



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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SERIES: C14 | DESCRIPTION: PANEL MOUNT ENCODER
FEATURES

- 2-bit quadrature output
- compact
- rugged metal design
- 1 million cycle life
- multiple termination options
- IP65 rating option


ELECTRICAL

parameter	conditions/description	min	typ	max	units
power supply	3.3Vdc input models	3.168	3.3	3.432	Vdc
	5Vdc input models	4.75	5	5.25	Vdc
supply current	3.3Vdc input models			40	mA
	5Vdc input models			20	mA
output	open collector				
output code	2-bit quadrature, channel A leads channel B by 90° with clockwise rotation				
power consumption	3.3Vdc input models			132	mW
	5Vdc input models			100	mW
output resolution	4 ppr (16 cpr), 8 ppr (32 cpr)				
angle of throw	16 detent position models		22.5		°
	32 detent position models		11.25		°

PUSH SWITCH SPECIFICATIONS

parameter	conditions/description	min	typ	max	units
rating	12 Vdc at 50 mA				
contact resistance				200	mΩ
isolation voltage	for 1 minute		250		Vac
insulation resistance		100			MΩ
operating push force		3.5	4.5	5.5	N
travel		0.2	0.5	0.8	mm
bounce				10	ms
push switch life			1,000,000		cycles

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature		-10		70	°C
storage temperature		-20		80	°C
vibration	10~55Hz with a peak to peak amplitude of 1.5mm				
shock	half sine wave for 11ms		50		G
cold test	at -20°C for 96 hours				
heat test	at +80°C for 96 hours				

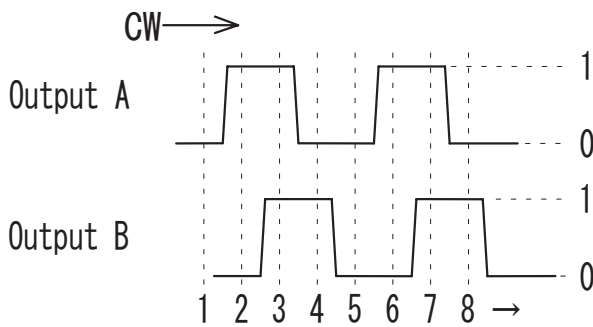
ENVIRONMENTAL (CONTINUED)

parameter	conditions/description	min	typ	max	units
temperature change test	at -10~70°C for 30 minutes each				
humidity test	at 40°C, 90~95% humidity for 96 hours				
RoHS	2011/65/EU				

MECHANICAL

parameter	conditions/description	min	typ	max	units
shaft load	radial			10	N
	axial			15	N
operational torque	without detent	0.2	0.4	0.2	N·cm
	with detent			0.6	N·cm
mounting torque			100		N·cm
rotational life			1,000,000		cycles
weight			11		g

OUTPUT WAVEFORMS



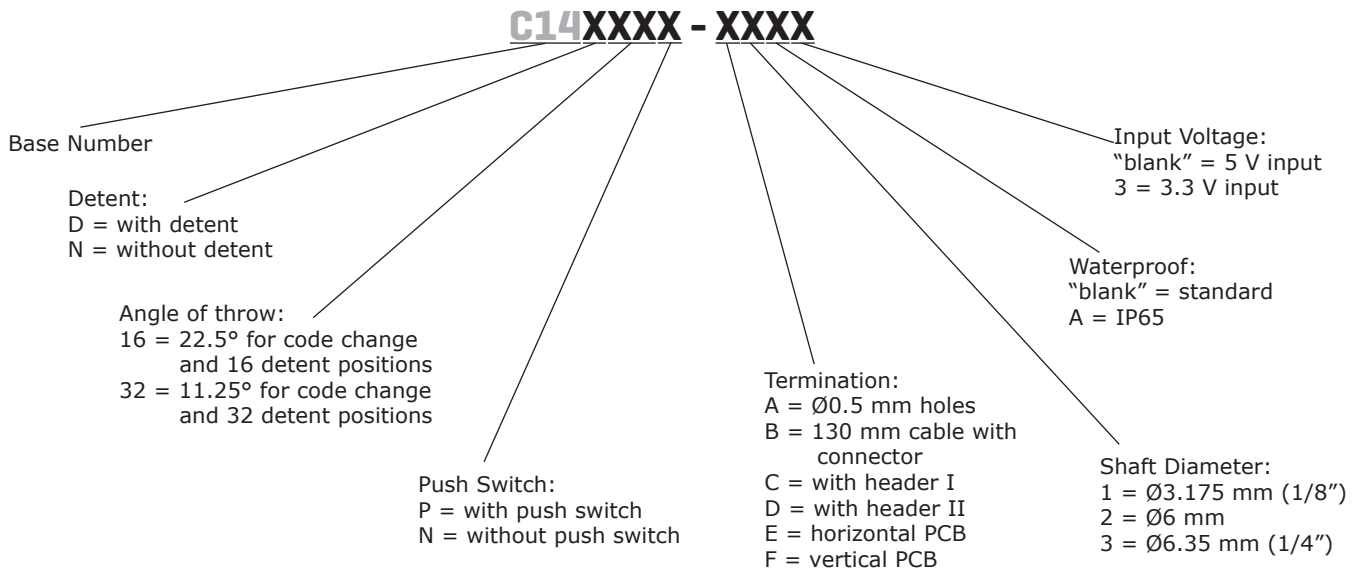
*The code repeats from 1 to 4.

