A	5.9±0.5
	B	6.7±0.5
	C	2.5±0.3
	D	0.55±0.1
	E	36±3.0

*1 Long lead type 68±3.0mm [H-F-L]

HF Series

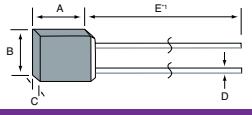
Type No.	Tf [°C]	Functioning Temperature [°C]	Rating			TH [°C]	TM [°C]	Approved				
			AC/DC	Voltage [V]	Current [A]			UL C-UL	VDE	BEAB	CCC	RoHS
H06F	65	61±3	AC	250	2.5	50	200					
H0F	76	72±3	AC	250	2.5	50	200					
				125	3	50						
H086	86	81±2	AC	250	2	60	95					
H2F	102	98±3	AC	250	3	75	200					
				125	3.5	65						
			DC	50	4	60						
H110	117	112±2	AC	250	2	85	180					
H3F	115	111±2	AC	250	3	95	200					
				125	3.5	90						
			DC	50	4	90						
H4F	127	123±2	AC	250	3	100	200					
				125	3.5	95						
			DC	50	4	95						
H13F	133	129±3	AC	250	3	100	200					
				125	3.5	95						
			DC	50	4	90						
H5F	136	131±2	AC	250	3	100	200					
				125	3.5	95						
			DC	50	4	90						
H6F	139	134±2	AC	250	2.5	110	200					
				125	3.5	105						
			DC	50	4	100						
H7F	145	140±2	AC	250	2	115	200					
				125	3.5	110						
			DC	50	4	105						
H145	150	145±2	AC	250	2	115	180					
H160	165	160±2	AC	250	2	130	180					
H169	169	169±3	AC	250	2	130	180					

All products are approved by DENAN (AC250V)

HX Series

Designed for Automatic Wave Soldering

UL: E73591
CSA: LR60621
VDE: 40009806
BEAB: C1120



Dimensions [mm]		
	A	5.9±0.5
	B	6.7±0.5
	C	2.5±0.3
	D	0.55±0.1
	E	36±3.0

HX Series

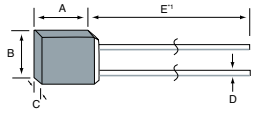
Type No.	Tf [°C]	Functioning Temperature [°C]	Rating			TH [°C]	TM [°C]	● Approved				
			AC/DC	Voltage [V]	Current [A]			UL C-UL	VDE	BEAB	CCC	RoHS
H06X	65	61±3	AC	250	2.5	50	200	●	●	●	●	●
H0X	76	72±3	AC	250	2.5	50	200	●	●	●	●	●
				125	3	50		●	●	●		●
H1X	86	81±3	AC	250	2.5		200	●	●	●	●	●
				125	3			●	●	●		●
H2X	102	98±3	AC	250	3	75	200	●	●	●	●	●
				125	3.5	65		●	●	●		●
			DC	50	4	60		●	●	●		●
P110	117	112±2	AC	250	2	85	180	●	●	●	●	●
			DC	50	3.5			●	●	●		●
H3X	115	111±2	AC	250	3	95	200	●	●	●	●	●
				125	3.5	90		●	●	●		●
			DC	50	4	90		●	●	●		●
H4X	127	123±2	AC	250	3	100	200	●	●	●	●	●
				125	3.5	95		●	●	●		●
			DC	50	4	95		●	●	●		●
H13X	133	129±3	AC	250	3	100	200		●	●	●	●
				125	3.5	95		●	●	●		●
			DC	50	4	90		●	●	●		●
H5X	136	131±2	AC	250	3	100	200	●	●	●	●	●
				125	3.5	95		●	●	●		●
			DC	50	4	90		●	●	●		●
H6X	139	134±2	AC	250	2.5	110	200	●	●	●	●	●
				125	3.5	105		●	●	●		●
			DC	50	4	100		●	●	●		●
H7X	145	140±2	AC	250	2	115	200	●	●	●	●	●
				125	3.5	110		●	●	●		●
			DC	50	4	105		●	●	●		●
P145	150	145±2	AC	250	2	115	180	●	●	●	●	
P160	165	160±2	AC	250	2	130	180	●			●	
P169	169	165±3	AC	250	2	130	180	●			●	

