



RoHS

Specification

规格书

Customer Name : _____

客户名称 :

Customer P/N : _____

客户品号 :

Factory P/N : HL-A-3020H431W-S1-HR3

公司品号 :

Sending Date : _____

送样日期 :

Client approval 客户审核			Hongli approval 鸿利光电审核		
Approval 核准	Audit 确认	Confirmation 制作	Approval 核准	Audit 确认	Confirmation 制作
			林德顺	林德顺	黄雪梅 工程部部长
<input type="checkbox"/> Qualified 接受		<input type="checkbox"/> Disqualified 不接受	DATE: 日期:		

Adr : Airport High-tech Industry Base Jingu South Road(XianKe 1st Road Intersection),
Huadu District,Guangzhou,China

地址: 中国广州市花都区机场高科技产业基地金谷南路与先科一路交汇

Tel/电话 : 020-86733333

Fax/传真 : 020-86733883 86733938 86733265

Web/网址 : www.honglitronic.com

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3. 此规格书的有效期限为两年,自盖章或签字之日起计算,期满时双方可以续签协议,但应采用书面形式

HL-A-3020H431W-S1-HR3

Features(特征)

- PLCC-2 Package.(PLCC-2 封装)
- Extremely wide viewing angle. (宽的发光角度)
- Suitable for all SMT assembly and solder process. (适用于所有的SMT组装和焊接工艺)
- Available on tape and reel. (适用于载带及卷轴)
- Moisture sensitivity level: Level 4. (防潮等级 Level 4)
- Package:3000pcs/reel..(包装每卷3000PCS)
- RoHS compliant. (RoHS 认证)



Description (描述)

The White LED which was fabricated using a blue chip and the phosphor
白光LED由蓝光芯片与荧光粉激发而成



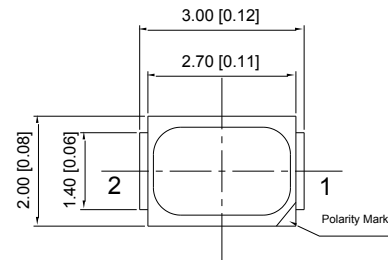
ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

注意：操作时应注意静电敏感
释放设备装置

Applications (应用)

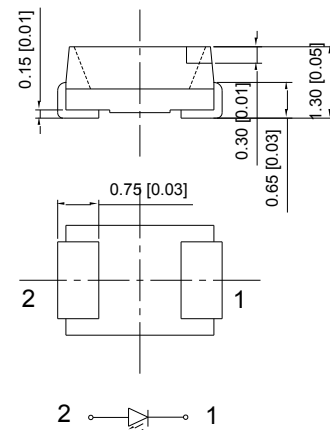
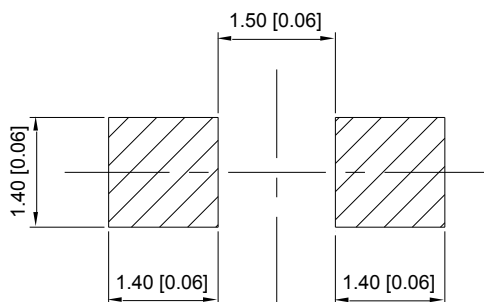
- Optical indicator (光学指示)
- Indoor display (室内显示)
- Automotive lighting (汽车照明)
- Backlight for LCD, switch and Symbol, display
(LCD背光、转换器, 开关和标志, 显示器等)
- Tubular light application (用于日光灯管)
- General use (一般应用)

Package Dimensions (封装尺寸)



Recommended Soldering Pattern

(建议焊盘尺寸图)



Notes: (备注)

1. All dimension units are millimeters. (所有标注尺寸单位为毫米)
2. All dimension tolerance is $\pm 0.15\text{mm}$ unless otherwise noted. (除特别标注外, 所有尺寸允许公差 $\pm 0.15\text{mm}$)



HL-A-3020H431W-S1-HR3

Part No. 型号	Chip Materials 芯片材料	Lens Type 胶体类型
HL-A-3020H431W-S1-HR3	InGaN	Yellow Diffused

Mass Production list (批量生产目录)

