

One Shot Thermal Cutoffs

SWTC Series



SWTC Series

Thermal cutoffs are designed to provide upper limit temperature protection for many electronic products. Under normal operating temperature, the solid pellet compresses a spring which holds the star contact against the isolated lead. When a fault temperature is reached, the pellet melts and the circuit is opened permanently.

It is important to allow sufficient time to determine the proper and best location for a thermal cutoff. The location will affect the cutoffs ability to protect your product. Placing in the highest temperature area is usually best.

Applications

Appliances, Battery Chargers, Battery Packs, Inverters, Motors, Personal Care, Portable Appliances, Power Supplies, Surge Protectors, Transformers



Technical Specifications

SWTC Series

Features

- Low cost
- Wide range of contact ratings
- Quick and easy installation

Electrical Ratings

- 125/250 VAC, 10 A, Continuous Duty
- 125/250 VAC, 15 A, Interrupting Current

Dual Electrical Ratings for Continuous Duty

- 125/250 VAC, 10 A, Continuous Duty
- 125 VAC, 15 A, Continuous Duty
- 125/250 VAC, 15 A, Interrupting Current

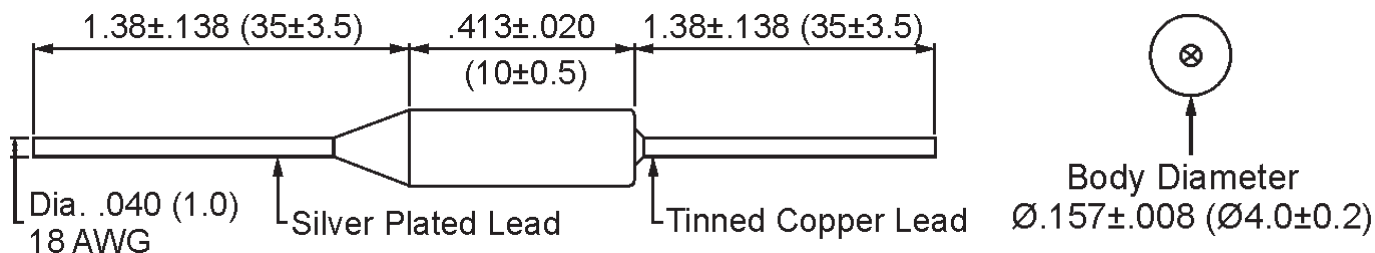
Note: The thermal fuse body is electrically live. Selco can provide an insulation sleeve if desired.

Temperature Tolerance

- A = +0F/-7F (+0C/-4C)
- B = +0F/-5F (+0C/-9C)
- C = +0F/-11F (+0C/-6C)

Approvals

- UL, c-UL, VDE



For more information on Selco Products please visit us at: www.selcoproducts.com



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SWTC Series - One Shot Thermal Cutoffs

Temperature Ranges	Functioning Temperature (TF)		Tolerance (TF)	Holding Temperature (TH)		UL/cUL	VDE
	°C	°F		°C	°F		
SWTC-162-3535	72	162	A	57	135	•	•
SWTC-170-3535	77	171	A	62	144	•	•
SWTC-183-3535	84	183	B	69	156	•	•
SWTC-194-3535	90	194	A	75	167	•	•
SWTC-196-3535	91	196	B	76	169	•	•
SWTC-199-3535	93	199	B	78	173	•	•
SWTC-208-3535	98	208	A	83	182	•	•
SWTC-212-3535	100	212	B	85	185	•	•
SWTC-228-3535	109	228	B	94	202	•	•
SWTC-250-3535	121	250	B	106	223	•	•
SWTC-259-3535	126	259	A	111	232	•	•
SWTC-262-3535	128	262	B	113	236	•	•
SWTC-282-3535	139	282	A	124	256	•	•
SWTC-291-3535	144	291	B	127	261	•	•
SWTC-306-3535	152	306	A	137	279	•	•
SWTC-333-3535	167	333	A	152	306	•	•
SWTC-336-3535	169	336	A	154	310	•	•
SWTC-363-3535	184	363	C	169	337	•	•
SWTC-378-3535	192	378	C	177	351	•	•
SWTC-383-3535	195	383	C	180	356	•	•
SWTC-421-3535	216	421	C	200	392	•	•
SWTC-464-3535	240	464	C	200	392	•	•

Temperature Tolerance

A = +0F/-7F (+0C/-4C)

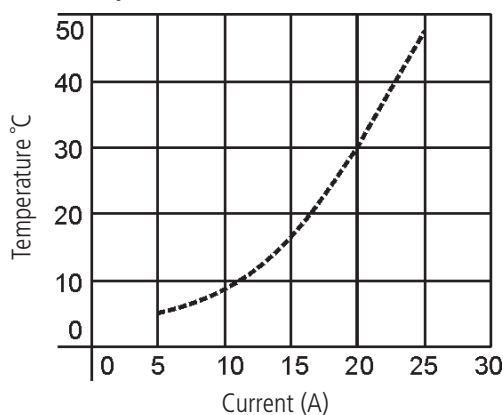
B = +0F/-5F (+0C/-9C)

C = +0F/-11F (+0C/-6C)

T_F - Functioning Temperature: Temperature at which the thermal cutoff will open + A, B or C tolerances

T_H - Hold Temperature: The maximum temperature at which a thermal cutoff can be maintained while conducting rated current for 168 hours which will not cause a change in state of the conductivity to open the circuit

Temperature/Current Correlation Curve



NOTE: It is the customer's sole responsibility to specify and determine the suitability of a particular control or component based on their unique individual applications and requirements, with respect to temperature settings, cycle life, electrical load and environmental conditions.

Determining the Proper Series

T_P The highest temperature of the product to which a cutoff is to be attached

T_H The safe temperature range for use of the cutoff

T_S $T_F - T_H = T_S$
Where TF = the functioning temperature (24°C less than or equal to TS less than or equal to 40°C)

T_D The heating temperature caused by electrical load

+a

1. Self heating of lead wire
2. Structure of ventilation of air tightness
3. Location of connecting terminal
4. Thickness of insulated covering material
5. Best condition value, electric voltage changes considered

TP + TS + TD + a = Applicable Temperature

Installation Instructions

The performance of thermal cutoff requires proper handling during installation for it to operate in its intended manner. These instructions are intended to be used to reduce the risk of malfunction of the thermal cutoff which may result from improper installation during forming of leads, splicing, welding and soldering.

1. Bending Leads

Care should be taken when forming the Thermal Cutoff (TCO) leads. The TCO leads must be supported 1/8" from bend and epoxy. This will prevent the epoxy seal from cracking which may result in premature degradation of the pellet. A close visual inspection should be performed to make sure that the TCO leads have not been cut, nicked, folded sharply, fractured or burned.

2. Mechanical Forces During Appliance Connection

a. When installing the TCO, avoid unnecessary bending, twisting, pulling or pushing on the TCO leads. Care should be taken to avoid cracking or chipping of the epoxy, which may result from sharp twisting or bending of the lead.

b. The TCO body must maintain its cylindrical shape to function properly. Excessive clamping could cause denting or crushing of the TCO body, which may lead to failure. X-ray and visual inspection of the TCO will determine if the fuse body has been damaged.

c. Note that the TCO body is electrically live and must be insulated before applying a metal clamp over the TCO body.

d. Care should be used when pushing the epoxy end lead to avoid the lead being forced into the TCO body. This could result in a failure.



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