All products are approved by DENAN (AC250V)

1/2 Amp - 7 Amp Thermal Cutoffs

EF Series

UL: E73591
CSA: LR60621
VDE: 40009796
BEAB: C1119



Dimensions [mm]		
	A	8.5±0.5
	B	6.6±0.5
	C	2.5±0.3
	D	0.7±0.1
	E	36±3.0

*1 Long lead type 65±3.0mm [E-F-L]

EF Series

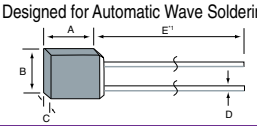
Type No.	Tf [°C]	Functioning Temperature [°C]	Rating			TH [°C]	TM [°C]	● Approved				
			AC/DC	Voltage [V]	Current [A]			UL C-UL	VDE	BEAB	CCC	RoHS
E06F	65	61±3	AC	250	3	50	200	●	●	●	●	●
E0F	76	72±3	AC	250	3	55	200	●	●	●	●	●
				125	4	55		●	●	●		●
E1F	86	81±3	AC	250	3	65	200	●	●	●	●	●
				125	4	60		●	●	●		●
E2F	102	98±3	AC	250	3	70	200	●	●	●	●	●
				125	5.5	65		●	●	●		●
			DC	50	6	60		●	●	●		●
E3	117	112±2	AC	250	3	85	180	●	●	●	●	●
				125	5	85		●	●	●		●
E3F	115	111±2	AC	250	3	90	200	●	●	●	●	●
				125	5.5	85		●	●	●		●
			DC	50	6	85		●	●	●		●
E4F	127	123±2	AC	250	3	95	200	●	●	●	●	●
				125	5.5	90		●	●	●		●
			DC	50	6	90		●	●	●		●
E13F	133	129±3	AC	250	3	95	200	●	●	●	●	●
				125	5.5	85		●	●	●		●
			DC	50	6	85		●	●	●		●
E5F	136	131±2	AC	250	3	95	200		●	●	●	●
				125	5.5	90		●	●	●		●
			DC	50	6	90		●	●	●		●
E6F	139	134±2	AC	250	3	105	200	●	●	●	●	●
				125	5.5	100		●	●	●		●
			DC	50	6	100		●	●	●		●
E7F	145	140±2	AC	250	3	115	200	●	●	●	●	●
				125	5.5	110		●	●	●		●
			DC	50	6	105		●	●	●		●
E8	169	165±3	AC	250	3	130	180	●	●	●	●	

All products are approved by DENAN (AC250V)

EX Series

Designed for Automatic Wave Soldering

UL: E73591
CSA: LR60621
VDE: 40009796
BEAB: C1119



Dimensions [mm]		
	A	8.5±0.5
	B	6.6±0.5
	C	2.5±0.3
	D	0.8±0.1
	E	36±3.0

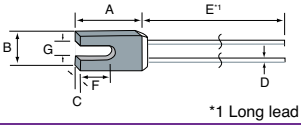
EX Series

Type No.	Tf [°C]	Functioning Temperature [°C]	Rating			TH [°C]	TM [°C]	● Approved				
			AC/DC	Voltage [V]	Current [A]			UL C-UL	VDE	BEAB	CCC	RoHS
E06X	65	61±3	AC	250	3	50	200	●	●	●	●	●
E0X	76	72±3	AC	250	3	55	200	●	●	●	●	●
				125	4	55		●	●	●		●
E1X	86	81±3	AC	250	3	65	200	●	●	●	●	●
				125	4	60		●	●	●		●
E2X	102	98±3	AC	250	3	70	200	●	●	●	●	●
				125	5.5	65		●	●	●		●
			DC	50	6	60		●	●	●		●
EP3	117	112±2	AC	250	3	85	180	●	●	●	●	●
				125	4	85		●	●	●		●
E3X	115	111±2	AC	250	3	90	200	●	●	●	●	●
				125	5.5	85		●	●	●		●
			DC	50	6	85		●	●	●		●
E4X	127	123±2	AC	250	3	95	200	●	●	●	●	●
				125	5.5	90		●	●	●		●
			DC	50	6	90		●	●	●		●
E13X	133	129±3	AC	250	3	95	200		●	●	●	●
				125	5.5	85		●	●	●		●
			DC	50	6	85		●	●	●		●
E5X	136	131±2	AC	250	3	95	200	●	●	●	●	●
				125	5.5	90		●	●	●		●
			DC	50	6	90		●	●	●		●
E6X	139	134±2	AC	250	3	105	200	●	●	●	●	●
				125	5.5	100		●	●	●		●
			DC	50	6	100		●	●	●		●
E7X	145	140±2	AC	250	3	115	200	●	●	●	●	●
				125	5.5	110		●	●	●		●
			DC	50	6	105		●	●	●		●

