



DEVETECH ELECTRONICS CO. LTD

2.0 x 1.25mm SDM CHIP LED LAMP
CUSTOMER: DACHS ELECTRONICA
P/N: DVL-LR-C0805SURKC

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Document revision history				
Change N°	Date	Subject and reason	Version N°	Responser
1	2014.11.22		A01	

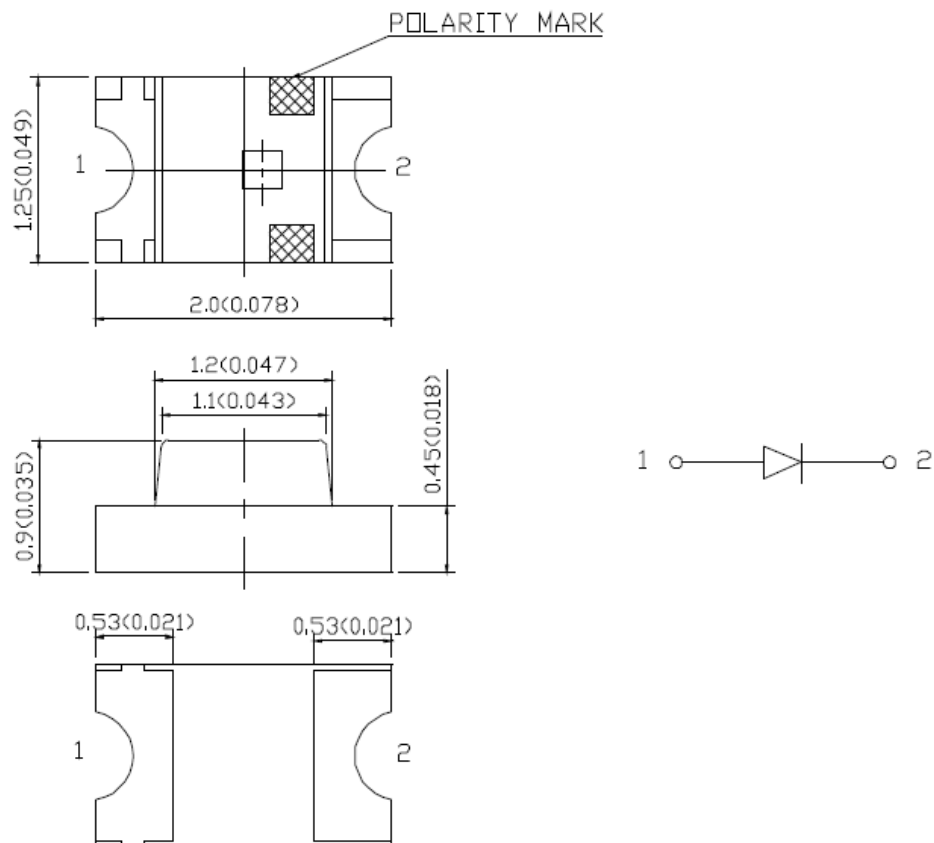
1. FEATURES

- * 2.0mm x 1.25mm SMD LED, 0.9mm thickness
- * Low power consumption
- * Wide viewing angle
- * Indoor and outdoor displays
- * Various colors and lens types available
- * Package: 3000PCS/REEL

2. DESCRIPTION

The Red source color devices are made with InGaAlP Light Emitting Diode.

3. PACKAGE DIMENSIONS



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.1 (0.004") unless otherwise noted.
3. Specifications are subject to change without notice.

Part No.	Device	Lens type	Iv (mcd) 20mA			Viewing angle
			Min	Typ	Max	2 θ 1/2
DVL-LR-C0805SURKC	Red AlGaInP	Water clear	100	130	-	120°

Note:

1. $\theta 1/2$ is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

4. ELECTRICAL/OPTICAL CHARACTERISTICS

Symbol	Parameter	Device	Min	Typ	Max	Units	Test conditions
λ peak	Peak wavelength	Red	/	627	/	nm	$I_F=20\text{MA}$
λ D	Dominate wavelength	Red	618	623	-	nm	$I_F=20\text{MA}$
$\Delta \lambda 1/2$	Spectral line half-width	Red	/	28	/	nm	$I_F=20\text{MA}$
C	Capacitance	Red	/	35	/	PF	$V_F=0\text{V}; f=1\text{MHz}$
V_F	Forward	Red	1.8	2.1	-	V	$I_F=20\text{MA}$
IR	Reverse current	Red	/	/	10	uA	$V_R=5\text{V}$

