unimec technical specifications

		Low Temperature Versions		High Temperature Versions	
		Silver	**Gold**	**Silver**	**Gold**
Electrical Specifications					
Contact resistance		Max. 100 mΩ (initially)			
Insulation resistance		>10MΩ			
Recommended load	min.	0.5 mA	0,5 µA	0.5 mA	0,5 µA
	max.	250 mA - 120 V - 9W AC - 6W DC			
Max. current in non switching state		0.5 A			
Contact bounce		Max. 10ms			
Dielectric strength between adjacent contacts		1000 V for 2 min.			
Insulation resistance between adjacent contacts		5 X 10^{13} Ω			
Capacitance between adjacent contacts		0.5 pF			
Mechanical Specifications					
Standard actuation force (switch)		typ 2.5N			
Max. actuation force without cap		100N for 10 sec.			
Key travel (switch)		1.8 mm			
Life time		Momentary 1.500.000 cycles		Momentary >10.000.000 cycles	
		Alternate 500.000 cycles		Alternate 5.000.000 cycles	
Temperature Range					
Working temperature		Min. -40ºC Max. +75ºC		Min. -40ºC Max. +160ºC	
Storage temperature		Min. -65ºC Max. +85ºC		Min. -65ºC Max. +160ºC	
Soldering IEC 68-2-20		Wave - max. 260ºC for max. 10 sec., please refer to usage guidelines			
		Soldering iron - max. 350ºC for max. 3 sec. Flux tight.			
Environmental Endurance IEC 68-2-3					
Temperature		+40ºC			
Humidity		93% RH			
Duration		56 Days			
Sealing IEC 529		IP-54			
Cleaning		Standard methods such as freon, water and soap (not immersed)			
Material Specifications - Switches					
Housing and actuator		Glass fiber filled Polycarbonate UL94V1		PPS UL94V0	
Switch spring		Stainless steel			
Key spring		Stainless steel			
Latch pin		Stainless steel			
Fixed contact		SnCu + 2µNi + 3µAg	SnCu + 2µNi + 3µAu	SnCu + 2µNi + 3µAg	SnCu + 2µNi + 3µAu
Moving contact		Stainless steel + 3µAg	Stainless steel + 3µAg+1µAu	Stainless steel + 3µAg	Stainless steel + 3µAg+1µAu
Contact lubricant		Special protective lubricant Klüber Barrierta l EL Fluid			
Material Specifications - Caps & Bezels		ABS (standard) UL94HB			
Temperature limit		Max. +65ºC			
Tampon Printing		According to ISO Class.: 1/ ASTM Class.: 4B			

Specifications are subject to change without notice

unimec LEDs

* I_F = 20mA
** Pulse width 1ms Duty cycle 1:5
*** I_F = 50mA
**** Luminous Flux mlm

Part Nos.		16920/16921			16922			16923			16924		
Colour (G = Green, Y = Yellow, R = Red)		G	Y	R	G	Y	R	G	Y	R	G	Y	R
Colour Codes		02	04	08	02	04	08	20	40	80	23	45	88
Absolute Maximum Ratings	(Ta=25ºC)												
Power	mW	100	100	100	135	135	135	70	60	60	150	130	300
Current forward	mA	30	30	30	30	30	30	20	20	20	40	40	90
Forward peak current	mA	50	50	50	90	90	90	60**	60**	60**	500	500	1000
Voltage reverse	V	5	5	5	5	5	5	3	3	3	12	1 2	5
Operating temperature	ºC	-25 - +100			-55 - +100			-25 ~ +85			-55 ~ +100		
Storage temperature	ºC	-25 - +100			-55 - +100			-30 ~ +100			-55 ~ +100		
Soldering temperature	ºC	+ 245 for max. 3 sec.			+300 for max. 3 sec.			260 for max. 5 sec.			300 for max. 3 sec.		
Electrical-Optical Characteristics	(Ta=25ºC)												
Voltage forward	Typ. V	2.0	2.0	2.0	2.1	2.2	2.3	2.1	2.1	2.0	2.1*	2.3***	2.4***
	Max. V	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.5*	2.5***	3.8***
Current reverse	µA	100	100	100	100	100	100	10	10	10	10	10	10
Wave length	nm	560	590	660	565	585	635	563	585	650	570	587	635
Spread	∅nm	10	10	10	10	10	10	40	40	40	25	45	45
Spread angle	degree	20	20	20	45	45	45	45	45	45	80	90	55
Luminous Intensity	Min. mcd	1	1	0.8	1.5	2.5	2.5	9.0	5.6	5.6	71****	71****	100****
	Typ. mcd	2	3	1.6	2.5	3.0	5.0	25	16	16	112****	112****	160****
Orientation		The longer pin is the anode, the shor ter is the cathode.											

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