



CT10-G4's Rugged Lead-Frame Design is a Feature AND a Benefit!

Background

The reed switch has been a widely-used sensor technology since its invention nearly 80 years ago. Over the decades, designs have evolved as modern reed switches have improved reliability by overcoming many of the issues associated with particle contamination, cracked glass and broken seals. However, reed switches remain delicate, are easily broken, and, if not tested prior to shipment, may have high failure rates.

Applications

- Proximity Sensor
- Security alarm sensor
- Level sensor
- Flow sensor
- Pulse counter

Case in point: A leading global meter manufacturer reported a large failure rate using a competitive brand reed switch, which was delivering defective switches. The causes were particle contamination, cracked glass and broken seals – all of which went undetected by the switch manufacturer prior to shipment. The resulting cost to the meter manufacturer in service and repair was phenomenal – not to mention the losses suffered by the meter manufacturer's customers whose meters were not functioning for long periods of time. After learning about Coto's rugged CT10-G4, 100% end-of-line tested switches, the meter manufacturer placed an order and tested them in the field and saved so much time and money that they have since switched their entire production line to use the Coto CT10-G4. Because Coto tests 100% of its switches prior to shipment, customers can be assured of receiving quality, non-defective product.

Designed for applications requiring the utmost in reliability and ease of manufacture, Coto Technology's CT10 series of reed switches provide industry leading reliability as the result of several key initiatives that start with the product design and extend to the manufacture and final testing of each reed switch.

For the most demanding applications, the Coto CT10-G4 reed switch, with its more robust lead-frame style leads, also enhances reliability and solderability. The trade-off? Due to its rugged lead frame, the CT10-G4 is slightly more expensive than Coto's competitively-priced CT10-G2 model and has a 226 Degrees C process capability as opposed to 260 Degrees C. However, in severe conditions, the benefits far outweigh the alternative.

TEST SUMMARY

SYSTEM 320 ..	Relays tested	:	6937
	Relays passed	:	6869
	Relays failed	:	68
	Yield (system 320)	:	99.02 %
NON-320	Non-320 rejects	:	0
FINAL YIELD .	Total quantity	:	6937
	Reject quantity	:	68
	Final yield	:	99.02 %

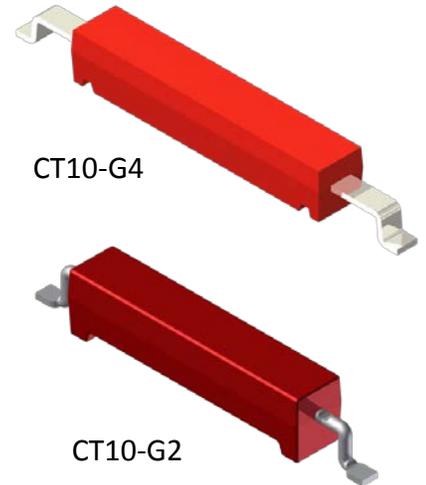
CT10-G4 Features

- Rugged lead frame design
- Ideal for SMD pick and place
- Tape and reel packaging
- 10W rating
- Rugged encapsulation, seals fully protected
- Excellent line and reliability
- RoHS compliant

The Test Summary (pictured above) was the result of a recent lot of Coto CT10-G4 molded switches. Note that the Tester SYS320 detected close to 1% defects that would not have been revealed without 100% end-of-line testing – the equivalent reduction of 9,800 defects per Million. For the aforementioned meter manufacturer, that would be the annual equivalent of 37,240 defective parts! With the SYS320, Coto can ensure that it ships only quality functional switches.

Comparison of the Coto CT10-G4 Reed Switch vs. the CT10-G2 Reed Switch

CT10 - G4	CT10 - G2
Robust Package Seals Fully Protected	Robust Package Seals Fully Protected
Slightly More Expensive (~\$0.05)	Competitively Priced
Switch is Soldered to Leadframe, Over Molded, Cut, Formed	Switch is Over Molded then Switch Leads are Cut and Formed
226°C Process Capability	Full 260°C Process Capability
Coto 100% tests Finished Switches to Confirm AT and Screen for Potential Defects (DCR/CR)	Coto 100% tests Finished Switches to Confirm AT and Screen for Potential Defects (DCR/CR)



As you can see above, all of Coto's CT10 molded switch models are 100% tested, so either model provides an excellent solution.

Key Differentiators for Coto's Molded Reed Switches

100% end of line testing for all switches includes:

- Static CR Measurement – ensures robust operating switch
- DCR measurement – measures bounce
- DCR Peak – Peak – measures Resistance over cycles to help determine if contamination and/or cracking of the glass encapsulation has occurred
- CR Stability – confirms repetitive resistance measurements over cycles to help determine if contamination and/or cracking of the glass encapsulation has occurred
- Operate Voltage and Operate Current (AT)

Questions? E-mail us at Classic@CotoRelay.com

[Download Datasheet on CT10 Switches \(PDF\)](#)

Download Related Application Note:

[“Nobody Said Designing Utility Meters was Easy”](#)

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World Leader in Small Signal Switching Solutions**

Coto Technology, Inc., designs and manufactures Reed Relays, Reed Switches / Sensors and Solid State MOSFET relays for the Automatic Test Equipment, Electronics, Telecommunication, Medical, Automotive, and Security markets.

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