

SAMPLE APPROVAL SHEET

DESCRIPTIONS:

- 1.6x0.8x0.4mm SMD LED
- Emitting Color:White
- Lens Color:Yellow Fluorescent

CUSTOMER: _____

VAOPTO P/N: VO-PMC1608SWKF-C02

CUSTOMER P/N: _____

CUSTOMER APPROVED PRODUCTION PARAMETER BIN

IV/LM	CCT
WL/XY	Ra
VF	Other

APPROVED BY	CHECKED BY

PRELIMINARY SPEC

1.6x0.8mm SMD CHIP LED

PART NO: VO-PMC1608SWKF-C02 WHITE



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

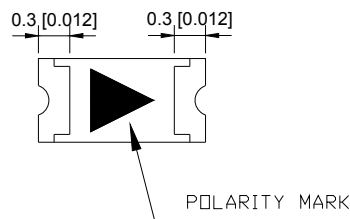
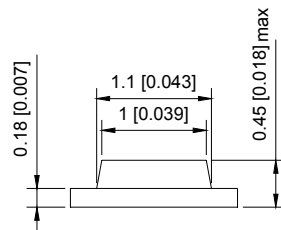
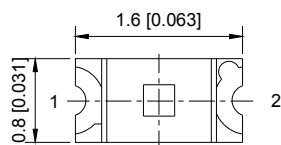
Features

- 1.6mmx0.8mm SMT LED, 0.4mm THICKNESS.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- PACKAGE : 5000PCS / REEL.
- RoHS COMPLIANT.

Applications

- Automotive: backlighting in dashboard and switch.
- Telecommunication: indicator and back-lighting in telephone and fax.
- Flat backlight for LCD switch and symbol.

Package Dimensions



Notes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.15 unless otherwise noted.
3. Specifications are subject to change without notice.

◆ **Device Selection Guide**

Part No.	Chip		Lens color
VO-PMC1608SWKF-C02	Material	Emitted color	Yellow Fluorescent
	(InGaN)	WHITE	

◆ **Absolute Maximum Ratings at T_A=25°C**

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	30	mW
Forward Current	I _F	10	mA
Peak Forward Current*1	I _{FP}	20	mA
Reverse Voltage	V _R	5	V
Operating Temperature	T _{opr}	-40°C To +85°C	
Storage Temperature	T _{stg}	-40°C To +85°C	

Notes:

