

1 Description

The CT05 is an overmolded dry reed switch. It is single-pole, single throw (SPST) type, having normally open ruthenium contacts.

The sensor is a double-ended type and may be actuated with an electromagnet, a permanent magnet or a combination of both.

The device is designed for SMD mounting and is available in Gull Wing or J-bend lead configurations.

Device Packages



2 Features

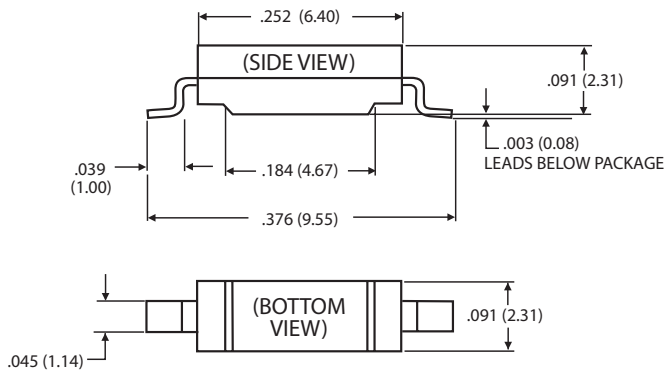
- ▶ Ideal for SMD pick and place
- ▶ Tape and reel packaging
- ▶ 5W rating
- ▶ Rugged encapsulation
- ▶ Excellent life and reliability
- ▶ UL File 67117
- ▶ RoHS compliant

3 Applications

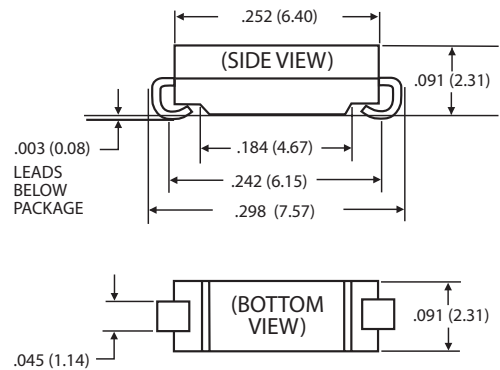
- ▶ Proximity Sensing
- ▶ Medical Applications
- ▶ Hearing Aids
- ▶ Pulse Counter

4 Dimensions Inches (Millimeters)

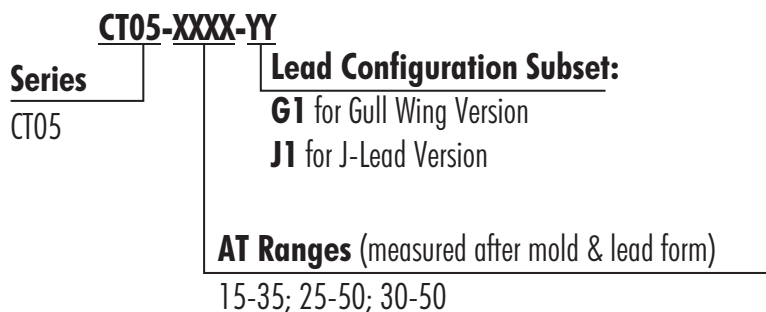
4.1 CT05-XXXX-G1



4.2 CT05-XXXX-J1



5 Ordering Information



6 Specifications for CT05

6.1 Operating / Environmental Ratings for CT05-XXXX-YY

Parameters	Units	Min	Typ	Max
Operating Range	AT	15		50
Release Range	AT	5		49
Storage Temperature	°C	-40		125
Operating Temperature	°C	-40		125
Vibration Resistance	G		10	
Shock Resistance	G		100	

Notes:

