MICROTEMP® Thermal Cutoffs: TYPES & SPECIFICATIONS

MICROTEMP® thermal cutoffs are available in a range of temperatures and electrical ratings to meet application requirements *(see figure 3)*. There are five primary types of thermal cutoffs available. Standard dimensions of each TCO series are shown in figure 4.

G4 Series

Rated for continuous operating currents up to 10 amps @ 250VAC (15 amps @ 120VAC), the G4 series MICROTEMP® TCO is the industry standard for over-temperature protection. The G4 series is applied to millions of appliances and personal care products each year, providing reliable back-up protection for temperature controlling thermostats and other over-temperature conditions. The G4 series is also widely applied in office machines, portable heaters and industrial equipment as a thermal safeguard.

G5 Series

Designed for higher current applications, the G5 series MICROTEMP® TCO is rated for operating currents up to 16 amps @ 250VAC (20 amps @ 250VAC and 25 amps @ 120VAC at UL/CSA). Similar in appearance to the G4 series, the G5 series has a different internal construction designed for interrupting higher currents.

G6 Series

The G6 series MICROTEMP® TCO can be utilized in applications where a higher maximum-overshoot temperature rating is not required, yet it is rated for operating currents up to 16 amps @ 250VAC. It is the same physical size as the G4, G5 and G8 series TCOs.

G7 Series

The G7 series MICROTEMP® TCO is designed to satisfy applications requiring miniaturized components that do not need maximum current interrupt capability. The G7 is just 2/3 the size of the G4 and G5, and with a current interrupting capability of 5 amps @ 250VAC, it is capable of meeting the requirements of transformers, motors, battery packs and electronic circuit applications.

G8 Series

Designed for very high-current applications such as major appliances and high-wattage electric heat packages, the G8 series MICROTEMP® TCO is rated for operating currents up to 25 amps @ 250VAC. More economical than electromechanical bimetal-type one shot devices, it can be utilized in applications where its small size is an advantage in terms of mounting (it's the same physical size as the G4, G5 and G6 series TCOs) and thermal response.

MICROTEMP® TCO Operating Temperature Summary

Max. Open Temp T_f °C	Holding Temp T_h °C	Maximum Overshoot Temperature						
		T_m °C G4 Series	T_m °C G5 Series	T_m °C G6 Series	T_m °C G7 Series	T_m °C G8 Series	T_m °C R9 Series	T_m °C R7 Series
072	47	100	175	100	—	175	100	—
077	52	125	200	125	125	200	125	125
084	59	125	200	125	125	200	125	125
093	68	140	215	—	140	215	140	140
098	73	140	215	140	140	215	140	140
104	79	150	225	150	—	225	150	—
110	85	150	225	—	140	225	150	140
117	92	160	235	160	140	235	160	140
121	96	160	235	160	150	235	160	150
128	103	160	235	160	150	235	160	150
144	119	175	250	175	175	250	175	175
152	127	175	250	175	175	—	175	175
167	142	210	285	—	200	285	210	200
184	159	210	350	210	200	350	210	200
192	167	210	350	210	—	350	210	200
216	191	375	375	—	—	—	375	—
229	200	375	375	375	—	375	375	—
240	200	375	375	375	—	375	375	—

T_M – Maximum overshoot temperature: temperature up to which TCO will not change status

T_F – Functioning open temperature tolerance: +0, -5°C

T_H – Holding temperature: Maximum continuous exposure temperature

C.T.I. – Comparative tracking index (all primary thermal cutoffs): 250VAC

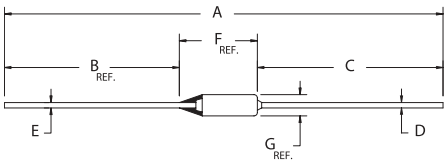
NOTE: G4, G5, G6,G7 and G8 series TCOs with $T_F \geq 184°C$ comply with UL conductive heat aging (CHAT) requirements.

Electrical Rating Summary

Agency	Maximum Overshoot Temperature								
	G4 Series		G5 Series	G6 Series	G7 Series		G8 Series	R9 Series	R7 Series
	Resistive	Inductive	Resistive	Resistive	Resistive	Inductive	Resistive	Resistive	Resistive
UL/CSA	10A/250VAC 15A/120VAC	8A/250VAC 14A/120VAC	16A/250VAC 25A/120VAC 21A/240VAC	16A/250VAC	5A/250VAC 5A/24VDC	4.5A/250VAC 4.5A/120VAC	25A/250VAC	—	—
IEC	10A/250VAC 15A/120VAC	8A/250VAC 14A/120VAC	16A/250VAC	16A/250VAC	5A/250VAC	4.5A/250VAC 4.5A/120VAC	25A/250VAC	—	—
METI	10A/250VAC	—	15A/250VAC	15A/250VAC	5A/250VAC 5A/24VDC	—	—	15A/250VAC	7A/250VAC 7A/24VDC

Figure 3

MICROTEMP® TCO Standard Dimensions



	Dimensions – Inches (millimeters)	G4, G5, G6 & G8 Series	G7 Series
Standard Leads	A Overall Length ± .12 (±3.0) B Epoxy Lead Length (Reference) C Case Lead Length ± .06 (± 1.5)	2.51 (63.8) 0.55 (14.0) 1.38 (34.9)	N/A N/A N/A
Long Leads	A Overall Length ± .12 (±3.0) B Epoxy Lead Length (Reference) C Case Lead Length ± .06 (± 1.5)	3.26 (82.8) 1.30 (33.0) 1.38 (34.9)	3.26 (82.8) 1.50 (38.1) 1.38 (34.9)
Lead Material and Diameter	D Case Lead Diameter D Case Lead Material E Epoxy Lead Diameter E Epoxy Lead Material	.040 (1.0) Tin-Plated Copper .040 (1.0) Silver-Plated Copper	.023 (.57) Tin-Plated Copper .023 (.57) Silver-Plated Copper
Case Dimensions	F Case Length (Reference) G Case Diameter (Reference)	.58 (14.7) .158 (4.0)	.38 (9.6) .118 (3.0)

Figure 4