

APPROVAL SHEET

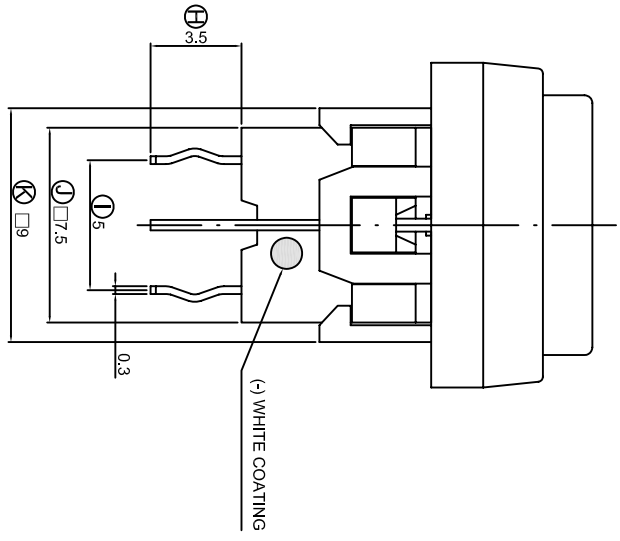
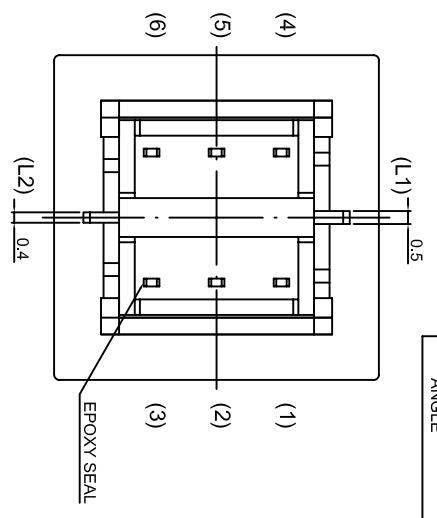
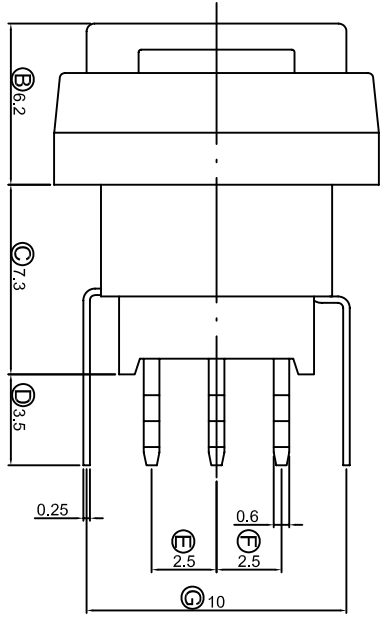
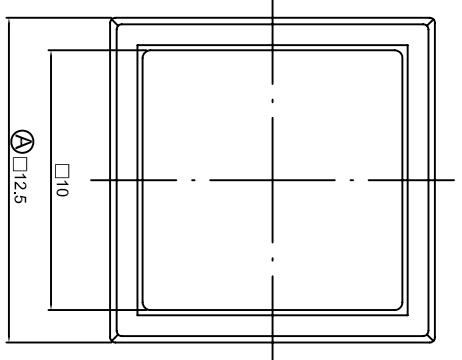
DESCRIPTION: PUSH BUTTON SWITCH LED

PART NO: PS004-L22NPS2KTUWXX

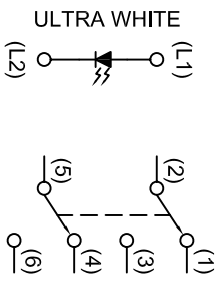
CUSTOMER: MARUTSU _____	CUSTOMER'S PART NO: _____
CUSTOMER SIGNATURE	COMMENTS

APPROVAL	REVIEW	PREPARE
<i>Kaven</i>	<i>Tereance</i>	<i>Gina</i>

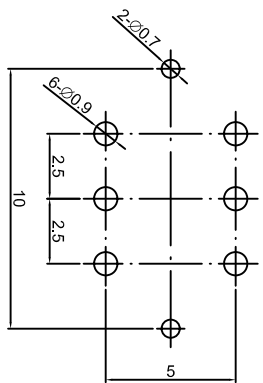
DIMENSION	TOLERANCE
BELOW 10 mm	± 0.3
10~100 mm	± 0.5
ABOVE 100 mm	± 0.8
ANGLE	± 3°



CIRCUIT DIAGRAMS



PCB LAYOUT



1. 2P2T , LOCK TYPE .
2. RATING : 0.1A 30VDC MAX ; 0.1mA 5VDC MIN .
3. CONTACT RESISTANCE : 50 mΩ MAX .
4. INSULATION RESISTANCE : 500 V DC , 100 MΩ MIN .
5. OPERATING TEMPERATURE : -20°C ~ 70°C .
6. OPERATING FORCE : 250± 100 gf .
7. OPERATING LIFE : 50,000 CYCLES .
8. CRITICAL DIMENSIONS : 'A' ~ 'K' .

