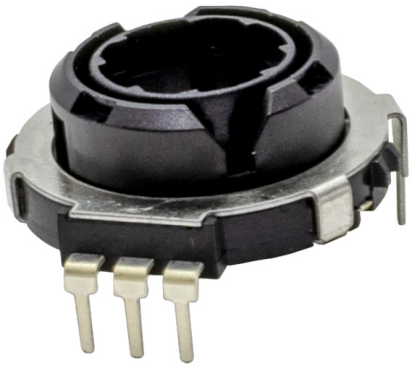
CUI Devices is now Same Sky! Learn More

SERIES: RING23 | DESCRIPTION: HOLLOW SHAFT MECHANICAL ENCODER

FEATURES

- low profile
- haptic detent feedback
- 30K rotational life cycles



RoHS

ELECTRICAL

parameter	conditions/description	min	typ	max	units
power supply			5		V
current consumption				10	mA
output	2-bit quadrature, channel A leads channel B by 90° with counter-clockwise rotation				
output resolution	10, 20 PPR				
insulation resistance	at 250 Vdc	100			MΩ
dielectric strength	for 1 minute at sea level		300		Vac
electrical travel	continuous				
contact bounce	at 15 RPM			2	ms

MECHANICAL

parameter	conditions/description	min	typ	max	units
operating speed				60	RPM
rotational angle	continuous		360		°
detent step angle	20 detents		18		°
rotational torque		30		150	gf•cm
rotational life			30,000		cycles

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature		-30		80	°C
storage temperature		-40		85	°C
RoHS	yes				

SOLDERABILITY

parameter	conditions/description	min	typ	max	units
hand soldering	for maximum 3 seconds		300		°C
wave soldering	for maximum 3 seconds		260		°C

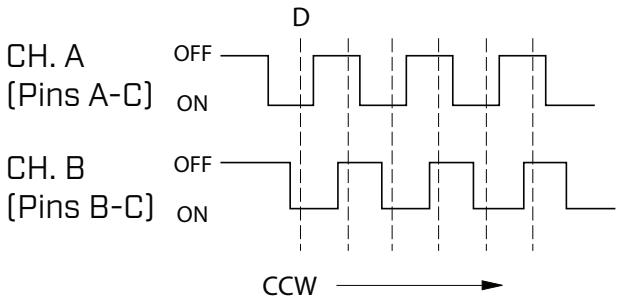
PART NUMBER KEY

RING23 - 9 XXXX 5 - TH

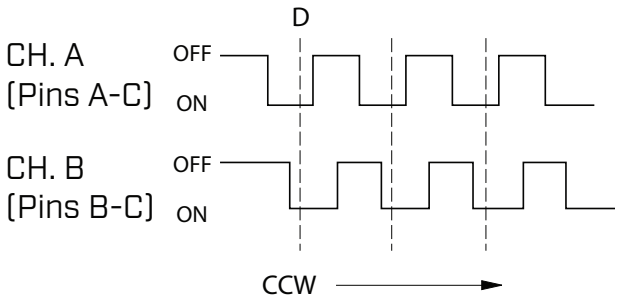
- RING23: Base Number
- XXXX: Resolution, Detent:
  1020 = 10 PPR, 20 detents
  2020 = 20 PPR, 20 detents