All products are approved by DENAN (AC250V)

HUF Series

UL: E73591
CSA: LR60621
VDE: 4009806
BEAB: C1120



Dimensions [mm]		
	A	11.0±0.5
	B	6.7±0.5
	C	2.5±0.3
	D	0.55±0.1
	E	36±3.0
	F	4.5±0.2
	G	3.2±0.3

*1 Long lead type 68±3.0mm [HU-F-L]

HUF Series

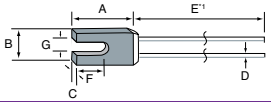
Type No.	Tf [°C]	Functioning Temperature [°C]	Rating			TH [°C]	TM [°C]	● Approved				
			AC/DC	Voltage [V]	Current [A]			UL C-UL	VDE	BEAB	CCC	RoHS
HU06F	65	61±3	AC	250	2.5	50	200	●	●	●	●	●
HU0F	76	72±3	AC	250	2.5	50	200	●	●	●	●	●
				125	3	50		●	●	●		●
HU1F	86	81±3	AC	250	2.5	60	200	●	●	●	●	●
				125	3	60		●	●	●		●
HU2F	102	98±3	AC	250	3	75	200	●	●	●	●	●
				125	3.5	65		●	●	●		●
			DC	50	4	60		●	●	●		●
H110A	117	112±2	AC	250	2	85	180	●	●	●	●	●
HU3F	115	111±2	AC	250	3	95	200	●	●	●	●	●
				125	3.5	90		●	●	●		●
			DC	50	4	90		●	●	●		●
HU4F	127	123±2	AC	250	3	100	200	●	●	●	●	●
				125	3.5	95		●	●	●		●
			DC	50	4	95		●	●	●		●
HU13F	133	129±3	AC	250	3	100	200		●	●	●	●
				125	3.5	95		●	●	●		●
			DC	50	4	95		●	●	●		●
HU5F	136	131±2	AC	250	3	100	200	●	●	●	●	●
				125	3.5	95		●	●	●		●
			DC	50	4	90		●	●	●		●
HU6F	139	134±2	AC	250	2.5	110	200	●	●	●	●	●
				125	3.5	105		●	●	●		●
			DC	50	4	100		●	●	●		●
HU7F	145	140±2	AC	250	3	115	200	●	●	●	●	●
				125	3.5	110		●	●	●		●
			DC	50	4	105		●	●	●		●

All products are approved by DENAN (AC250V)

HUX Series

Designed for Automatic Wave Soldering

UL: E73591
CSA: LR60621
VDE: 4009806
BEAB: C1120



Dimensions [mm]		
	A	11.0±0.5
	B	6.7±0.5
	C	2.5±0.3
	D	0.55±0.1
	E	36±3.0
	F	4.5±0.2
	G	3.2±0.3