Part No. 型号	CCT (K) Min	CCT (K) Typ	CCT (K) Max	Φ (lm) Min	Φ (lm) Typ	Test Conditions 测试条件
HL-A-3020H431W-S1-HR3	5700	6000	6500	22	24	IF=60mA
	4750	5000	5300	22	24	IF=60mA
	3800	4000	4250	22	24	IF=60mA
	2800	3000	3100	19	21	IF=60mA

Electrical / Optical Characteristics at Ta=25°C 电性与光学特性

Parameter (参数)	Symbol (符号)	Min. (最小)	Typ. (平均)	Max. (最大)	Units (单位)	Test Conditions 测试条件
Forward Voltage 正向电压	VF	2.8	--	3.4	V	IF=60mA
Viewing Angle 角度	2θ1/2	--	120	--	deg	IF=60mA
Color Rendering Index 显色性指数	Ra	80	--	--		IF=60mA
Reverse Current 反向电流	IR	--	--	10	μA	VR = 5V

Note:(备注)

- θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
Q1/2 是半值角,指光强是光学中心线光强的1/2处到光学中心线的角度
- the above luminous flux measurement allowance tolerance ±10%.
上述发光通量的测试允许公差为±10%
- the above Color Rendering Index measurement allowance tolerance : ±2
以上显色性指数的测试允许公差为±2
- The above forward voltage measurement allowance tolerance is ±0.1V.
以上所示电压测量误差±0.1V
- The above color coordinates measurement allowance tolerance is ±0.003.
以上所示坐标测量误差±0.003



HL-A-3020H431W-S1-HR3

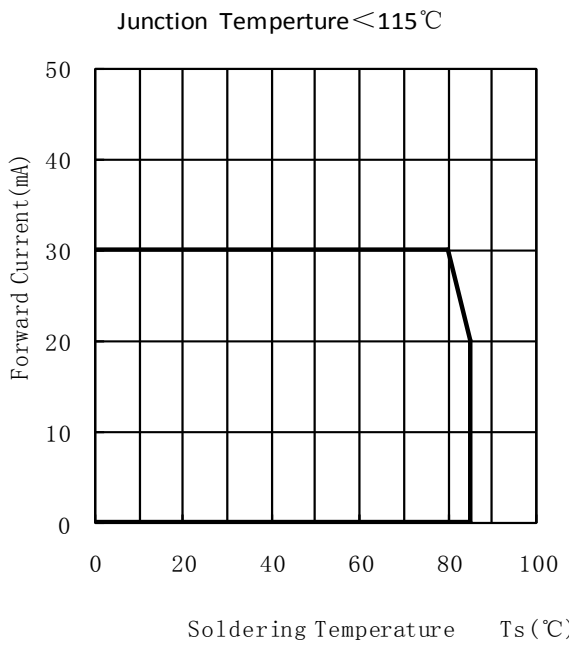
Absolute Maximum Ratings at Ta=25°C 绝对最大额定值

Parameter (参数)	Symbol (符号)	Rating (值)	Units (单位)
Power Dissipation (功耗)	Pd	100	mW
Forward Current (正向电流)	IF	30	mA
Peak Forward Current [1] (峰值正向电流)	IFP	100	mA
Reverse Voltage (反向电压)	VR	5	V
Electrostatic Discharge (HBM) (静电)	ESD	1000	V
Operating Temperature (操作温度)	Topr	-40 ~ +85	°C
Storage Temperature (保存温度)	Tstg	-40 ~ +100	°C
Thermal Resistance (Junction / Soldering point) 热阻	Rthj-s	100	°C/W
Junction Temperature 结温	Tj	115	°C

