

**SERIES:** RING23 | **DESCRIPTION:** HOLLOW SHAFT MECHANICAL ENCODER**FEATURES**

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

**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

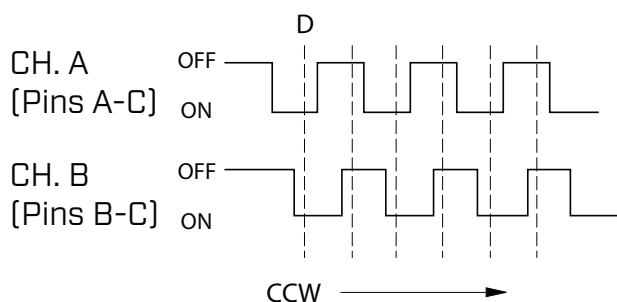
RING23 - 9 XXXX 5 - TH

Base Number

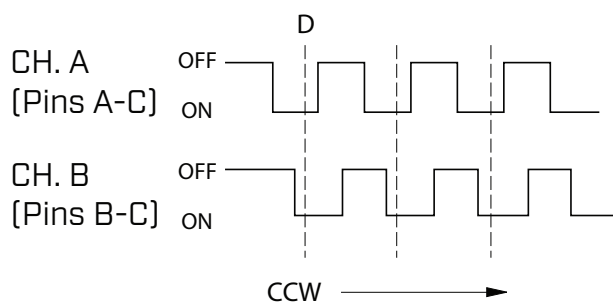
Resolution, Detent:
1020 = 10 PPR, 20 detents
2020 = 20 PPR, 20 detents