HUX Series

Type No.	Tf [°C]	Functioning Temperature [°C]	Rating			TH [°C]	TM [°C]	● Approved				
			AC/DC	Voltage [V]	Current [A]			UL C-UL	VDE	BEAB	CCC	RoHS
HU06X	65	61±3	AC	250	2.5	50	200	●	●	●	●	●
HU0X	76	72±3	AC	250	2.5	50	200	●	●	●	●	●
				125	3	50		●	●	●		●
HU1X	86	81±3	AC	250	2.5	60	200	●	●	●	●	●
				125	3	60		●	●	●		●
HU2X	102	98±3	AC	250	3	75	200	●	●	●	●	●
				125	3.5	65		●	●	●		●
			DC	50	4	60		●	●	●		●
P110A	117	112±2	AC	250	2	85	180	●	●	●	●	●
			DC	50	3.5	85		●	●	●		●
HU3X	115	111±2	AC	250	3	95	200	●	●	●	●	●
				125	3.5	90		●	●	●		●
			DC	50	4	90		●	●	●		●
HU4X	127	123±2	AC	250	3	100	200	●	●	●	●	●
				125	3.5	95		●	●	●		●
			DC	50	4	95		●	●	●		●
HU13X	133	129±3	AC	250	3	100	200		●	●	●	●
				125	3.5	95		●	●	●		●
			DC	50	4	95		●	●	●		●
HU5X	136	131±2	AC	250	3	100	200	●	●	●	●	●
				125	3.5	95		●	●	●		●
			DC	50	4	90		●	●	●		●
HU6X	139	134±2	AC	250	2.5	110	200	●	●	●	●	●
				125	3.5	105		●	●	●		●
			DC	50	4	100		●	●	●		●
HU7X	145	140±2	AC	250	2	115	200	●	●	●	●	●
				125	3.5	110		●	●	●		●
			DC	50	4	105		●	●	●		●
P160A	165	160±2	AC	250	2	130	180	●			●	
P169A	169	165±2	AC	250	2	130	180	●			●	

All products are approved by DENAN (AC250V)

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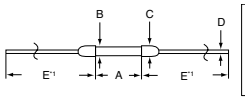
TF Series

UL: E73591
CSA: LR60621
VDE: 40005277, 40009915
BEAB: C1083, C1117



Dimensions [mm]		
	A	6.3±1.0
	B	2.0±0.1
	C	2.3 and under
	D	0.53±0.1
	E	68±3.0

*1 Short lead type 38±3.0mm [T-F-C]

TF Series

Type No.	Tf [°C]	Functioning Temperature [°C]	Rating			TH [°C]	TM [°C]	● Approved				
			AC/DC	Voltage [V]	Current [A]			UL C-UL	VDE	BEAB	CCC	RoHS
T06F	65	61±3	AC	250	1	50	200	●	●	●	●	●
T0F	76	72±3	AC	250	1	55	200	●	●	●	●	●
				125	2	55		●	●	●	●	●
			DC	50	2.5	50		●	●	●		●
T1F	86	81±2	AC	250	1	60	200	●	●	●	●	●
			AC	125	20	60		●	●	●	●	●
			DC	50	2.5	60		●	●	●		●
T2F	102	98±3	AC	250	2	75	200	●	●	●	●	●
				125	3	70		●	●	●		●
			DC	50	4	65		●	●	●		●
VS11	117	112±2	AC	250	1	95	160	●	●	●	●	●
			DC	50	3	95		●	●	●		●
T3F	115	111±2	AC	250	2	95	200	●	●	●	●	●
				125	3	90		●	●	●		●
			DC	50	3.5	85		●	●	●		●
T4F	127	123±2	AC	250	2	110	200	●	●	●	●	●
				125	3	110		●	●	●		●
			DC	50	4	105		●	●	●		●
T13F	133	129±3	AC	250	2	105	200	●	●	●	●	●
				125	3	95		●	●	●		●
			DC	50	4	80		●	●	●		●
T5F	136	131±2	AC	250	2	105	200	●	●	●	●	●
				125	3	95		●	●	●		●
			DC	50	4	80		●	●	●		●
T6D	139	134±2	DC	50	9	80	200	●	●			●
T6F	139	134±2	AC	250	2	120	200	●	●	●	●	●
				125	3	110		●	●	●		●
			DC	50	4	90		●	●	●		●
T7F	145	140±2	AC	250	1	125	200	●	●	●	●	●
				125	2.5	125		●	●	●	●	●
			DC	50	3	115		●	●	●		●
VS16	169	165±2	AC	250	1	130	180	●	●	●	●	
VS18	187	183±3	AC	250	1	160	200	●	●	●	●	

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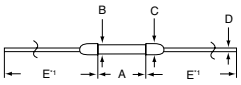
KF Series

UL: E73591
CSA: LR60621
VDE: 40005100, 40009857
BEAB: C1159



Dimensions [mm]		
	A	6.0±1.0
	B	1.5±0.1
	C	1.8 and under
	D	0.53±0.1
	E	68±3.0

*1 Short lead type 38±3.0mm [K-F-C]