Position \ Output	1	2	3	4	5
A	0	1	1	0	0
B	0	0	1	1	0

(1) 3.3V : "0":0.8V max. "1":2.3V min.

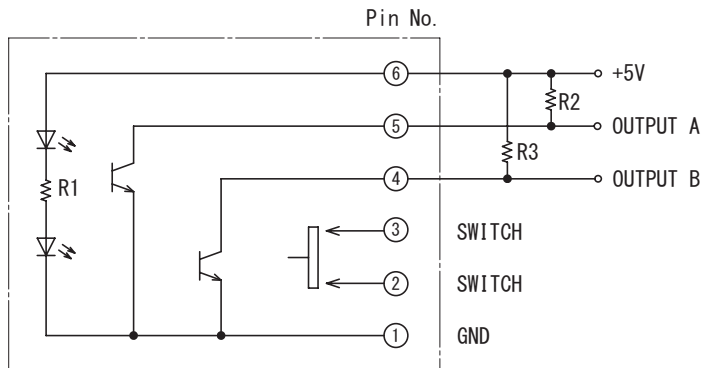
(2) 5V : "0":1.0V max. "1":3.0V min.

PART NUMBER KEY



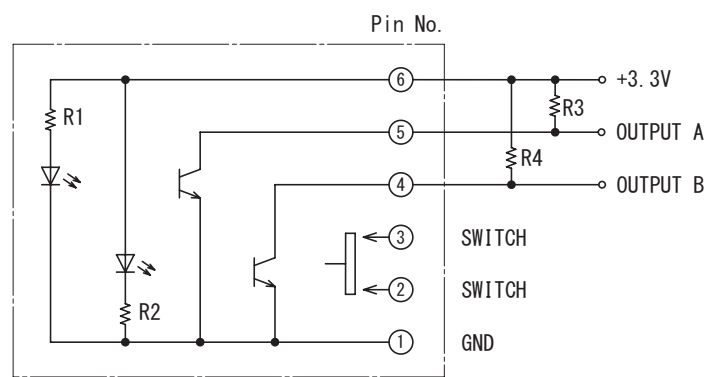
OUTPUT CIRCUIT

5V Input



* R2, R3: External pull-up resistors 5.1K Ω

3.3V Input

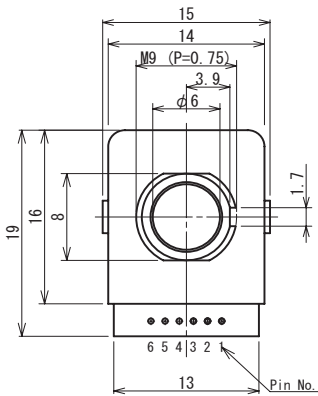


* R3, R4: External pull-up resistors 5.1K Ω

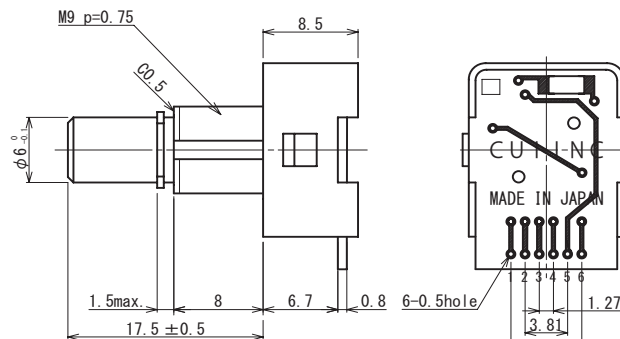
MECHANICAL DRAWING

5V INPUT, WITH PUSH SWITCH

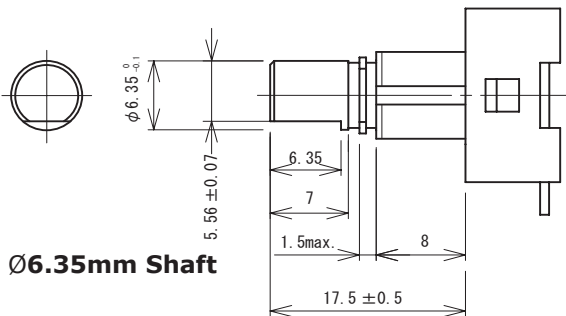
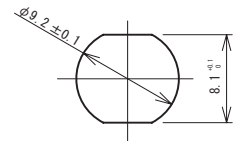
units: mm