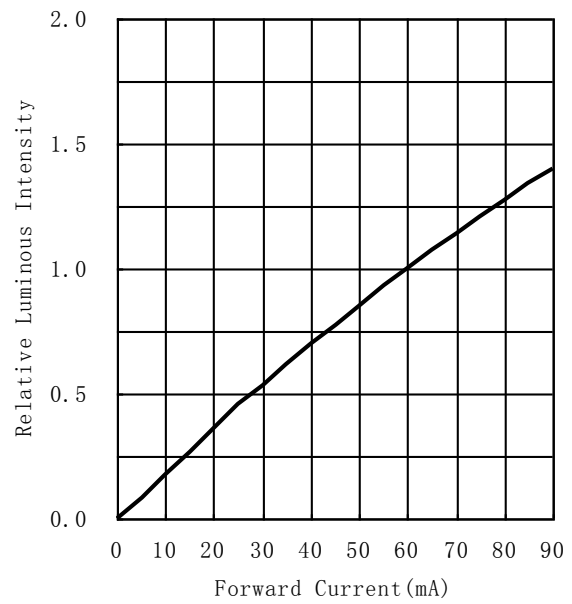
HL-A-3020H431W-S1-HR3

Typical optical characteristics curves 典型光学特性曲线

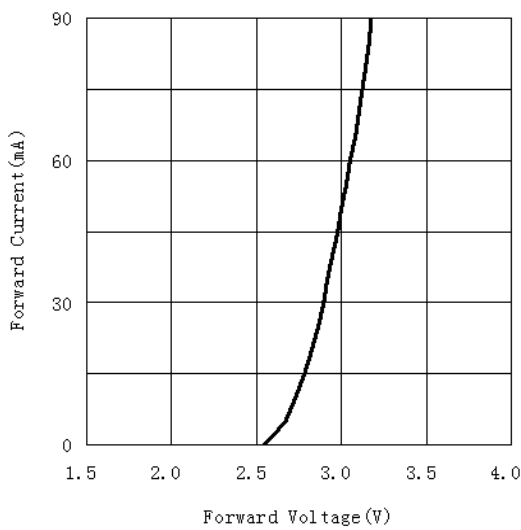
Soldering Temperature vs. Forward Current



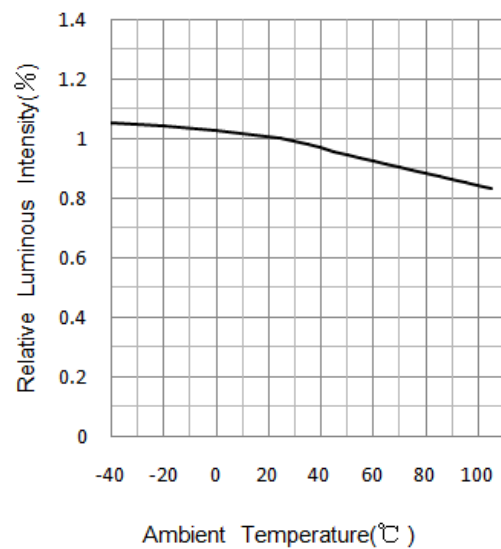
Forward Current VS. Relative Intensity



Forward Voltage VS. Forward Current



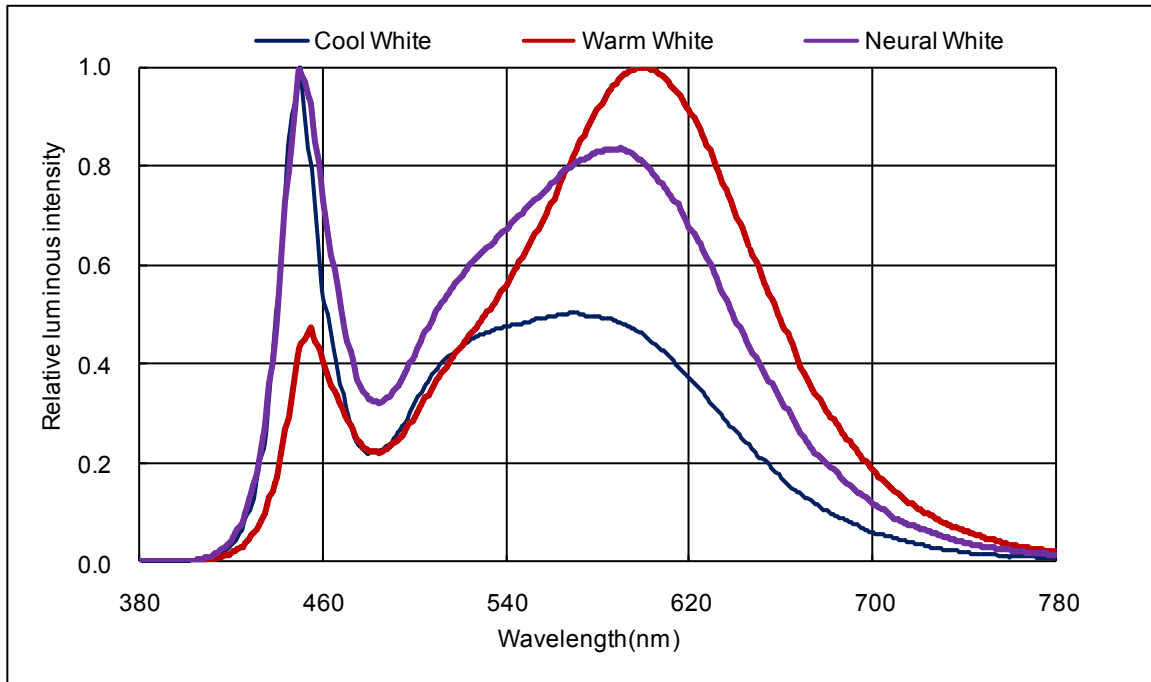
Ambient Temperature VS. Relative Intensity