*1: Pulse width≤0.1ms, Duty cycles≤1/10

◆ **Electrical / Optical Characteristics at T_A=25°C**

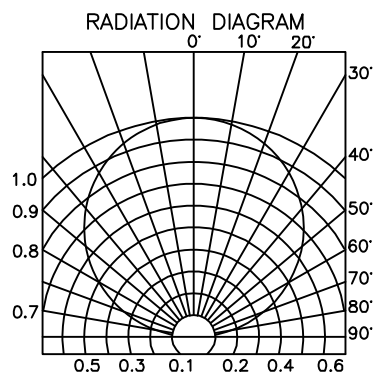
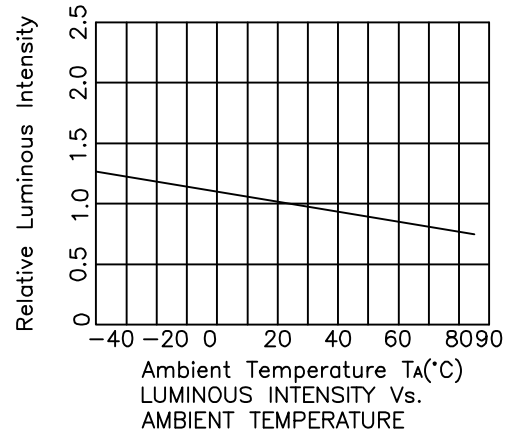
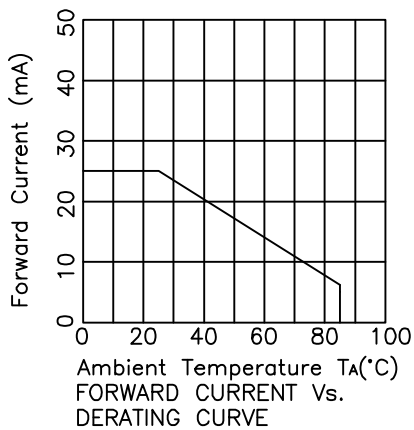
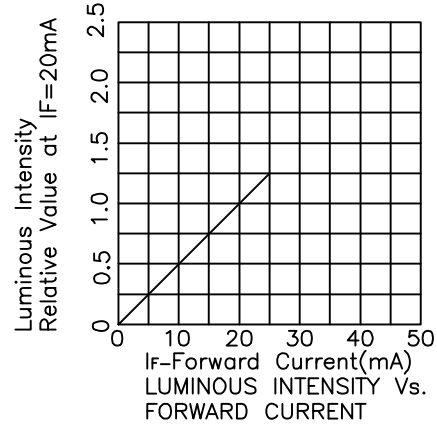
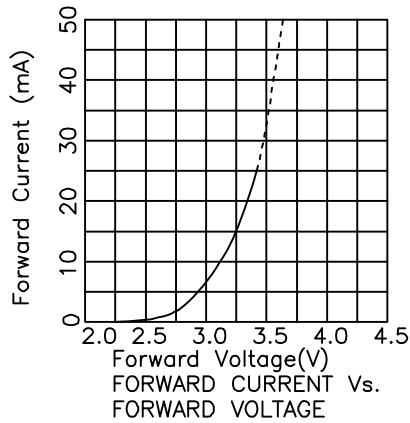
Parameter	Symbol	Min.	Typ.	Max	Unit	Test Conditions
Forward Voltage	V _F	2.6	—	3.4	V	I _F =5mA
Reverse Current	I _R	—	—	10	μA	V _R =5V
Chromaticity Coordinates	X	—	0.30	—		
	Y	—	0.31	—		
Luminous Intensity	I _v	170	—	500	mcd	I _F =5mA
Viewing Angle	2θ1/2	—	120	—	Deg.	I _F =5mA

Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or chromaticity), the typical accuracy of the sorting process is as follows:

1. Chromaticity Coordinates: ±0.01
2. Luminous Intensity: ±15%
3. Forward Voltage: ±0.1V

Typical Electrical/Optical Characteristics Curves



Label Explanation

CODE: XX XX XX

↓ ↓ ↓

IV X/Y (WL) VF

亮度 坐标(波长) 电压

Part NO.: xxxxxxxxxxxxxx
 QTY: xxx PCS CODE: xx xx xx
 Lot NO: xxxxxxxxxxxxxx
 ERP NO.: xxxxxxxxxxxxxx
 Date: xxxxxxxxxxxxxx



VF Rank

Rank	VF(V)		Condition
	Min	Max	
F1	2.6	2.7	IF=5mA
F2	2.7	2.8	
G1	2.8	2.9	
G2	2.9	3.0	
H1	3.0	3.1	
H2	3.1	3.2	
J1	3.2	3.3	
J2	3.3	3.4	