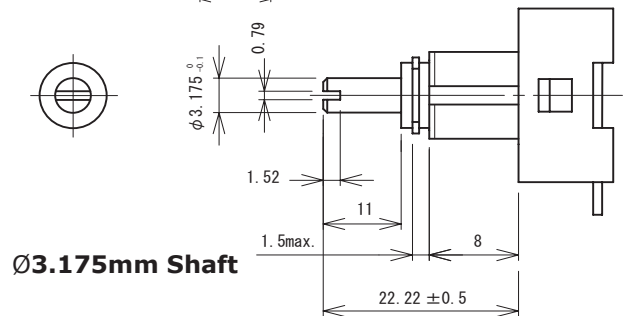
Ø6.0mm Shaft



Mounting Hole Dimensions



Ø6.35mm Shaft

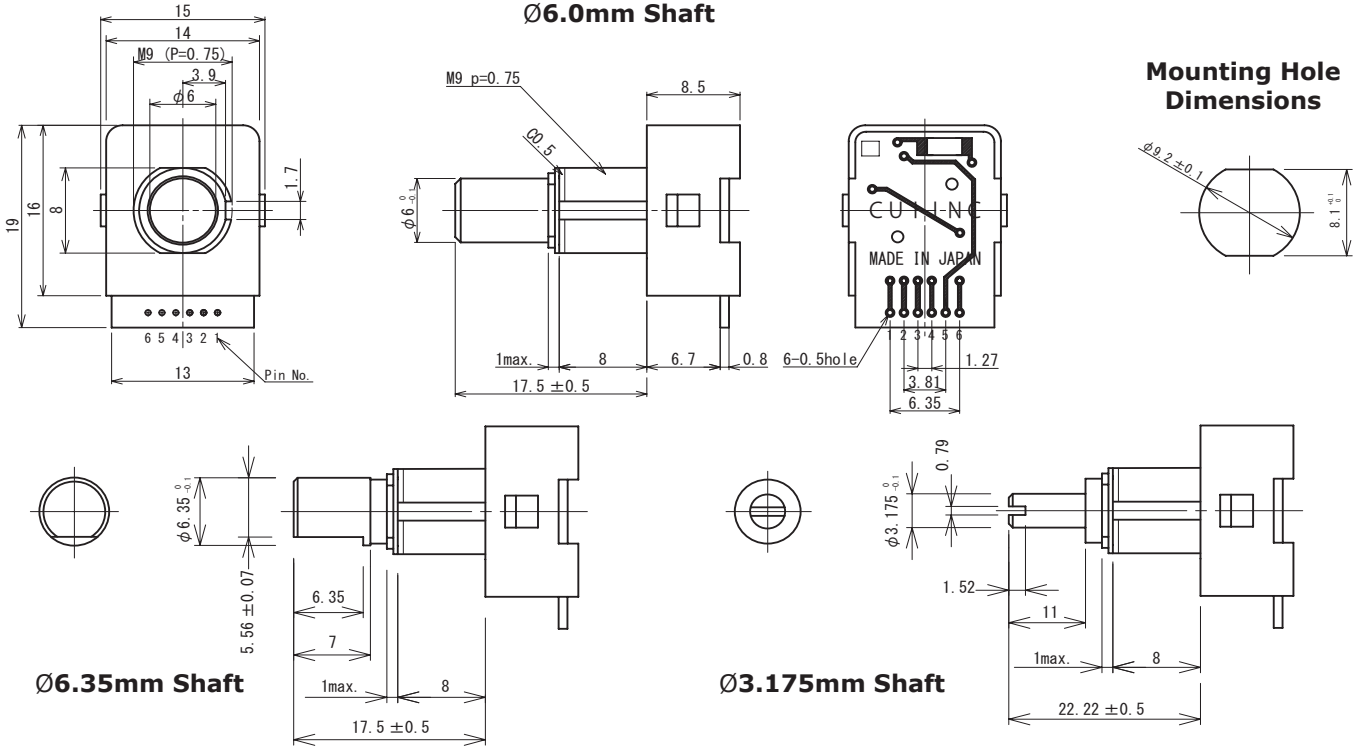


Ø3.175mm Shaft

MECHANICAL DRAWING (CONTINUED)