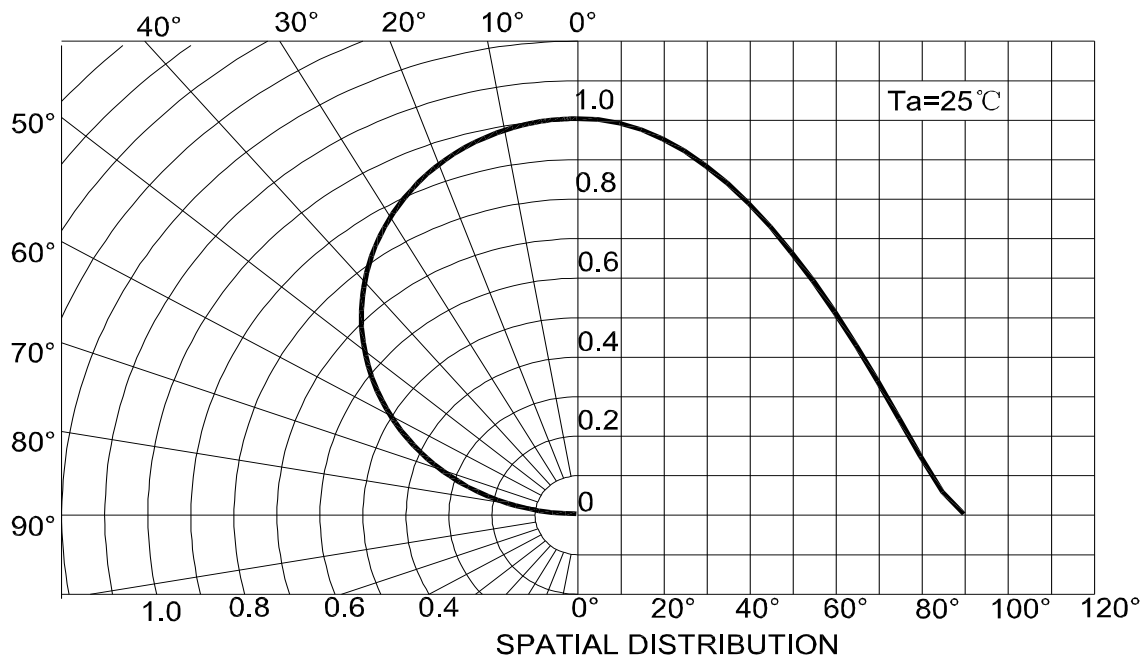
HL-A-3020H431W-S1-HR3

Typical optical characteristics curves 典型光学特性曲线

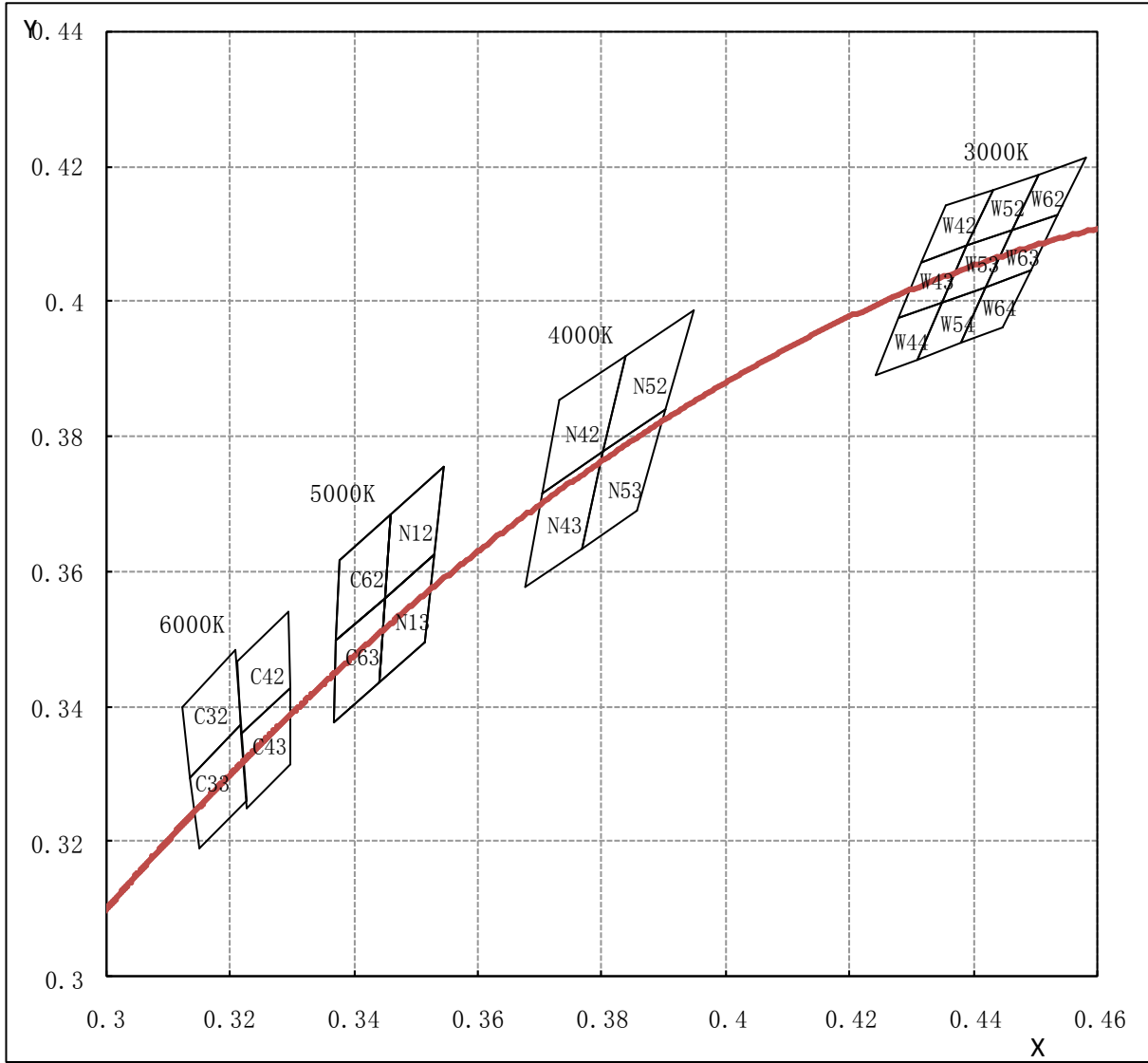
Relative spectral emission 相对光谱分布特性曲线



Radiation diagram 辐射图特性曲线



HL-A-3020H431W-S1-HR3





HL-A-3020H431W-S1-HR3

Bin Range of Chromaticity Coordinate Bin 区分类及色坐标范围

CCT 色温	Bin Code Bin代码	CIE_x	CIE_y	Bin Code Bin代码	CIE_x	CIE_y
6000K	C32 6000-6500K	0.3205	0.3481	C42 5700-6000K	0.3211	0.3468
		0.3117	0.3393		0.3294	0.3542
		0.3131	0.329		0.3296	0.3429
		0.3213	0.3371		0.3219	0.3360
		0.3213	0.3371		0.3219	0.3360
	C33 6000-6500K	0.3131	0.329	C43 5700-6000K	0.3296	0.3429
		0.3150	0.3190		0.3298	0.3315
		0.3226	0.3262		0.3227	0.3251
		0.3376	0.3616		0.3461	0.3685
		0.3461	0.3685		0.3545	0.3754
5000K	C62 5000-5300K	0.3451	0.3561	N12 4750-5000K	0.3530	0.3625
		0.3372	0.3497		0.3451	0.3561
		0.3372	0.3497		0.3451	0.3561
		0.3451	0.3561		0.3530	0.3625
		0.3441	0.3437		0.3514	0.3496
	C63 5000-5300K	0.3368	0.3378	N13 4750-5000K	0.3441	0.3437
		0.3731	0.3853		0.3839	0.3920
		0.3839	0.3920		0.3947	0.3987
		0.3803	0.3777		0.3903	0.3839