DATE	UNIT	MODE	PUSHBUTTON SWITCH WITH LED
2014/04/17	mm	PART	PS004-L22NPS2KTUWXX
APPROVAL	SCALE	2D FILE NAME	PS004-L22NPS2KTUWXX
CONFIRM	VIEW	3D FILE NAME	
DESIGN	BRLLLY	VER.	01
DATE	APPROVAL	DESIGN	ENGINEERING CHANGE DESCRIPTION

SPECIFICATIONS OF PS004 SERIES

PUSH BUTTON SWITCH

1. POLE - POSITION : DPDT
2. OPERATING TEMPERATURE RANGE : -20°C ~ 70°C
3. RATING : 0.1A 30 VDC Max / 0.1mA 5 VDC Min .
4. ELECTRICAL PERFORMANCE

	ITEM	TEST CONDITIONS	CRITERIA
4-1	CONTACT RESISTANCE	DC 1.5V 100 mA , BY METHOD OF VOLTAGE DROP.	50 mΩ MAX.
4-2	INSULATION RESISTANCE	DC 500V	100 MΩ MIN.
4-3	DIELECTRIC STRENGTH	AC 500V FOR 1 MINUTE	BREAKDOWN IS NOT ALLOWABLE

5. MECHANICAL PERFORMANCE

	ITEM	TEST CONDITIONS	CRITERIA
5-1	OPERATING FORCE	ALONG THE DIRECTION TO APPLY A STATIC LOAD AT END OF ACTUATOR.	250±100 gf
5.2	TRAVEL	1. FULL TRAVEL 2. CONTACT TRAVEL	1. 1.5 ± 0.3 mm 2. 0.7 ± 0.3 mm
5-3	SOLDERABILITY	260±5°C IN 3 SECONDS	SOLDER COVERAGE 75% MIN.

6. SOLDERING HEAT RESISTANCE

- 6.1 MANUAL: 300±5°C IN 3 SECONDS.
- 6.2 WAVE SOLDERING: 260±5°C IN 3 SECONDS.

7. DURABILITY:

OPERATING LIFE WITH LOAD AFTER 50,000 CYCLES AT SPEED 15 ~ 20 CYCLES / MINUTE, 1.5 VDC 100 mA RESISTANCE LOAD , AFTER THAT THE SWITCH SHOULD MEET FOLLOWING SPECIFICATIONS.

7.1 CONTACT RESISTANCE : 100 mΩ MAX.

7.2 OPERATING FORCE : WITHIN THE RANGE ±30% OF SPECIFICATION.

7.3 INSULATION RESISTANCE : 500V DC 100 MΩ MIN.

7.4 DIELECTRIC STRENGTH : 500V AC FOR 1 MINUTE, BREAKDOWN IS NOT ALLOWABLE.

8. ENVIRONMENTAL PERFORMANCE

	ITEM	TEST CONDITIONS	CRITERIA
8-1	COLD	-20±2°C FOR 96 HOURS	1. SWITCH SHOULD MEET REQUIREMENTS OF ITEM 4. 2. MECHANICAL PERFORMANCE SHOULD REMAIN TO NORMAL.
8-2	DRY HEAT	70°C±2°C FOR 96 HOURS	1. SWITCH SHOULD MEET REQUIREMENTS OF ITEM 4. 2. MECHANICAL PERFORMANCE SHOULD REMAIN TO NORMAL.
8-3	DAMP HEAT	40°C±2°C 90% ~ 95%RH FOR 96 HOURS	1. SWITCH SHOULD MEET REQUIREMENTS OF ITEM 4. 2. MECHANICAL PERFORMANCE SHOULD REMAIN TO NORMAL.

9. LED SPECIFICATIONS

LED SPECIFICATIONS WILL BE FURNISHED DEPENDING ON DIFFERENT LED COLOR DEMAND.