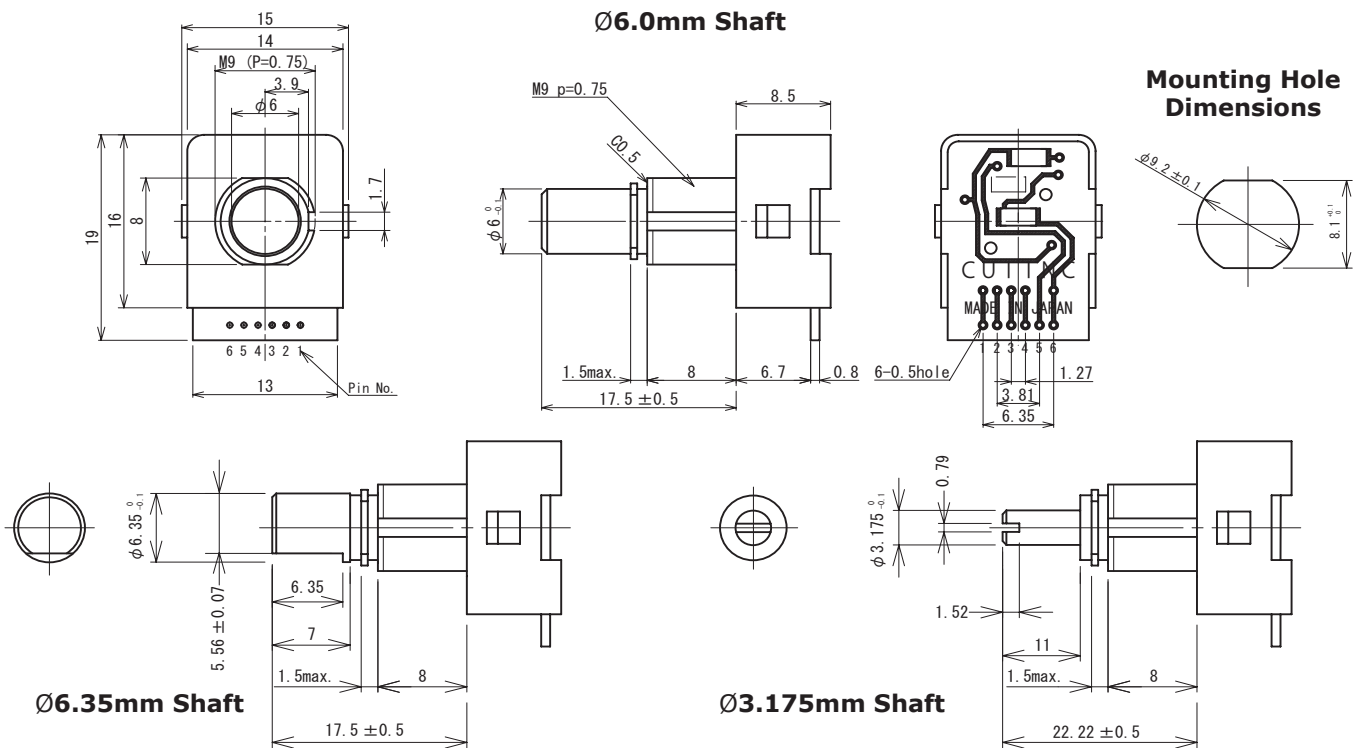
5V INPUT, WITHOUT PUSH SWITCH

units: mm



3.3V INPUT, WITH PUSH SWITCH