		0.3703	0.3716		0.3803	0.3777
4000K	N42 4000-4250K	0.3703	0.3716	N52 3800-4000K	0.3803	0.3777
		0.3703	0.3716		0.3803	0.3777
		0.3803	0.3777		0.3903	0.3839
		0.3767	0.3634		0.3858	0.3690
		0.3675	0.3578		0.3767	0.3634
N43 4000-4250K	0.3803	0.3777	N53 3800-4000K	0.3903	0.3839	
	0.3767	0.3634		0.3858	0.3690	



HL-A-3020H431W-S1-HR3

Bin Range of Chromaticity Coordinate Bin区分类及色坐标范围

CCT 色温	Bin Code Bin代码	CIE_x	CIE_y	Bin Code Bin代码	CIE_x	CIE_y
3000K	W42 3000-3100K	0.4354	0.4142	W43 3000-3100K	0.4316	0.4059
		0.4430	0.4165		0.4390	0.4082
		0.4390	0.4082		0.4350	0.3998
		0.4316	0.4059		0.4279	0.3975
		0.4279	0.3975		0.4430	0.4165
		0.4350	0.3998		0.4505	0.4189
	W44 3000-3100K	0.4310	0.3915	W52 2900-3000K	0.4463	0.4106
		0.4241	0.3892		0.4390	0.4082
		0.4390	0.4082		0.4350	0.3998
		0.4463	0.4106		0.4420	0.4022
		0.4420	0.4022		0.4378	0.3939
		0.4350	0.3998		0.4310	0.3915
	W62 2800-2900K	0.4505	0.4189	W63 2800-2900K	0.4463	0.4106
		0.4581	0.4212		0.4536	0.4129
		0.4536	0.4129		0.4492	0.4045
		0.4463	0.4106		0.4420	0.4022
		0.4420	0.4022			
		0.4492	0.4045			