SUBMINIATURE SOLID STATE LAMP

PRELIMINARY SPEC

Part Number: KM-26APWF-A-01-WBY-DOTB White



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Features

- Subminiature package.
- Wide viewing angle.
- Long life-solid state reliability.
- Low package profile.
- Moisture sensitivity level : level 3.
- RoHS compliant.

Description

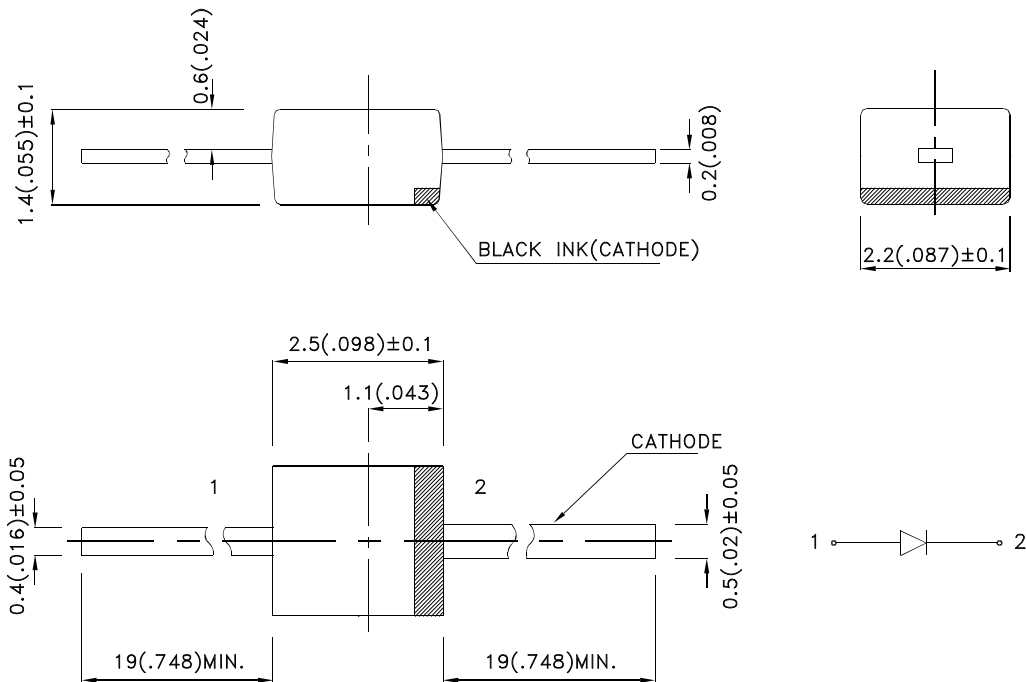
The source color devices are made with InGaN on SiC Light Emitting Diode.

Static electricity and surge damage the LEDs.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25(0.01)$ " unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.



Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2 θ 1/2
	White (InGaN)	YELLOW FLUORESCENT	110	250	140°

Notes:

1. θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. Luminous intensity/ luminous Flux: +/-15%.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
V _F [1]	Forward Voltage	White	3.2	4.0	V	I _F =20mA
I _R	Reverse Current	White		10	uA	V _R = 5V
x [2]	Chromaticity Coordinates	White	0.31			
y [2]			0.31			
C	Capacitance	White	100		pF	V _F =0V;f=1MHz

Notes:

1. Forward Voltage: +/-0.1V.
2. Measurement tolerance of the chromaticity coordinates is \pm 0.01.

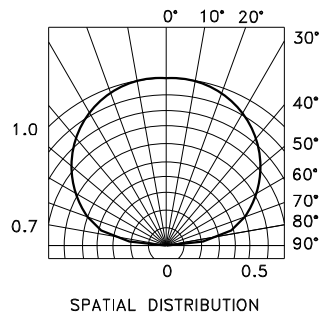
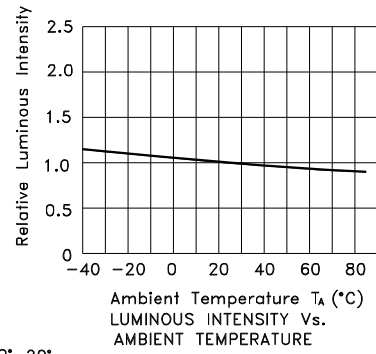
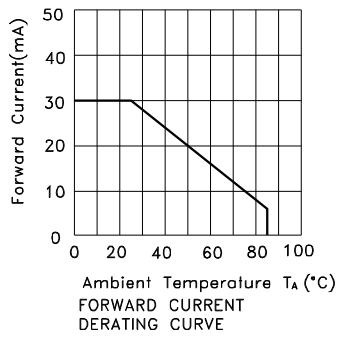
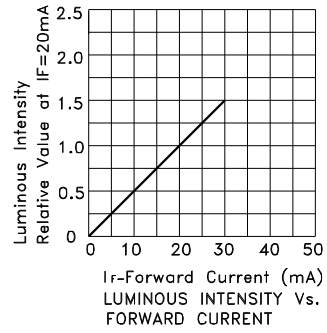
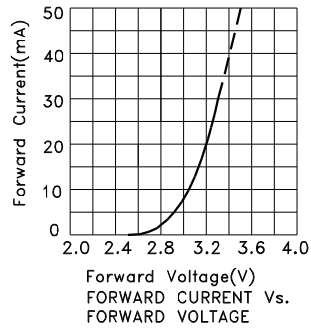
Absolute Maximum Ratings at TA=25°C