1. AT values measured using a Philips 10JK coil. 4AT ~ 1mT = 10G (Applicable only for Coto Technology AT values.)

6.2 Electrical Characteristics for CT05-XXXX-YY

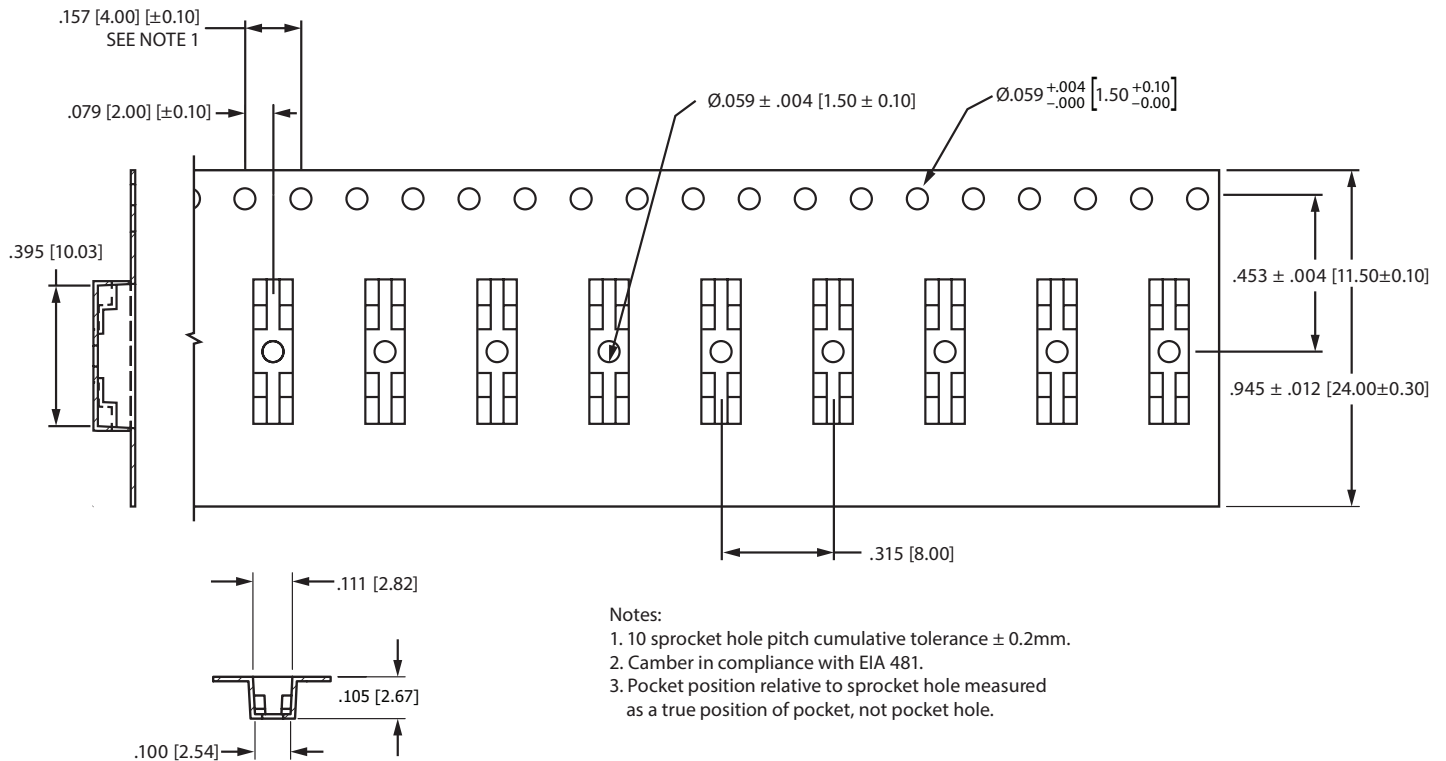
Parameters	Units	Min	Typ	Max
Switched Power	W			5
Switched Voltage DC	V			140
Switched Voltage AC, RMS value	V			100
Switched Current DC	mA			350
Switched Current AC, RMS value	mA			250
Carry Current DC	mA			500
Breakdown Voltage	V	230		
Life Expectancy @ 1V, 10mA	10 ⁶ ops	500		
Life Expectancy @ 10V, 10mA	10 ⁶ ops	100		
Contact Resistance	mΩ			160
Insulation Resistance	MΩ	10 ⁴		