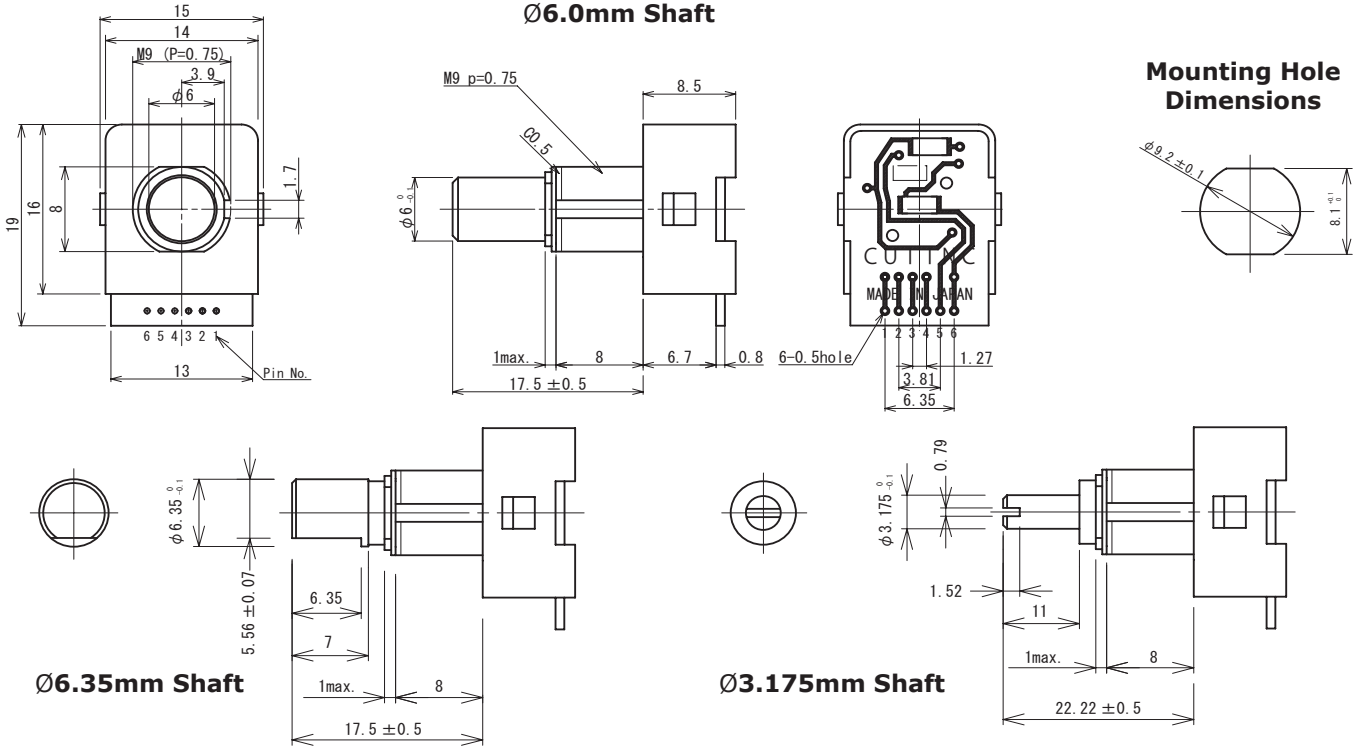
units: mm



MECHANICAL DRAWING (CONTINUED)