KF Series

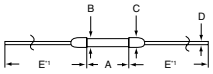
Type No.	Tf [°C]	Functioning Temperature [°C]	Rating			TH [°C]	TM [°C]	● Approved				
			AC/DC	Voltage [V]	Current [A]			UL C-UL	VDE	BEAB	CCC	RoHS
K06F	65	61±3	AC	250	1	55	200	●	●	●	●	●
K2F	102	98±3	AC	250	1	80	200	●	●	●	●	●
				125	2	75		●	●	●		●
			DC	50	3	70		●	●	●		●
K11	115	112±2	AC	250	1	95	160	●	●	●	●	●
			DC	50	3	90		●	●	●		●
K3F	115	111±2	AC	250	1	99	200	●	●	●	●	●
				125	2	95		●	●	●		●
			DC	50	3	90		●	●	●		●
K4F	127	123±2	AC	250	1	110	200	●	●	●	●	●
				125	2	110		●	●	●		●
			DC	50	3	110		●	●	●		●
K13F	133	129±3	AC	250	1	110	200	●	●	●	●	●
				125	2	105		●	●	●		●
			DC	50	3	95		●	●	●		●
K5F	136	131±2	AC	250	1	115	200	●	●	●	●	●
				125	2	105		●	●	●		●
			DC	50	3	95		●	●	●		●
K6F	139	134±2	AC	250	1	120	200	●	●	●	●	●
				125	1.5	120		●	●	●		●
			DC	50	3	105		●	●	●		●
K7F	145	140±2	AC	250	1	125	200		●	●	●	●
				125	2	125		●	●	●	●	●
			DC	50	3	120		●	●	●	●	●
K18	187	183±2	AC	250	1	120	200	●	●	●	●	
			DC	50	3	160		●			●	

All products are approved by DENAN (AC250V)

TX Series

Designed for Automatic Wave Soldering

UL: E73591
CSA: LR60621
VDE: 40005277, 40009915
BEAB: C1014



Dimensions [mm]		
	A	6.3±1.0
	B	2.0±0.1
	C	2.3 and under
	D	0.53±0.1
	E	38±3.0

TX Series

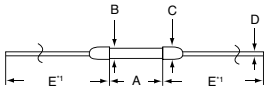
Type No.	Tf [°C]	Functioning Temperature [°C]	Rating			TH [°C]	TM [°C]	● Approved				
			AC/DC	Voltage [V]	Current [A]			UL C-UL	VDE	BEAB	CCC	RoHS
T06X	65	61±3	AC	250	1	50	200	●	●			●
T0X	76	72±3	AC	250	1	55	200	●	●			●
				125	2	55		●	●			●
			DC	50	2.5	50		●	●			●
T1X	86	81±3	AC	250	1	60	200	●	●			●
				125	2	60		●	●			●
			DC	50	2.5	60		●	●			●
T2X	102	98±3	AC	250	2	75	200	●	●			●
				125	3	70		●	●			●
			DC	50	4	65		●	●			●
P11	117	112±2	AC	250	1	95	160	●	●	●	●	●
			DC	50	2.5	95		●	●	●		●
T3X	115	111±2	AC	250	2	95	200	●	●			●
				125	3	90		●	●			●
			DC	50	3.5	85		●	●			●
T4X	127	123±2	AC	250	2	110	200	●	●			●
				125	3	110		●	●			●
			DC	50	4	105		●	●			●
T13X	133	129±3	AC	250	2	105	200	●	●			●
				125	3	95		●	●			●
			DC	50	4	80		●	●			●
T5X	136	131±2	AC	250	2	105	200	●	●			●
				125	3	95		●	●			●
			DC	50	4	80		●	●			●
T6X	139	134±2	AC	250	2	120	200	●	●			●
				125	3	110		●	●			●
			DC	50	4	90		●	●			●
T7X	145	140±2	AC	250	1	125	200	●	●			●
				125	2.5	125		●	●			●
			DC	50	3	115		●	●			●
P14	150	145±2	AC	250	1	115	160	●	●	●	●	

All products are approved by DENAN (AC250V)