6.3 Operating Characteristics for CT05-XXXX-YY

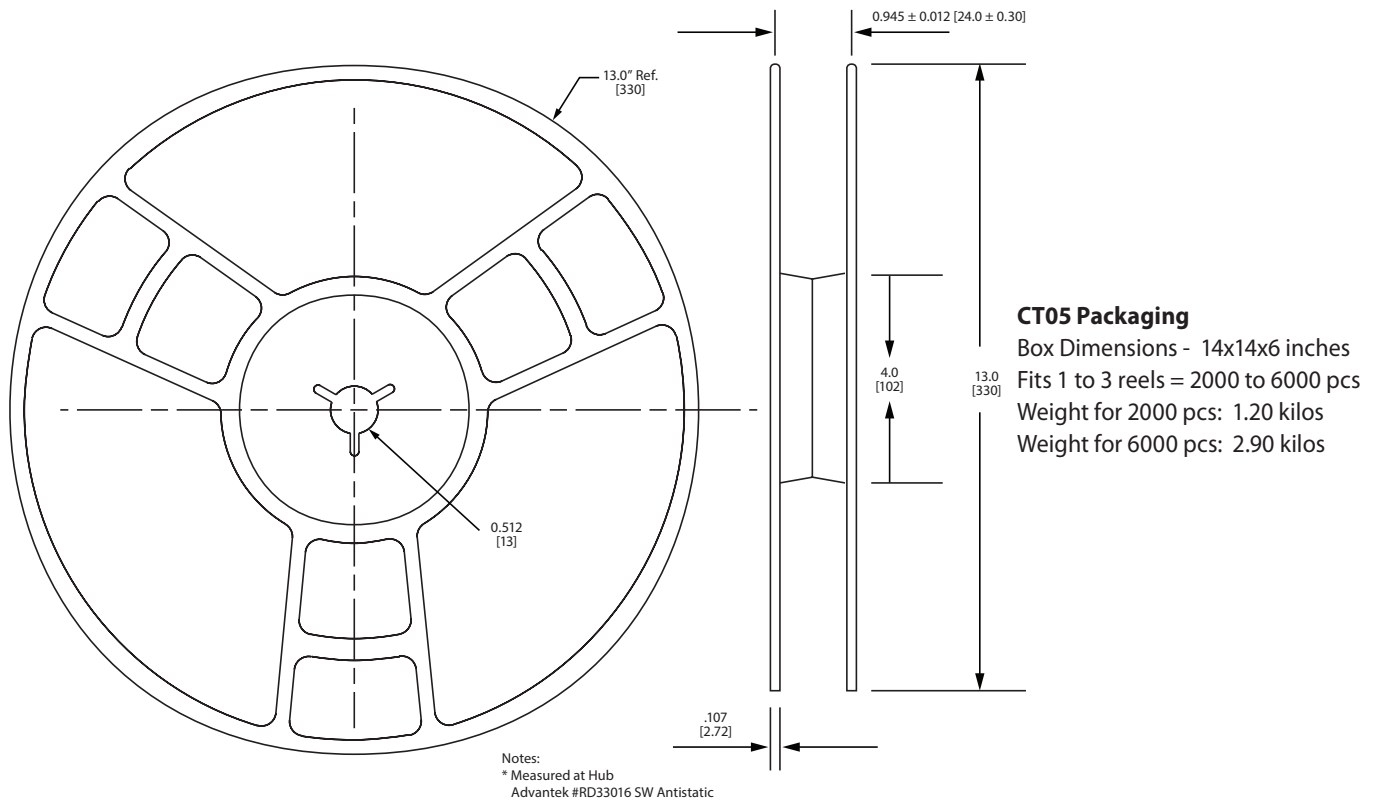
Part Number	Parameters	Units	Min	Typ	Max
CT05-1535-YY	Operating Range	AT	15		35
	Release Range	AT	5		34
CT05-2550-YY	Operating Range	AT	25		50
	Release Range	AT	5		49
CT05-3050-YY	Operating Range	AT	30		50
	Release Range	AT	5		49