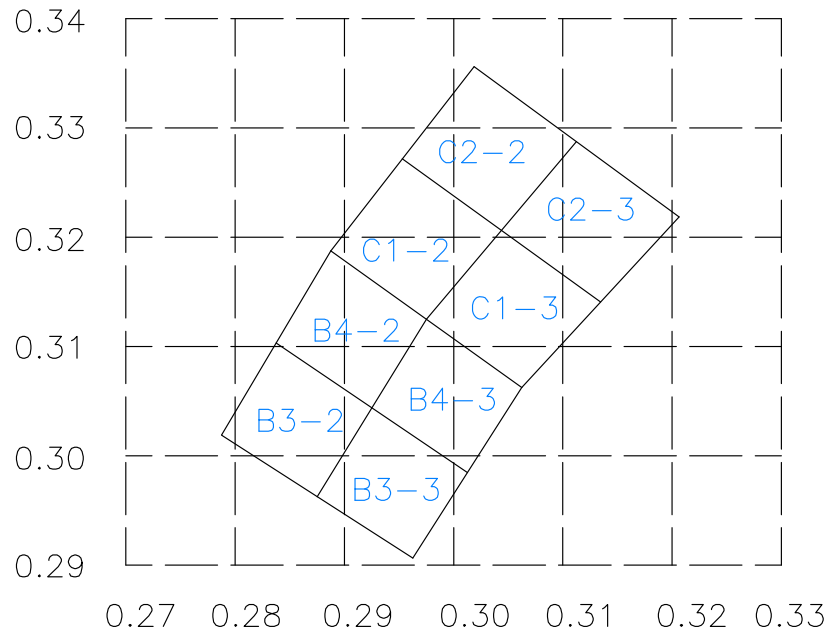
Tolerance:±0.05V

IV Rank

Rank	IV(mcd)		Condition
	Min	Max	
Q	170	225	IF=5mA
R	225	295	
S	295	385	
T	385	500	

Tolerance:±15%

◆ X/Y Rank



B3-2	X	0.284	0.293	0.287	0.279	B3-3	X	0.293	0.301	0.296	0.287
	Y	0.310	0.304	0.296	0.302		Y	0.304	0.298	0.291	0.296
B4-2	X	0.289	0.297	0.293	0.284	B4-3	X	0.297	0.306	0.301	0.293
	Y	0.319	0.312	0.304	0.310		Y	0.312	0.306	0.298	0.304
C1-2	X	0.295	0.304	0.297	0.289	C1-3	X	0.304	0.313	0.306	0.297
	Y	0.327	0.321	0.312	0.319		Y	0.321	0.314	0.306	0.312
C2-2	X	0.302	0.311	0.304	0.295	C2-3	X	0.311	0.321	0.313	0.304
	Y	0.336	0.329	0.321	0.327		Y	0.329	0.322	0.314	0.321

Tolerance:±0.005

◆ CAUTIONS:

1.Storage

- Storage condition before opening the package: 5℃~30℃, the largest percentage relative humidity is 60% and the storage period is six month. The LEDs beyond the storage period just can be used after dealing as step 4.
- After opening the package, If the LEDs will be Infrared reflow soldering, Oxygen phase reflow soldering or any other welding.
 - a. must be welding within 24 hours.
 - b. the storage humidity must be below 30% .
- If the situation does not satisfy 2a or 2b, the LEDs must be roasted.
- If the LEDs need to be roasted, the roast temperature should be 60℃±3 and the roast time should be 24 hours.

2.ESD (Electrostatic Discharge)

Static Electricity or power surge will damage the LED.

The following procedures may decrease the possibility of ESD damage.

- All production machinery and test instruments must be electrically grounded.
- Use a conductive wrist band or anti-electrostatic glove when handling these LEDs.
- Maintain a humidity level of 50% or higher in production areas.
- Use anti-static packaging for transport and storage.

3.Cleaning

清洗

- Led should be cleaned in a normal temperature and the time for cleaning should be less than 3 minutes ; please use Alcohol as cleaner ,before you use other cleaning solvent ,please make sure that the cleaner will not make any damage to the LED performance or the appearance .
- Ultrasonic Cleaning is also commonly used for cleaning LED , please verify the Ultrasonic cleaning 's Power and time to avoid any damage to the LED .
- The recommended solvent for cleaning:

Common cleaning solvent	Disable cleaning solvent
Alcohol	Thinner、Acetone、Two fluorine resin 、 Acetone b dilute

◆ Revision History:

Rev. No.	Change description	Date	Prepared by	Checked by	Approved by
A/0	New-made specification	2013/07/30			
A/1	Revision intensity rank	2015/06/13			
A/2	Revision intensity rank	2017/9/21			

