



Encapsulated Thermal Switches

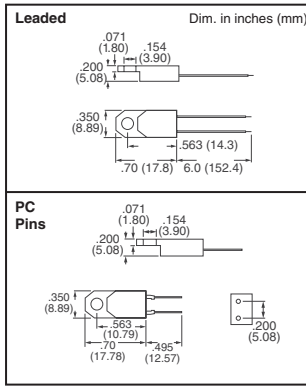
Encapsulated Thermal Switches are ideal for sensing the temperature of a surface or of stagnant air in an enclosure. Available with PC pins or with flexible wire leads for remote installation. Their high temperature resistance and high dielectric strength make it ideal for protecting heatsink-mounted semiconductors. Other applications would be protecting power supplies, or simply turning on a fan at a desired temperature.

Current Sensitivity: The thermal switches are not current sensitive at rated currents. At loads above the rated values, up to maximum loading there is self-heating of the current carrying contacts.

Insulation Resistance: Leads to Earth: 2500V @ 25°C, 1500V @ 100°C. Across open contacts, dependent on response temperature: 500V eff. AC.

Marking: Response temperature in clear text (5°C steps). Normally Closed = blue or black (epoxy); Normally Open = red (epoxy)

UL E46827 CSA LR28044-10 VDE 4523-4510-0702/329CU



Electrical Specifications



Type	N/C	N/O
Voltage Rating 50 - 60 Hz	120 V / 250 V	120 V / 250 V
Current Rating Resistive	3.0 A / 2.0 A	1 A / 1 A*
Current Rating Inductive	1.8 A / 1.2 A	1 A / 1 A*
Max. Load Resistive	4.0 A	4.0 A
Short Circuit Current Up to	6.3 A	6.3 A
Contact Arrangement	Normally Closed N/C - Normally Open N/O	
Contact Resistance	< 40 mΩ	< 40 mΩ
Response Temperature Range	70°C - 160°C	65°C - 150°C
Tolerance Range	±5°C	±5°C
Max. Permanent Temperature of Housing - G410	220°C	220°C
Housing Material - G410	PPS	PPS
Thermal Conductivity	4.0 BTU - in. / hr. / ft ² / °F	

* When N/O contacts are closed, self heating will occur at currents exceeding normal rating. It is possible that, given certain combinations of set temperature current and ambient temperature, the contacts will not reset.

Switch Temp. (°C)	Digi-Key Part No.	Price Each				Cantherm Part No.
		1	10	50	100	
Thermal Switches With Leads						
Normally Closed						
70	317-1000-ND	5.25	4.60	3.29	2.63	F20A07005ACFA06E
75	317-1001-ND	5.25	4.60	3.29	2.63	F20A07505ACFA06E
80	317-1002-ND	5.25	4.60	3.29	2.63	F20A08005ACFA06E
85	317-1003-ND	5.25	4.60	3.29	2.63	F20A08505ACFA06E
90	317-1004-ND	5.25	4.60	3.29	2.63	F20A09005ACFA06E
95	317-1005-ND	5.25	4.60	3.29	2.63	F20A09505ACFA06E
100	317-1006-ND	5.25	4.60	3.29	2.63	F20A10005ACFA06E
105	317-1007-ND	5.25	4.60	3.29	2.63	F20A10505ACFA06E
110	317-1008-ND	5.25	4.60	3.29	2.63	F20A11005ACFA06E
115	317-1009-ND	5.25	4.60	3.29	2.63	F111525ACFA06E
120	317-1010-ND	5.25	4.60	3.29	2.63	F20A12005ACFA06E
125	317-1011-ND	5.25	4.60	3.29	2.63	F20A12505ACFA06E
130	317-1012-ND	5.25	4.60	3.29	2.63	F20A13005ACFA06E
135	317-1013-ND	5.25	4.60	3.29	2.63	F20A13505ACFA06E
140	317-1014-ND	5.25	4.60	3.29	2.63	F20A14005ACFA06E
145	317-1015-ND	5.25	4.60	3.29	2.63	F20A14505ACFA06E
150	317-1016-ND	5.25	4.60	3.29	2.63	F20A15005ACFA06E
155	317-1017-ND	5.25	4.60	3.29	2.63	F20A15505ACFA06E
160	317-1018-ND	5.25	4.60	3.29	2.63	F20A16005ACFA06E
Normally Open						
70	317-1019-ND	6.82	5.97	4.27	3.42	F1107015ACFA06E
75	317-1020-ND	6.82	5.97	4.27	3.42	F1107515ACFA06E
80	317-1021-ND	6.82	5.97	4.27	3.42	F1108015ACFA06E
85	317-1022-ND	6.82	5.97	4.27	3.42	F1108515ACFA06E