Parameter	White	Units
Power dissipation	120	mW
DC Forward Current	30	mA
Peak Forward Current [1]	100	mA
Reverse Voltage	5	V
Operating/Storage Temperature	-40°C To +85°C	
Lead Solder Temperature [2]	260°C For 3 Seconds	
Lead Solder Temperature [3]	260°C For 5 Seconds	

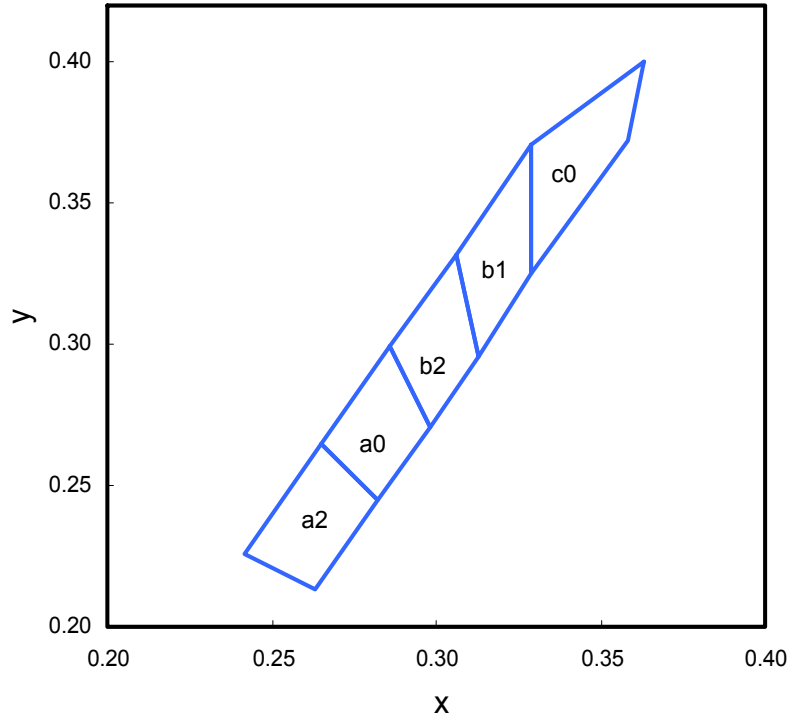
Notes:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.
3. 5mm below package base.