OUTPUT WAVEFORM

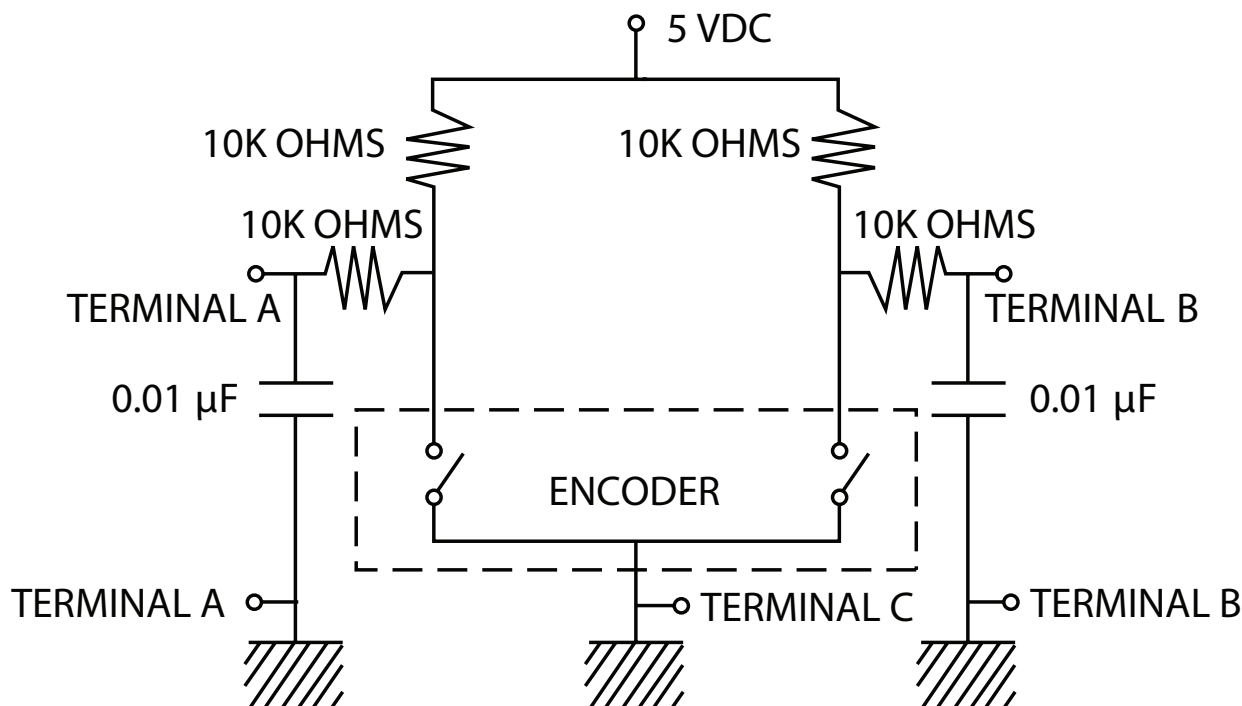
10 PPR, 20 Detent Model



20 PPR, 20 Detent Model



RECOMMENDED FILTER



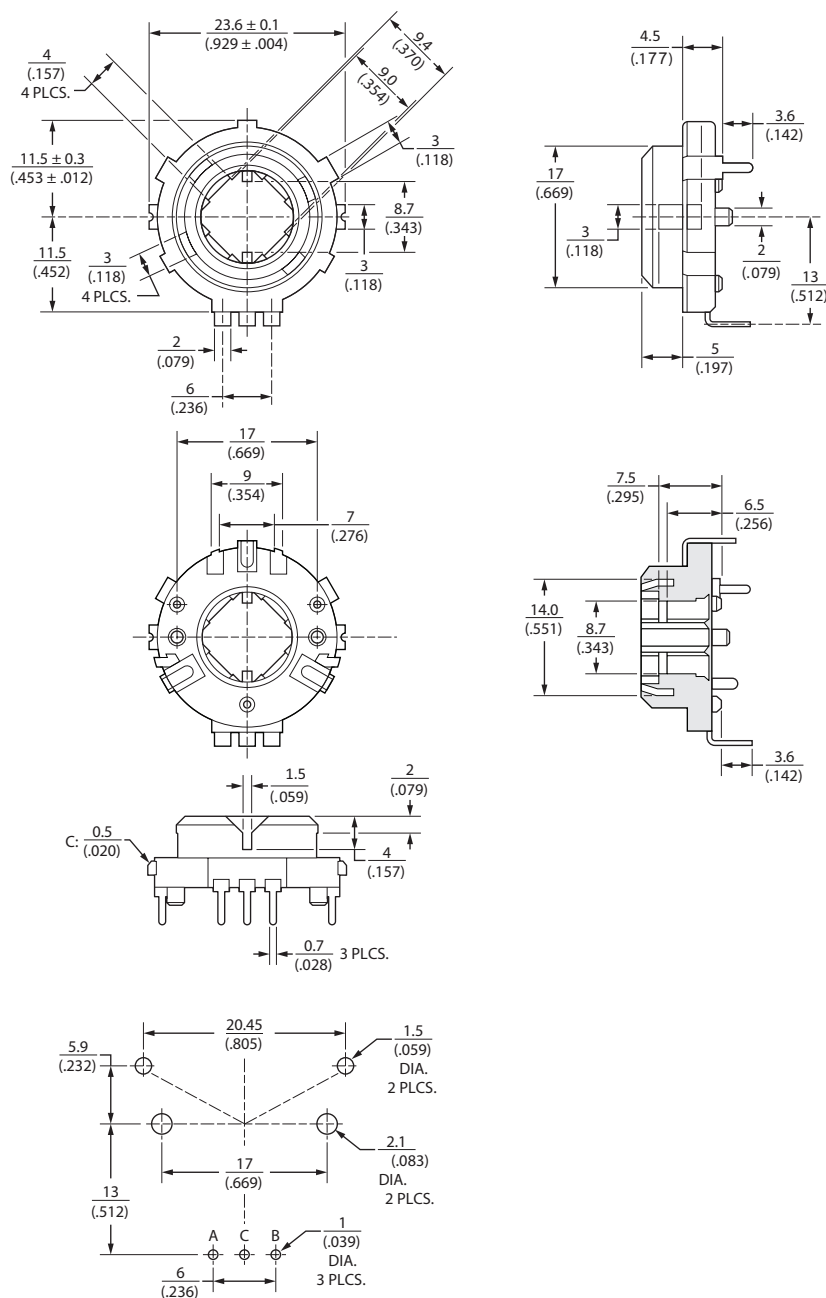
MECHANICAL DRAWING

units: mm [inches]

tolerance:

 $X \leq 10.00$: ± 0.30 mm $10.00 < X \leq 30.00$: ± 0.50 mm $30.00 < X \leq 100.00$: ± 1.00 mm

unless otherwise noted



Recommended PCB Layout
Top View

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

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

Same Sky reserves the right to make changes to the product at any time without notice. Information provided by Same Sky is believed to be accurate and reliable. However, no responsibility is assumed by Same Sky for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

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.

sameskydevices.com