1/2 Amp - 7 Amp Thermal Cutoffs

VF Series

UL: E73591
CSA: LR60621
VDE: 40004916, 40009713
BEAB: C1162, C1116



Dimensions [mm]		
	A	8.9±1.0
	B	2.5±0.1
	C	3.0 and under
	D	0.58±0.1
	E	68±3.0

*1 Short lead type 38±3.0mm [V-F-C]

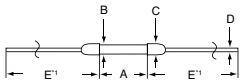
VF Series

Type No.	Tf [°C]	Functioning Temperature [°C]	Rating AC/DC	Rating Voltage [V]	Rating Current [A]	TH [°C]	TM [°C]	● Approved UL C-UL	VDE	BEAB	CCC	RoHS
V06F	65	61±3	AC	250	3	50	200	●	●	●	●	●
V0F	76	72±3	AC	250	2	50	200	●	●	●	●	●
				125	3.5	50		●	●	●	●	●
			DC	50	4	40		●	●	●		●
V086	86	81±2	AC	250	2	60	95	●	●	●	●	●
			DC	50	4	45		●	●			●
V2F	102	98±3	AC	250	3	75	200	●	●	●	●	●
				125	4	70		●	●	●		●
			DC	50	5	65		●	●	●		●
V110	117	112±2	AC	250	2	95	160	●	●	●	●	●
			DC	50	5	85		●	●			●
V3F	115	111±2	AC	250	3	95	200	●	●	●	●	●
				125	4	90		●	●	●		●
			DC	50	4.5	85		●	●	●		●
V4F	127	123±2	AC	250	3	110	200	●	●	●	●	●
				125	4	105		●	●	●		●
			DC	50	5	95		●	●	●		●
V13F	133	129±3	AC	250	3	100	200	●	●	●	●	●
				125	4	85		●	●	●		●
			DC	50	5	80		●	●	●		●
V5F	136	131±2	AC	250	3	100	200	●	●	●	●	●
				125	4	85		●	●	●		●
			DC	50	5	80		●	●	●		●
V6F	139	134±2	AC	250	3	115	200	●	●	●	●	●
				125	4	100		●	●	●		●
			DC	50	5	85		●	●	●		●
V7F	145	140±2	AC	250	3	125	200	●	●	●	●	●
				125	4.5	110		●	●	●	●	●
			DC	50	5	100		●	●	●		●
V169	169	165±3	AC	250	2	50	180	●	●	●	●	
V187	187	183±3	AC	250	2	50	200	●	●	●	●	

All products are approved by DENAN (AC250V)

YF Series

UL: E73591
CSA: LR60621
VDE: 40005099, 40009685
BEAB: C1115, C1085



Dimensions [mm]		
	A	10.0±1.0
	B	3.0±0.2
	C	3.3 and under
	D	0.7±0.1
	E	68±3.0

*1 Short lead type 38±3.0mm [Y-F-C]

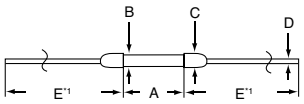
YF Series

Type No.	Tf [°C]	Functioning Temperature [°C]	Rating AC/DC	Rating Voltage [V]	Rating Current [A]	TH [°C]	TM [°C]	● Approved UL C-UL	VDE	BEAB	CCC	RoHS
Y06F	65	61±3	AC	250	4	45	200		●		●	●
Y0F	76	72±3	AC	250	5	55	200	●	●		●	●
				125	5.5	55		●	●			●
			DC	50	6	50		●				●
Y1F	86	81±3	AC	250	5	60	200	●	●		●	●
				125	5.5	55		●	●			●
			DC	50	6	50		●				●
Y2F	102	98±3	AC	250	5	70	200	●	●	●	●	●
				125	5.5	65		●	●	●		●
			DC	50	6	60		●	●	●		●
Y3	117	112±2	AC	250	3	95	180	●	●	●	●	●
			DC	125	5	95		●	●	●		●
Y3F	115	111±2	AC	250	5	90	200	●	●	●	●	●
				125	5.5	85		●	●	●		●
			DC	50	6	80		●	●	●		●
Y4F	127	123±2	AC	250	5	100	200	●	●	●	●	●
				125	5.5	95		●	●	●		●
			DC	50	6	90		●	●	●		●
Y13F	133	129±3	AC	250	5	100	200		●	●	●	●
				125	5.5	85		●	●	●		●
			DC	50	6	80		●	●	●		●
Y5F	136	131±2	AC	250	5	105	200	●	●	●	●	●
				125	5.5	90		●	●	●		●
			DC	50	6	75		●	●	●		●
Y6F	139	134±2	AC	250	5	115	200	●	●	●	●	●
				125	5.5	95		●	●	●		●
			DC	50	6	75		●	●	●		●
Y7F	145	140±2	AC	250	5	112	200	●	●	●	●	●
				125	5.5	110		●	●	●		●
			DC	50	6	105		●	●	●		●