Switch Temp. (°C)	Digi-Key Part No.	Price Each				Cantherm Part No.
		1	10	50	100	
90	317-1023-ND	6.82	5.97	4.27	3.42	F1109015ACFA06E
95	317-1024-ND	6.82	5.97	4.27	3.42	F1109515ACFA06E
100	317-1025-ND	6.82	5.97	4.27	3.42	F1110015ACFA06E
105	317-1026-ND	6.82	5.97	4.27	3.42	F1110515ACFA06E
110	317-1027-ND	6.82	5.97	4.27	3.42	F1111015ACFA06E
120	317-1029-ND	6.82	5.97	4.27	3.42	F112015ACFA06E
130	317-1031-ND	6.82	5.97	4.27	3.42	F113015ACFA06E
135	317-1032-ND	6.82	5.97	4.27	3.42	F113515ACFA06E
145	317-1034-ND	6.82	5.97	4.27	3.42	F114515ACFA06E
150	317-1035-ND	6.82	5.97	4.27	3.42	F115015ACFA06E
Thermal Switches With PC Pins						
Normally Closed						
120	317-1048-ND	5.25	4.60	3.29	2.63	F1120251ZA0060
135	317-1051-ND	5.25	4.60	3.29	2.63	F1135251ZA0060
140	317-1052-ND	5.25	4.60	3.29	2.63	F1140251ZA0060
145	317-1053-ND	5.25	4.60	3.29	2.63	F1145251ZA0060
150	317-1054-ND	5.25	4.60	3.29	2.63	F1150251ZA0060
155	317-1055-ND	5.25	4.60	3.29	2.63	F1155251ZA0060
160	317-1056-ND	5.25	4.60	3.29	2.63	F1160251ZA0060
70	317-1321-ND	5.25	4.60	3.29	2.63	F11070253600060
75	317-1322-ND	5.25	4.60	3.29	2.63	F11075253600060
80	317-1323-ND	5.25	4.60	3.29	2.63	F11080253600060
85	317-1324-ND	5.25	4.60	3.29	2.63	F11085253600060
90	317-1325-ND	5.25	4.60	3.29	2.63	F11090253600060
95	317-1326-ND	5.25	4.60	3.29	2.63	F11095253600060
100	317-1318-ND	5.25	4.60	3.29	2.63	F11100253600060

Switch Temp. (°C)	Digi-Key Part No.	Price Each				Cantherm Part No.
		1	10	50	100	
105	317-1319-ND	5.25	4.60	3.29	2.63	F11105253600060
110	317-1327-ND	5.25	4.60	3.29	2.63	F1110253600060
115	317-1328-ND	5.25	4.60	3.29	2.63	F1115253600060
120	317-1329-ND	5.25	4.60	3.29	2.63	F1120253600060
125	317-1330-ND	5.25	4.60	3.29	2.63	F1125253600060
130	317-1331-ND	5.25	4.60	3.29	2.63	F1130253600060
135	317-1332-ND	5.25	4.60	3.29	2.63	F1135253600060
Normally Open						
125	317-1068-ND	6.82	5.97	4.27	3.42	F11125151ZA0060
130	317-1069-ND	6.82	5.97	4.27	3.42	F1130151ZA0060
135	317-1070-ND	6.82	5.97	4.27	3.42	F1135151ZA0060
140	317-1071-ND	6.82	5.97	4.27	3.42	F1140151ZA0060
145	317-1072-ND	6.82	5.97	4.27	3.42	F1145151ZA0060
150	317-1073-ND	6.82	5.97	4.27	3.42	F1150151ZA0060
155	317-1074-ND	6.82	5.97	4.27	3.42	F1155151ZA0060
160	317-1075-ND	6.82	5.97	4.27	3.42	F1160151ZA0060
95	317-1320-ND	6.82	5.97	4.27	3.42	F11095153600060
85	317-1342-ND	6.82	5.97	4.27	3.42	F11085153600060
90	317-1343-ND	6.82	5.97	4.27	3.42	F11090153600060
100	317-1344-ND	6.82	5.97	4.27	3.42	F11100153600060
105	317-1345-ND	6.82	5.97	4.27	3.42	F11105153600060
110	317-1346-ND	6.82	5.97	4.27	3.42	F1110153600060
115	317-1347-ND	6.82	5.97	4.27	3.42	F1110153600060
120	317-1348-ND	6.82	5.97	4.27	3.42	F11120153600060
125	317-1349-ND	6.82	5.97	4.27	3.42	F11125153600060