White



White CIE



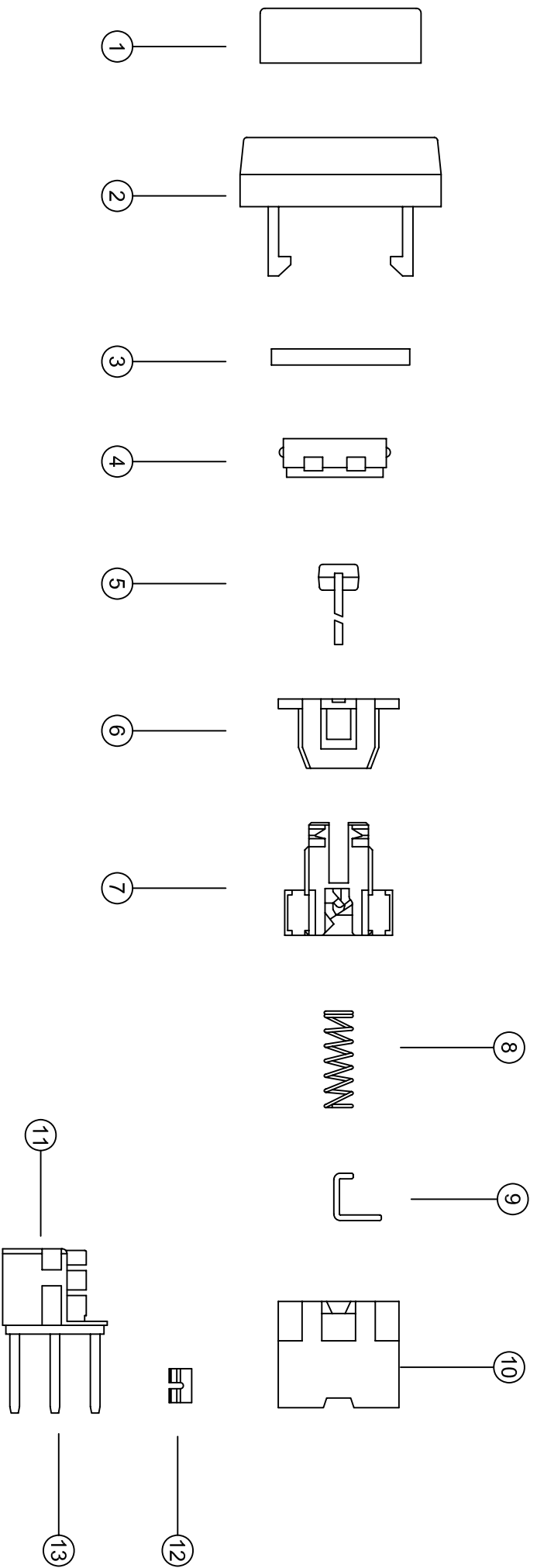
Rank a2				
x	0.263	0.282	0.265	0.242
y	0.213	0.245	0.265	0.226

Rank a0				
x	0.282	0.298	0.286	0.265
y	0.245	0.271	0.299	0.265

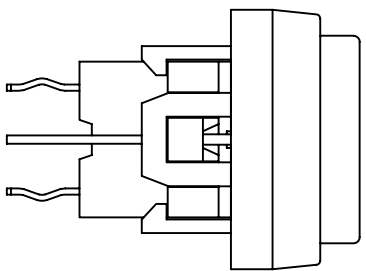
Rank b2				
x	0.298	0.313	0.306	0.286
y	0.271	0.296	0.332	0.299

Rank b1				
x	0.313	0.329	0.329	0.306
y	0.296	0.325	0.371	0.332

Rank c0				
x	0.329	0.358	0.363	0.329
y	0.325	0.372	0.400	0.371



NO.	PART NAME	QTY	MATERIAL	SPECIAL DEAL	RoHS REPORT No.
1	LED COVER	1	PC-143R111	TRANSPARENT	TWNC00277207S1
2	KNOB FRAME	1	PA66+33%GF	BLACK	CE/2014/25430; CANEC1403097001
3	FLUORESCENT PLATE	1	PC-143R111	WHITE TRANSPARENT	TWNC00277207S1
4	KNOB	1	PA66+33%GF	WHITE	CE/2014/25430; CANEC1311693101; CANEC1311693102
5	LED	1		ULTRA WHITE	SZHH0084529102S1; SZHH008553916
6	COVER	1	PA66+33 %GF	BLACK	CE/2014/25430; CANEC1403097001
7	ACTUATOR	1	PA66+33 %GF	WHITE	CE/2014/25430; CANEC1311693101; CANEC1311693102
8	SPRING	1	STAINLESS STEEL		F690101-L-F-CTSAYAA14-03884
9	LOCK PIN	1	STAINLESS STEEL		CE/2013/70869A
10	BASE FRAME	1	PA66+33 %GF	BLACK	CE/2014/25430; CANEC1403097001
11	BOARD WITH TERMINAL	2	PA66+33 %GF	BLACK	CE/2014/25430; CANEC1403097001
12	CLIP	2	PHOSPHOR BRONZE	SILVER CLAD 0.5 μm	CE/2014/11747; CANEC1401599801
13	TERMINAL	2	BRASS	SILVER PLATING 1 μm	CE/2014/11738; CANEC1401599801



DATE	APPROVAL	DESIGN	ENGINEERING CHANGE DESCRIPTION	DESIGN	BRULLY	VER.	01	3D FILE NAME	
				DATE	2014/04/17	UNIT	mm	MODE	PUSHBUTTON SWITCH WITH LED
				APPROVAL	KAVERN	SCALE	1:1	PART	PS004L22NPS2KTUWXX
				CONFIRM	TEREANCE	VIEW		2D FILE NAME	PS004L22NPS2KTUWXX
				DESIGN		VER.		MATERIAL LIST	MATERIAL LIST