	W64 2800-2900K	0.4447	0.3962			
		0.4378	0.3939			



HL-A-3020H431W-S1-HR3

Reliability Test Items And Conditions 信赖性测试项目及条件

Test Items 项目	Ref. Standard 参考标准	Test Condition 测试条件	Time 时间	Quantity 数量	Ac/Re 接收/拒收
Reflow 回流焊	JESD22-B106	Temp:260°C max T=10 sec	3 times.	22Pcs.	0/1
Temperature Cycle 温度循环	JESD22-A104	100°C±5°C 30 min. ↑↓5 min -40°C±5°C 30 min.	100 Cycles	22Pcs.	0/1
High Temperature Storage 高温保存	JESD22-A103	Temp:100°C±5°C	1000Hrs.	22Pcs.	0/1
Low Temperature Storage 低温保存	JESD22-A119	Temp:-40°C±5°C	1000Hrs.	22Pcs.	0/1
Life Test 常温通电	JESD22-A108	Ta=25°C±5°C IF=20mA	1000Hrs.	22Pcs.	0/1
High Temperature High Humidity Life Test 高温高湿通电	JESD22-A101	85°C±5°C/ 85%RH IF=20mA	1000Hrs.	22Pcs.	0/1

Failure Criteria 失效判定标准

Test Items 项目	Symbol 符号	Test Condition 测试条件	Failure Criteria 判定标准	
			Min. 最小	Max. 最大
Forward Voltage 正向电压	VF	IF=20mA	--	U.S.L*)x1.1
Reverse Current 反向电流	IR	VR = 5V	--	10uA
Luminous Flux 光通量	Lm	IF=20mA	L.S.L*)x0.7	--

U.S.L: Upper Specification Limit 规格上限

L.S.L: Lower Specification Limit 规格下限

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