Bi-metal Cutouts / Temperature Regulators

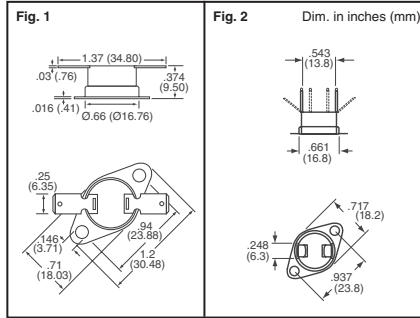
The thermal response works a bimetal snap element electrically connected to the switch contact. The switch system is current insensitive. The thermal switches react only to external thermal effects. Double contacts ensure high switch performance and long service life. The housing, base, and the mounting brackets are voltage-free (Standard version: base and mounting brackets are aluminum-plated steel). Heat transfer occurs directly through the metallic base via convection, radiation and conduction in gaseous and solid media. The mounting flange is floating and can be rotated to any desired position with respect to the electrical terminals.

Please note: Reset temperature will be between 5°C - 50°C below the standard response temperature.

ADVANTAGES:

- High pressure resistance
- High response sensitivity
- Numerous applications
- Various housings, connections and mounting styles

UL E48909 CSA LR85477-1 VDE 0631



Electrical Specifications



Voltage Rating 50-60Hz	120V / 250V
Current Rating Resistive	15A / 10.0A
Current Rating Inductive	6.3A
Maximum Load Resistive	20A / 16A
Contact Resistance	< 50mΩ
Nominal Temperature Range	0°C - 170°C
Tolerance Range	±5°C
Maximum Permanent Temperature	175°C
Housing Material	Duroplast
Overall Height (mm)	9.5 (+0.2)
Contacts:	Normally Closed Normally Open

Fig.	Switch Temperature (°C)	Digi-Key Part No.	Price Each				Cantherm Part No.
			1	10	50	100	
Normally Closed							
1	20	317-1367-ND	6.73	5.89	4.21	3.37	R2002025
	35	317-1078-ND	7.05	6.17	4.41	3.53	R2003525
	95	317-1089-ND	5.54	4.85	3.47	2.78	R2009525
	100	317-1090-ND	5.54	4.85	3.47	2.78	R2010025
	150	317-1468-ND	5.29	4.63	3.31	2.65	R2015025
	15	317-1491-ND	6.34	5.55	3.97	3.18	CS701525Y
	20	317-1495-ND	6.34	5.55	3.97	3.18	CS702025Y
	30	317-1499-ND	6.34	5.55	3.97	3.18	CS703025Y
	35	317-1503-ND	6.34	5.55	3.97	3.18	CS703525Y
	40	317-1507-ND	6.34	5.55	3.97	3.18	CS704025Y
	45	317-1509-ND	6.34	5.55	3.97	3.18	CS704525Y
	50	317-1513-ND	6.34	5.55	3.97	3.18	CS705025Y
	60	317-1517-ND	6.34	5.55	3.97	3.18	CS706025Y
	65	317-1519-ND	6.34	5.55	3.97	3.18	CS706525Y
	70	317-1523-ND	6.34	5.55	3.97	3.18	CS707025Y
75	317-1525-ND	6.34	5.55	3.97	3.18	CS707525Y	
80	317-1529-ND	6.34	5.55	3.97	3.18	CS708025Y	
85	317-1531-ND	6.34	5.55	3.97	3.18	CS708525Y	
90	317-1535-ND	6.34	5.55	3.97	3.18	CS709025Y	
95	317-1537-ND	6.34	5.55	3.97	3.18	CS709525Y	

Fig.	Switch Temperature (°C)	Digi-Key Part No.	Price Each				Cantherm Part No.
			1	10	50	100	
1	100	317-1541-ND	6.34	5.55	3.97	3.18	CS710025Y
	115	317-1545-ND	6.34	5.55	3.97	3.18	CS711525Y
	120	317-1547-ND	6.34	5.55	3.97	3.18	CS712025Y
	130	317-1550-ND	6.34	5.55	3.97	3.18	CS713025Y
	150	317-1552-ND	6.34	5.55	3.97	3.18	CS715025Y
2	20	317-1412-ND	6.73	5.89	4.21	3.37	R2002025A119
	25	317-1413-ND	6.73	5.89	4.21	3.37	R2002525A119
	30	317-1414-ND	6.73	5.89	4.21	3.37	R2003025A119
	35	317-1415-ND	6.73	5.89	4.21	3.37	R2003525A119
	65	317-1420-ND	5.29	4.63	3.31	2.65	R2006525A119
	70	317-1421-ND	5.29	4.63	3.31		