All products are approved by DENAN (AC250V)

LF Series

UL: E73591
CSA: LR60621
VDE: 40016342
BEAB: C1086



Dimensions [mm]		
	A	11.5±1.0
	B	3.3±0.2
	C	3.6 and under
	D	1.0±0.1
	E	68±3.0

*1 Short lead type 38±3.0mm [L-F-C]

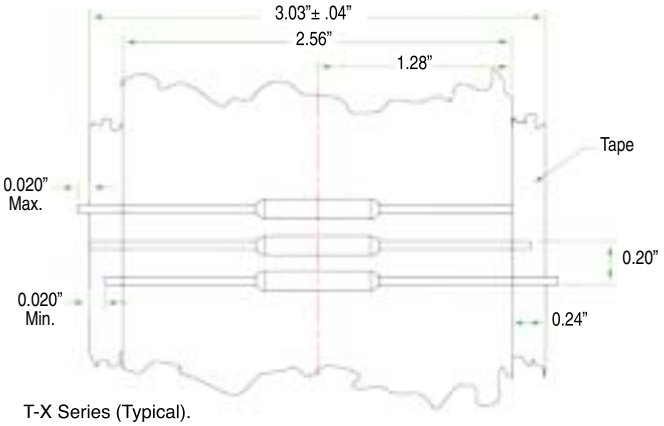
LF Series

Type No.	Tf [°C]	Functioning Temperature [°C]	Rating AC/DC	Rating Voltage [V]	Rating Current [A]	TH [°C]	TM [°C]	● Approved UL C-UL	VDE	BEAB	CCC	RoHS
L06F	65	61±3	AC	250	4	50	200	●	●	●	●	●
L1	84	81±2	AC	250	4	60	95	●	●	●	●	●
				125	5	60		●	●	●		●
L2F	102	98±3	AC	250	5	70	200	●	●		●	●
				125	7	60		●	●			●
L3	115	112±2	AC	250	5	95	160	●	●	●	●	●
				125	7	95		●	●	●		●
L3F	115	111±2	AC	250	5	95	200	●	●	●	●	●
				125	7	90		●	●	●	●	●
			DC	50	8	80		●	●	●		●
L4F	127	123±2	AC	250	5	100	200	●	●		●	●
				125	7	95		●	●			●
L13F	133	129±3	AC	250	5	100	200	●	●		●	●
				125	7	85		●	●			●
L5F	136	131±2	AC	250	5	105	200	●	●		●	●
				125	7	90		●	●			●
L6F	139	134±2	AC	250	5	115	200	●	●	●	●	●
				125	7	105		●	●	●	●	●
			DC	50	8.5	90		●	●	●		●
L7F	145	140±2	AC	250	5	125	200	●	●	●	●	●
				125	7	110		●	●	●	●	●
			DC	50	10	100		●	●	●		●

All products are approved by DENAN (AC250V)

Tape and Reel

Tape and Reel option available on all axial devices.



T-X Series (Typical).

Contact Thermtrol for more information regarding reel capacity and dimensions.

www.thermtrol.com
E-mail: sales@thermtrol.com

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Precautions When Using Thermal Cutoffs

The following information describes the correct methods of using thermal cutoffs to insure proper and safe performance. To achieve the full use and capacity of a thermal cutoff, it is necessary for the customer to exercise proper storage and execute appropriate circuit design, proper installation, and adequate testing. Thermtrol Corporation does not assume responsibility for problems which occur as a result of improper storage and installation, or inappropriate circuit design, evaluations or tests.

• Do not use thermal cutoffs for purposes other than for what they are intended. Thermal cutoffs operate only when they sense an ambient temperature greater than the factory pre-set temperature. They have no ability to function by current overload and are not current limiting devices.