7 CT05 Reel & Carrier Tape Packaging

7.1 CT05 Carrier Tape



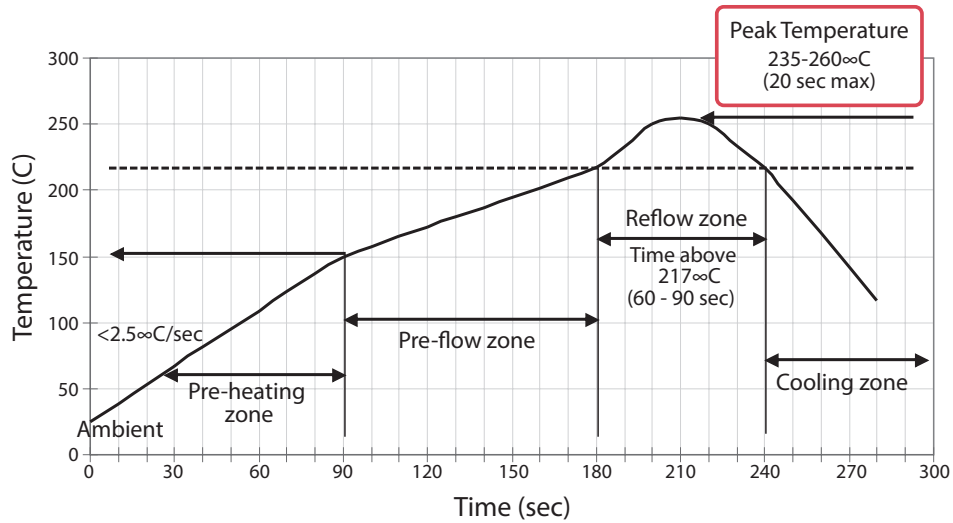
7.2 CT05-XXXX-G1 and CT05-XXXX-J1 Reel



8 Switch Processing Notes

8.1 Recommended Reflow Profile SAC Alloy

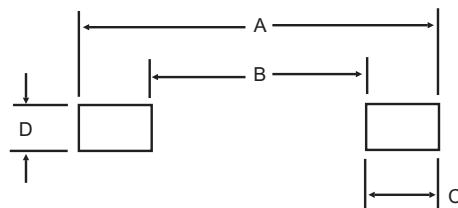
Coto Technology recommends that the max switch temperature during the solder reflow process does not exceed 260°C. Temperature and time more than the recommended levels may result in damage to the switch. Recommended solder profile for SAC alloys as below/



8.2 Recommended Pad Layouts for SMD Reed Switches

Model	Lead Type	Fig. #	Dim. A	Dim. B	Dim. C	Dim. D
CT05	G1	1	.424/10.76	.242/6.14	.091/2.31	.057/1.45
CT05	J1	1	.330/8.38	.168/4.27	.081/2.06	.057/1.45

(Dimensions in Inches/Millimeters)



8.3 Cleaning

CT05 is designed and manufactured to provide an adequate seal from external conditions. However, caution must be taken during the cleaning process not to expose the switches to conditions that will allow moisture to permeate into the package. Caution should be taken with dwell time between reflow and cleaning, high pressure spraying, and time in cleaning solvent/aqueous solutions, as these cleaning process parameters can contribute to moisture permeation. Board level bake out may be required after wash to remove moisture that has been introduced during cleaning operations.

8.4 Switch Storage

Switch parametric specifications are specified at 25°C and 40% RH. Reduced switch performance may result if storage or use environments significantly exceed these conditions. If high insulation resistance is required, Coto Technology recommends that switch storage, processing, and use environments are adequate to achieve the desired results. Switches should be stored in similar environmental conditions as other high-reliability active and passive electronic components. Proper storage of switches is also important to maintain solderability over an extended period of time.

8 Switch Processing Notes

8.5 Handling

Switches should be handled with care. Dropping or mishandling switches may result in damage that can contribute to a direct failure or, even worse, a latent field failure. If switches are dropped, Coto Technology recommends that they should be discarded.

Coto Technology does not recommend use of ultrasonic activated equipment with switches. The use of ultrasonic equipment may change the characteristics of the switch and can contribute to failure.

For more **technical and application information**,
please refer to the following QR code:



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