

RECOMMENDED LAYOUT

**TECHNICAL CHARACTERISTICS**

Specification  
 Rotary switch/Push button switch  
 >Rating :100mA, 30VDC  
 >Contact Resistance :  
 Initial Rotary : 200mOhm max.  
 Initial Push button : 50mOhm max.  
 After Life Test Rotary : 1OHM max.  
 After Life Test Push button : 200mOhm max.  
 >Insulation Resistance : min. 100MΩ at 500VDC for 1 minute  
 >Dielectric Strength : 500VAC for 1 minute

Switch function  
 Rotary switch  
 switching degree : 45+/-2  
 Switch schematic : 1P8T  
 Push button  
 Function : momentary  
 Pre- Travel :0.7±0.3mm  
 Total-Travel : 1.8±0.3mm  
 Bounce: 10ms max.

Material  
 >Cover : Stainless steel  
 >LED cover/Diffuser plate : PC UL HB  
 >Knob : PA66 UL HB  
 >Frame : PA66 UL HB  
 >Base : PA66 UL HB  
 >Stationary Board : PA66 UL HB  
 >Stationary Contact : Brass with Silver  
 >Moving Contact Push button : Bronze with Silver  
 >Moving Contact Rotary : Copper alloy with Silver  
 >Terminal : Brass with Silver  
 >LED Terminal : Brass with Tin  
 >Spring/Roller ball : Stainless Steel

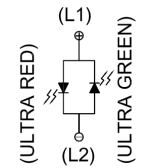
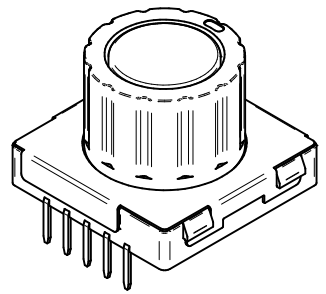
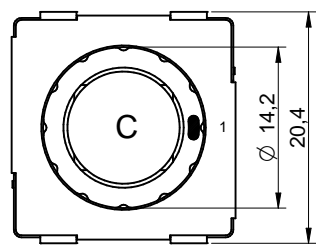
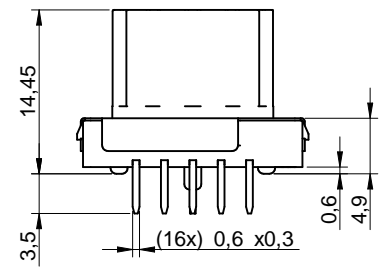
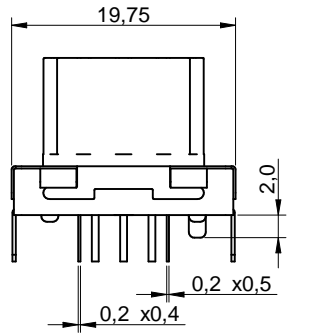
Soldering Information  
 >Terminal in THT version  
 > Wave soldering 260°C 10sec. max  
 >Hand soldering under 350°C for 3sec. max

Environmental  
 Storage condition : -40°C ~ +85°C ,60% RH max.  
 Operation condition : -40°C ~ +85°C  
 Compliance : ROHS ,Reach

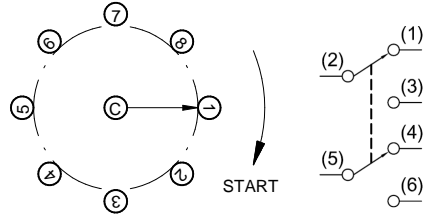
Handling advise  
 > ESD prevention methods need to be applicant for manual handling  
 and processing by machinery  
 > Resistors for protection are mandatory

Packaging information  
 >ESD tray

Part number	Force	Color of LED	Life cycle Rotary	Life cycle Push button
481 RV 121 72100	250gf ± 100gf	Red/Bright green	20.000	50.000



LED SCHEMATIC

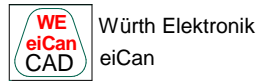


CIRCUIT DIAGRAM

Scale - 1,5:1

This electronic component is designed and developed with the intention for use in general electronics equipments.  
 Before incorporating the components into any equipments in the field such as aerospace, aviation, nuclear control, submarine, transportation, (automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information network etc. where higher safety and reliability are especially required or if there is possibility of direct damage or injury to human body, Würth Elektronik must be asked for a written approval.  
 In addition, even electronic component in general electronic equipments, when used in electrical circuits that require high safety, reliability functions or performance, the sufficient reliability evaluation-check for the safety must be performed before by the user before usage.

		GENERAL TOLERANCE		Basic material	
		.x = +/- 0,2 .xx = +/- 0,15			
		Date	Name	DESCRIPTION	
		Drawn	13-10-02	SwRPTL	
		Checked	13-10-02	WS-RPTL 20x20 Rotary/Push button switch with Integrated LED, THT Type	
				Scale	1,5:1
				Position	
				Drawing.- No. <b>481 RV121 72100</b>	
				SIZE	
				A4	
REV	FILE	DATE	BY	System :Solid Edge ST4	



item	Emitting color		Red	bright green
	Order code	unit	RS	VS
1	Peak wavelength typ.	nm	650	574
2	Dominant Wave length	typ.nm	630	567
	@IF=20mA			
3	spectral Line Half-width	typ.nm	28	20
	@IF=20mA			
4	Capacitance	typ.pF	35	15
	VF=0V;f=1MHZ			
5	Forward voltage	typ. V	1,95	2,1
	@IF=20mA	max.V	2,5	2,5
6	Reverse current	uA	10	10
	@VR=5V			
7	ESD	V	2000	2000
8	Viewing Angle	°	145	145
	@20mA 2θ 50% typ			
9	Luminous intensity	min. mcd	120	20
	@IF=20mA	typ. mcd	220	50
10	Material		AlGaNp	AlGaNp
11	lens type		water clear	water clear

**Absolute Maximun Ratings (Ambient Temperature 25C )**

Properties	Red	bright green	Unit
Power Dissipation	75	75	mW
Peak Forward current	185	150	mA
continuous Forward current	30	30	mA
Reverse voltage	5	5	V
ESD Threshold / HBM	2000	2000	V


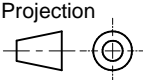

**HANDLING ADVISE**

- 1) The solder profile has to be complied with according to the technical reflow /or wave soldering specification, otherwise no warranty will be sustained
- 2) All products are supposed to be used before the end of the period of 12 months based on the product date-code, if not 100% solderability can't be warranted
- 3) Violation of the technical product specifications such as exceeding the absolute maximum ratings will be result in the loss of warranty
- 4) It's also recommended to return the products into the original packaging
- 5) ESD prevention methods need to be applicated for manual handling and processing by machinery
- 6) Resistors for protection are obligatory
- 7) The standard deliveries include values in the range and limitation as defined in the Electrical & Optical Properties specified in the datasheet. On each reel, only one bin is sorted and taped. The bin is defined on intensity, chromaticity coordinate or wavelength and forward voltage. In order to ensure highest availability, the reel binning of standard deliveries can vary. A single bin cannot be ordered. Please contact us in advance, if you need a particular bin sorting before placing your order to clarify the lead time, MOQ and pricing.

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				Checked	13-10-02	Hsu				
						WS-RPTL 20x20 Rotary/Push button switch with Integrated LED, THT Type				
						Scale	1,5:1	Position		SIZE
				Würth Elektronik eiCan		Drawing.- No. <b>481 RV121 72100</b>				
a	shorting, non-shortng LED Terminal: Brass with Tin	15-01-20	DaF					A4		
REV	FILE	DATE	BY					System :Solid Edge ST4		