• Do not use thermal cutoffs in equipment, appliances or devices intended to be used in the aerospace industry, aviation, nuclear power generation systems, life support systems, engine control systems, or safety control systems for transportation. Thermal cutoffs are applicable for electrical household devices, appliances and electronics. Other applications include: office automation equipment, audiovisual equipment, communication systems, measuring instruments and specific transportation systems.

• Do not use thermal cutoffs in applications exceeding the listed ratings in the specification charts.

• Do not use thermal cutoffs in a liquid, in a corrosive atmosphere such as sulfurous gas, or in a high humidity environment.

• Customers shall choose the thermal cutoff appropriate for the application and determine the proper mounting position and/or method. To judge whether the selected thermal cutoff and chosen position and method of mounting is suitable for the final application, we recommend that the customer fully test and evaluate the unit in an environment that duplicates the final application as closely as possible. This includes mounting and securing the thermal cutoff identically to the method that will be used in production.

Handling and Installation Instructions

When using thermal cutoffs, considerable caution should be exercised as follows:

A. Installation

• Mount the thermal cutoff in a location where uniform radiation of heat is sustained over the body of the unit.

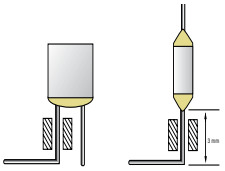
• Keep the leads as long as possible to maximize the area of exposure to heat.

• Place and connect the thermal cutoff in a manner so that no external mechanical force will be applied to the body and/or leads of the cutoff.

• Allow adequate space for mounting the thermal cutoff.

B. Lead Bending

• When bending a lead, bend at a location 3mm minimum from the body of the thermal cutoff. See below.
• Take caution not to damage either the thermal cutoff body or the lead.
• Keep the thermal cutoff body free from any push, pull or twist force.



Specifications for push, pull and twist test according to UL Standards 1200

Type / Test	Push	Pull	Twist
N • T • K	1.2 (0.12)	4.5 (0.45)	90°/1 Time
H • HU	1.2 (0.13)	4.8 ()0.49)	90°/1 Time
V	1.4 (0.14)	5.3 (0.54)	90°/1 Time
E • Y	2.0 (0.20)	7.7 (0.79)	90°/1 Time
LE — T	2.5 (0.26)	10.1 (1.03)	90°/1 Time
L • LE	4.0 (0.41)	15.8 (1.81)	90°/1 Time

Units: Newtons

C. Soldering

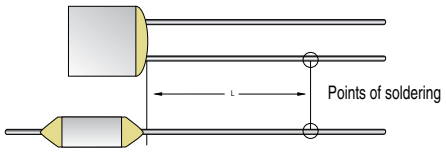
NOTE: The special sealant joining the lead wires to the case will soften during soldering. Care must be taken to not move the leads or body during the soldering process as the softened joints could shift and become disconnected. The sealant will resume its initial strength after cooling.

• Minimize the conduction of excessive heat to the thermal cutoff body when soldering.

• Maximum soldering time is shown below.

• During soldering, both the thermal cutoff body and leads should be free of any push, pull or twist force.

• After manual soldering, allow the thermal cutoff to cool for 30 seconds minimum without moving it. Automatic wave soldered units must cool for a minimum of 5 minutes.



Type	Rated Functioning Temperature (°C)	Length (L)		
		7mm	10mm	15mm
K-F	65	•	•	•
	76~102	•	•	1
	115~127	•	3	5
	133~145	1	3	5
T-F	65	•	•	•
	76~102	•	•	1
	115~127	•	3	5
	133~145	1	5	5
V-F	65	•	•	•
	76~102	•	•	3
	115~127	•	3	5
	133~145	1	5	5
Y-F	65	•	•	1
	76~102	•	1	3
	115~127	•	5	5
	133~145	1	5	5
L-F	65	•	1	3
	76~102	•	5	5
	115~127	1	5	5
N-F	65	•	•	5
	76~102	•	•	1
	115~127	•	•	5
	133~145	•	3	5
H-F HU-F	65	•	•	•
	76~102	•	•	1
	115~127	•	3	5
	133~145	1	5	5
E-F	65	•	•	•
	76~102	•	•	•
	115~127	•	1	5
	133~145	1	5	5

Units: Seconds