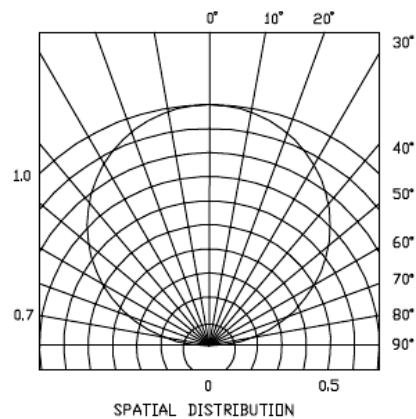
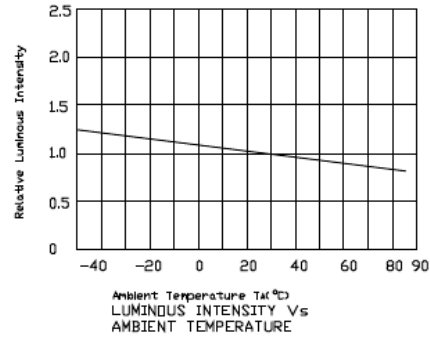
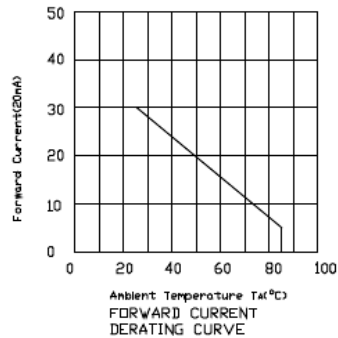
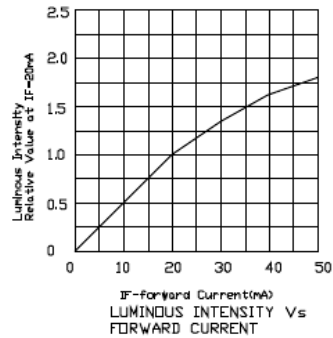
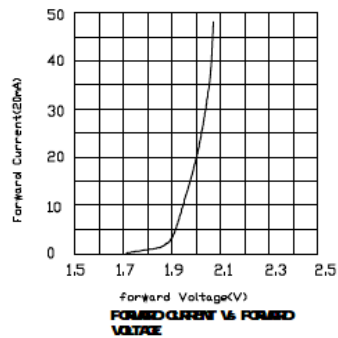
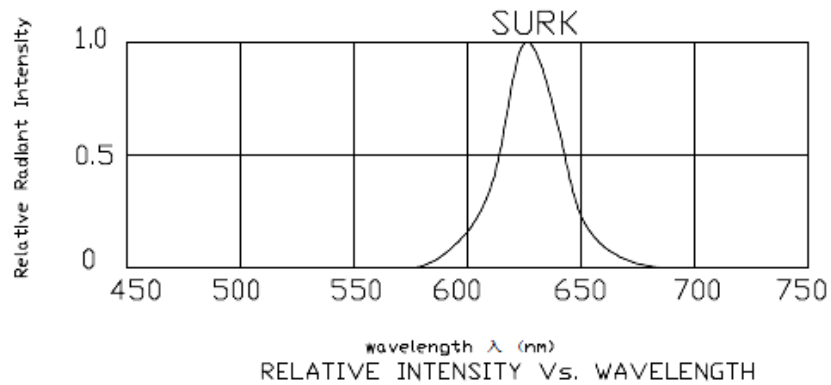
5. ABSOLUTE MAXIMUM RATINGS AT $T_a=25^\circ\text{C}$

Parameter	Green	Units
Power dissipation	75	mW
DC forward current	30	mA
Peak forward current (1)	150	mA
Reverse voltage	5	V
Operating/Storage temperature	-40°C to $+85^\circ\text{C}$	

Note:

(1): 1/10 Duty cycle 0.1ms pulse width.

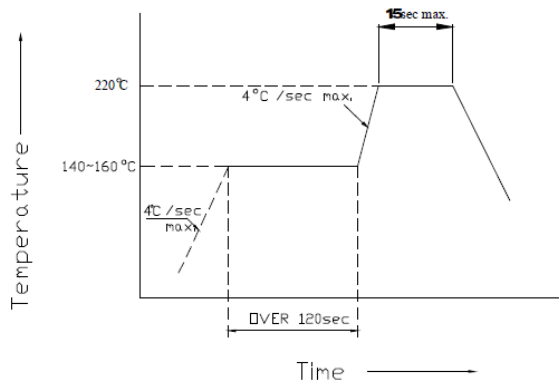
6. RELATIVE INTENSITY VS WAVELENGTH CHART



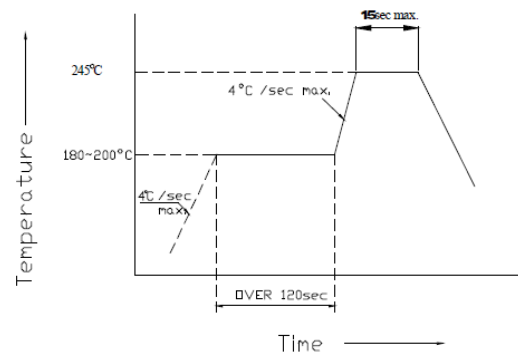
7. SMT REFLOW SOLDERING INSTRUCTIONS

Number of reflow process shall be less than 2 times and cooling process to normal temperature is required between first and second soldering process.