OUTPUT WAVEFORM

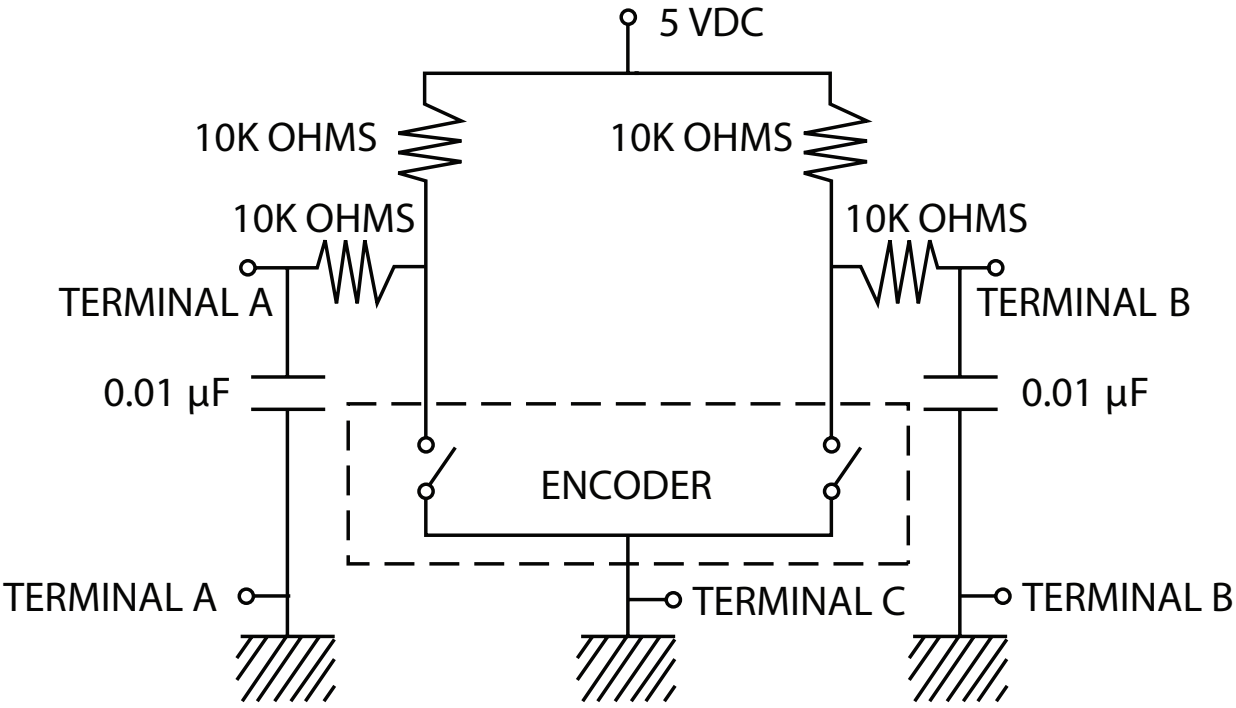
10 PPR, 20 Detent Model



20 PPR, 20 Detent Model



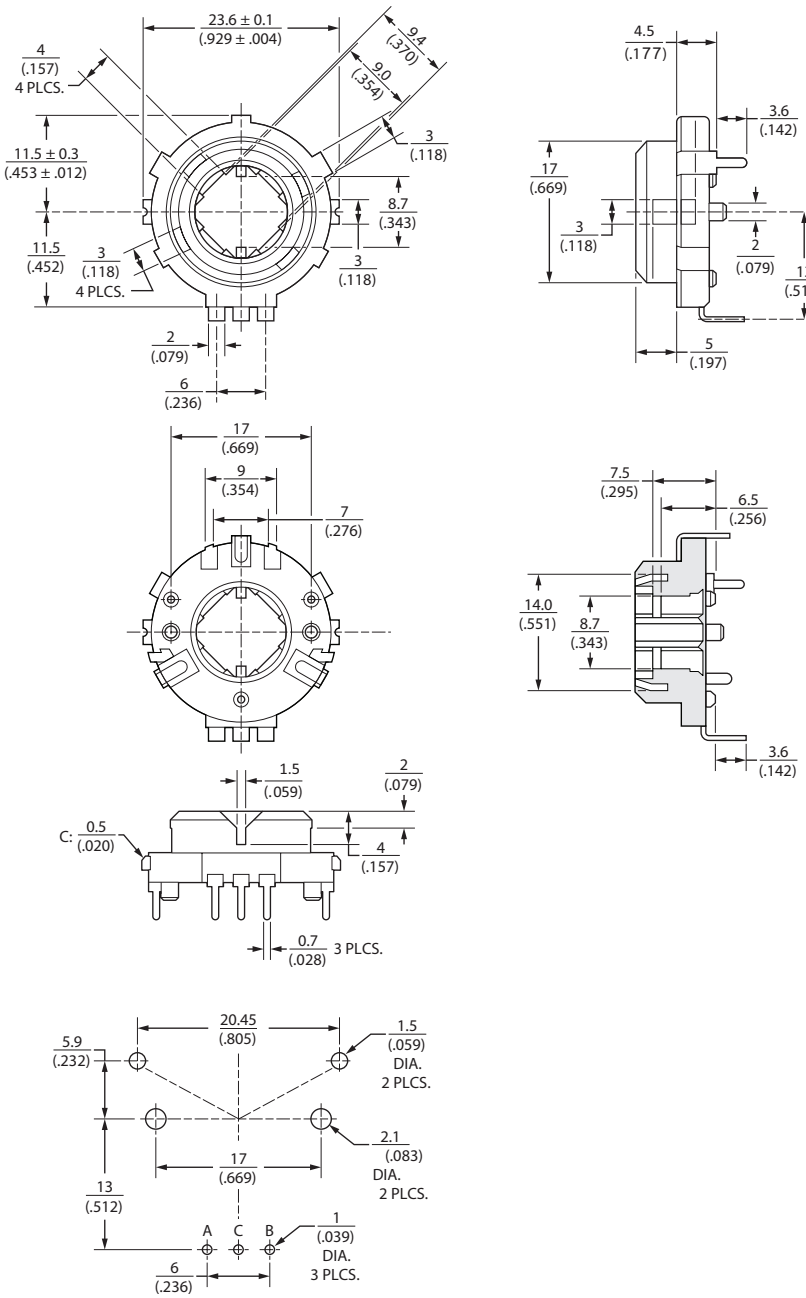
RECOMMENDED FILTER



MECHANICAL DRAWING

units: mm (inches)
tolerance:
X≤10.00: ±0.30 mm
10.00<X≤30.00: ±0.50 mm
30.00<X≤100.00: ±1.00 mm
unless otherwise noted

DESCRIPTION	MATERIAL	PLATING/COLOR
rotor	PC (UL94V-2)	black
wiper	C5210	silver
base	PBT (UL94V-2)	black
terminals	C2680	silver
positioning piece	SUS301	---
bracket	cold rolled steel	tin



Recommended PCB Layout
Top View

REVISION HISTORY

rev.	description	date
1.0	initial release	12/16/2024

The revision history provided is for informational purposes only and is believed to be accurate.

same sky

Same Sky offers a one (1) year limited warranty. Complete warranty information is listed on our website.

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Same Sky products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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