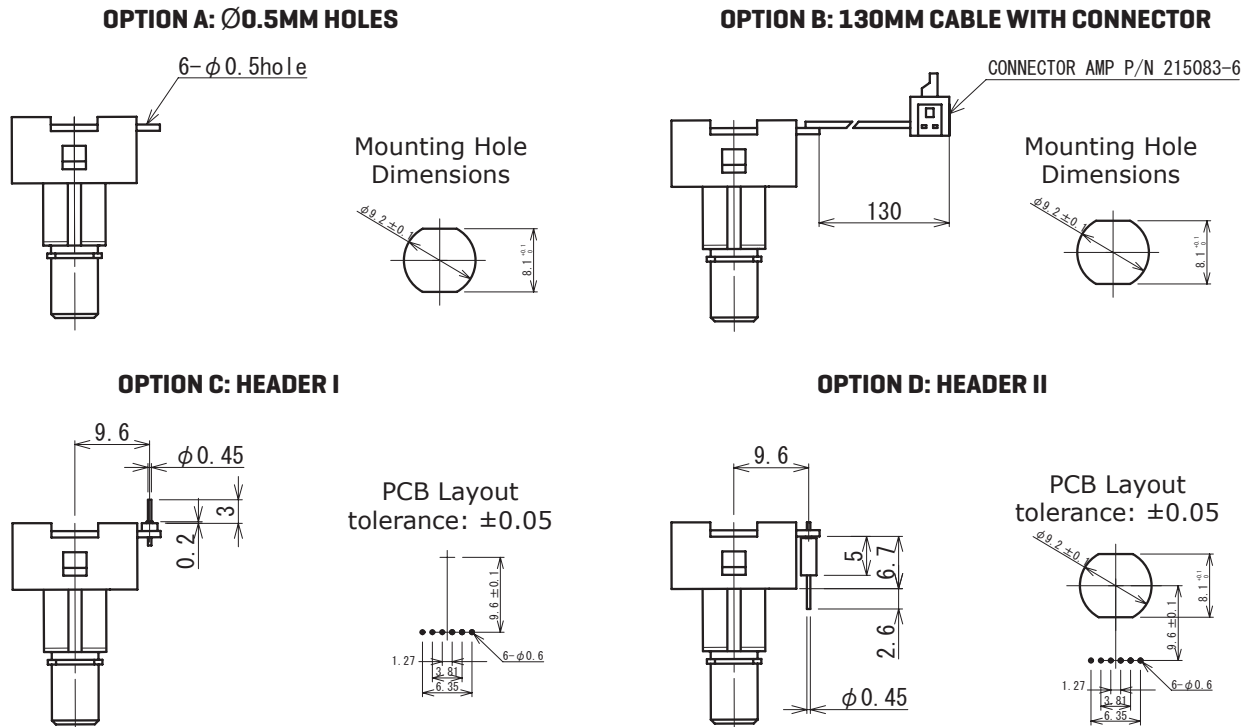
3.3V INPUT, WITHOUT PUSH SWITCH

units: mm



MECHANICAL DRAWING, TERMINATION OPTIONS

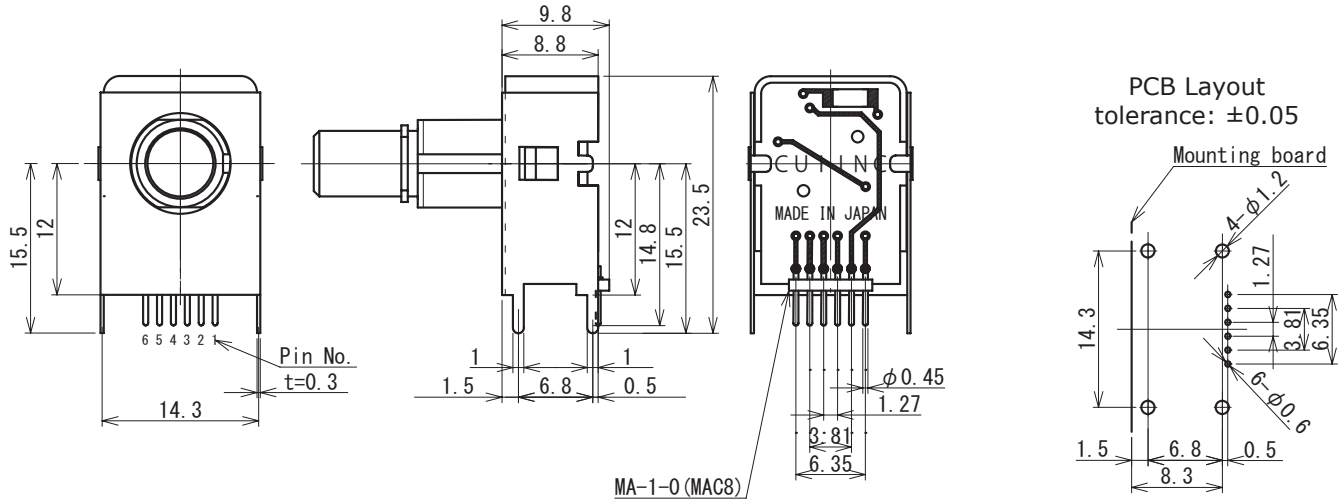
units: mm



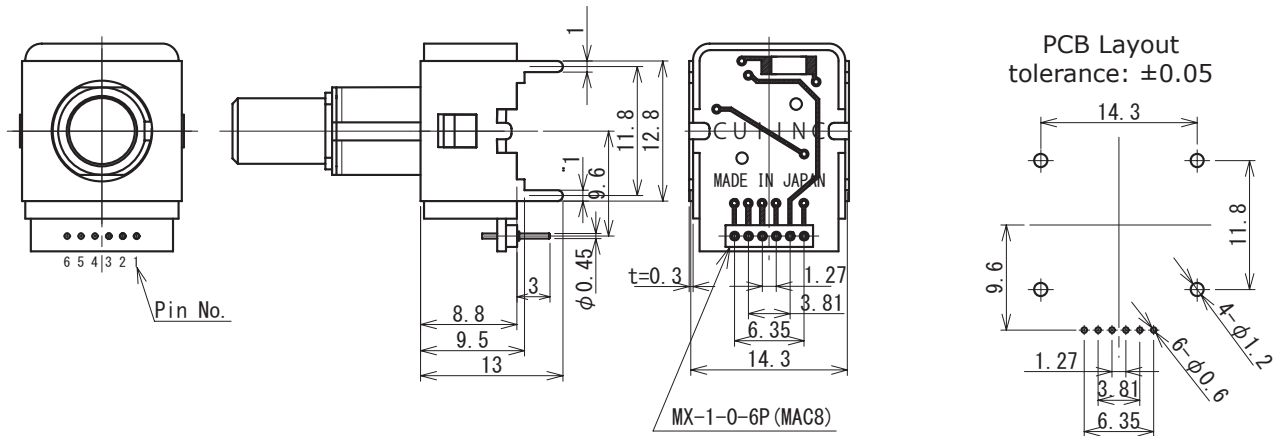
MECHANICAL DRAWING, TERMINATION OPTIONS (CONTINUED)

units: mm

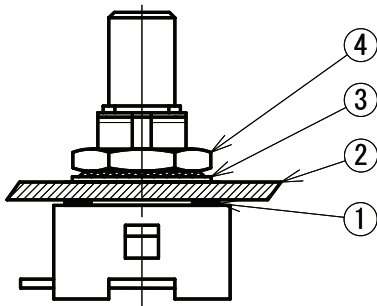
OPTION E: HORIZONTAL PCB



OPTION F: VERTICAL PCB



WATERPROOF MOUNTING



No.	Qty.	Component
1	1	waterproof washer
2	1	panel
3	1	toothed lock washer
4	1	nut

Note: 1. Protects against ingress of water (IP65) from front side of panel only.

REVISION HISTORY

rev.	description	date
1.0	initial release	02/25/2009
1.01	applied new spec template, updated operating temperature, updated 3.3V PCB	05/20/2014

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



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