1) Lead solder

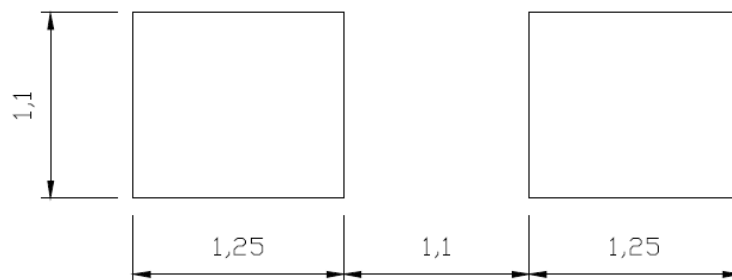


2) Lead-free solder



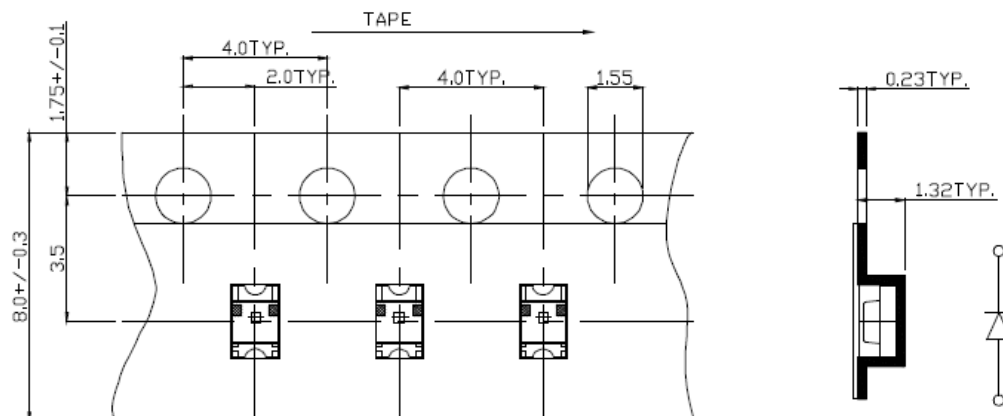
8. RECOMMENDED SOLDERING PATTERN

(Units: mm)



9. TAPE SPECIFICATIONS

(Units: mm)



Adhesion strength of cover tape: Adhesion strength to be 0.1-0.7N when the cover tape is turned off from the carrier at 10° angle to be the carrier tape.

10. RELIABILITY

10.1 TEST TIMES AND RESULTS

Test item	Standard test method	Test conditions	Note	Number of damaged
Resistance to soldering heat (Reflow soldering)	JEITA ED-4701 300 301	Tsld=260°C, 10sec. (Pre treatment 30°C, 70%,168hrs)	2 times	0/50
Solderability (Reflow soldering)	JEITA ED-4701 300 303	Tsld=215±5°C, 3sec. (Leader solder)	1time over 99%	0/50
Thermal shock	JEITA ED-4701 300 307	-40°C~100°C 5min. 5min.	100 cycles	0/50
Temperature cycle	JEITA ED-4701 100 105	-40°C~25°C~100°C~25°C 30min. 5min. 30min. 5min.	100 cycles	0/50
High temperature storage	JEITA ED-4701 200 201	Ta=100°C	1000hrs	0/50
High temperature high humidity storage	JEITA ED-4701 100 103	Ta=80°C, 80%RH	1000hrs	0/50
Low temperature storage	JEITA ED-4701 200 202	Ta=-40°C	1000hrs	0/50
Steady state operating life		Ta=25°C, I _F =20MA	1000hrs	0/50
Steady state operating life of high temperature		Ta=85°C, I _F =5mA	1000hrs	0/50
Steady state operating life of high humidity heat		60°C, 90%RH, I _F =15mA	500hrs	0/50
Steady state operating life of low temperature		Ta=-30°C, I _F =20MA	1000hrs	0/50

10.2. CRITERIA FOR JUDGING THE DAMAGE

Item	Symbol	Test conditions	Criteria for judgement	
			Min	Max
Forward voltage	V _F	I _F =20MA	-	U.S.L.* x 1.1
Reverse current	I _R	VR=5V	-	U.S.L.* x 2.0
Luminous intensity	I _V	I _F =20MA	L.S.L.** x 0.7	-

*) U.S.L.: Upper Standard Level

**) L.S.L.: Lower Standard Level

11. INTENSITY AND COLOR BIN LIMITS

11.1. INTENSITY BIN LIMITS ($I_F=20\text{MA}$)

SELECTION CODE FOR SUPER BRIGHT LEDS		
Group	Light intensity in mcd (20MA)	
	Min.	Max.
N0	100	140
O0	140	180

Tolerance for each Bin limit is $\pm 10\%$

11.2. COLOR BIN LIMITS ($I_F=20\text{MA}$)

COLOR CODE FOR GREEN LEDS + DISPLAYS		
Group	Dom. Wavelength (nm)	
	Min.	Max.
Q1	619	624
Q2	624	629

Tolerance for each Bin limit is $\pm 1\text{nm}$.

12. FORWARD VOLTAGE BIN LIMITS ($I_F=20\text{MA}$)

Grade	1	2
Range	1.9-2.2	2.2-2.5

Tolerance for each Bin limit is $\pm 0.1\text{V}$

[illegible]