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## Snowdragon Industrial Co.,Ltd

### DATA SHEET

MODEL No : **SDL518RTY-0-S1-Q**

ENG. No: **09062303**

Description:

- 5mm Helmet
- Lens Color: Red clear
- Emitting Color: Red
- No Stopper
- Viewing Angle :146°

DiceMaterial: AlGaInP

PREPARED BY	CHECKED BY	APPROVED BY
<b>CUSTOMER APPROVED SIGNATURES</b>		

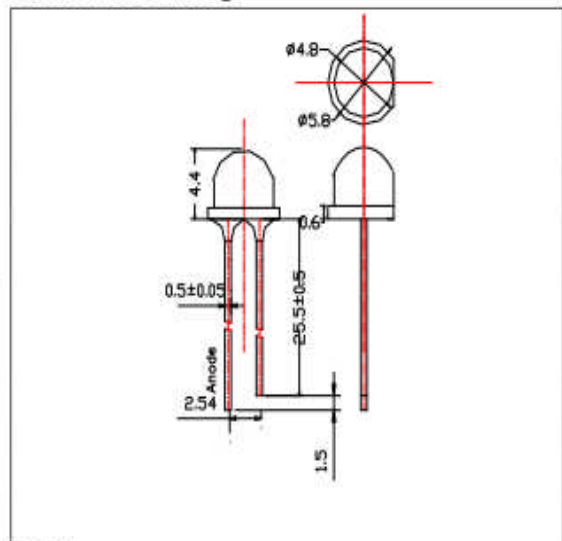


**Applications:**

**Dimension Drawing**

**Absolute Maximum Ratings at Ta = 25°C**

Items	Symbol	Absolute maximum Rating	Unit
Forward Current	$I_F$	25	mA
Peak Forward Current*	$I_{FP}$	100	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation	$P_D$	65	mW
Operation Temperature	$T_{opr}$	-20 ~ +75	°C
Storage Temperature	$T_{stg}$	-30 ~ +80	°C
Lead Soldering Temperature	$T_{sol}$	Max.260°C for 3 sec Max. (3mm from the base of the epoxy bulb)	



**Notes:**

1. All dimensions are in mm, Tolerance is  $\pm 0.25$ mm unless others noted
2. An epoxy meniscus may extend about 1.5mm
3. Burr around bottom of epoxy may be 0.5mm max.

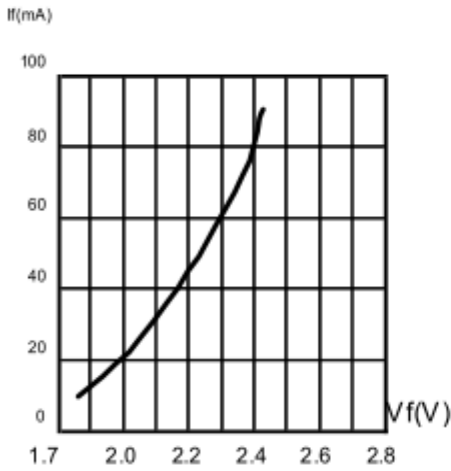
\*pulse width  $\leq 0.1$ msec duty  $\leq 1/10$

**Typical Electrical & Optical Characteristics ( Ta = 25°C)**

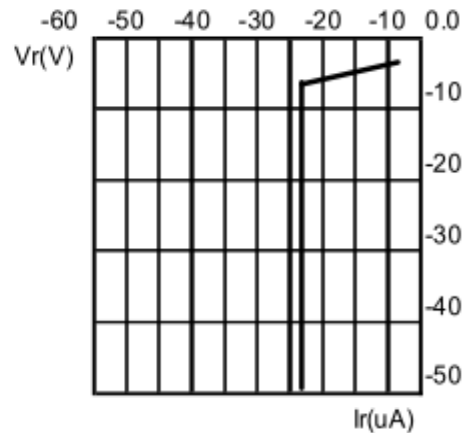
Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	$V_F$	$I_F = 20$ mA	1.7	2.2	2.6	V
Reverse Current	$I_R$	$V_R = 5$ V	---	---	10	$\mu$ A
Wavelength	$\lambda_D$	$I_F = 20$ mA	---	625	---	nm
Luminous Intensity	$I_V$	$I_F = 20$ mA	---	160	---	mcd
50% Power Angle	$2\theta_{1/2}H-H$	$I_F = 20$ mA	---	145	---	deg
	$2\theta_{1/2}V-V$	$I_F = 20$ mA	---	---	---	deg

Rank	Luminous Intensity(mcd)	Rank	Luminous Intensity(mcd)	Rank	Luminous Intensity(mcd)
/	/	/	/	/	/

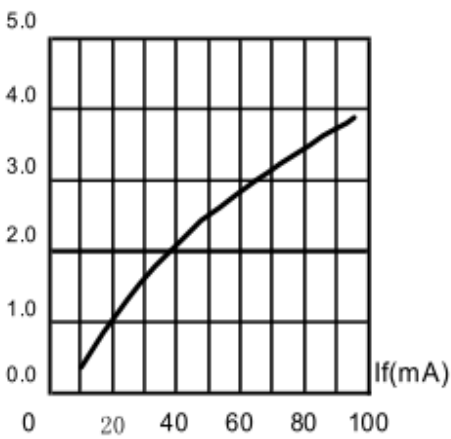
**Typical Optical-Electronic Characteristic Curves**



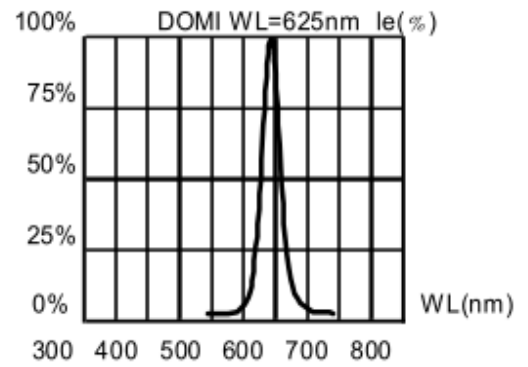
**Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.**



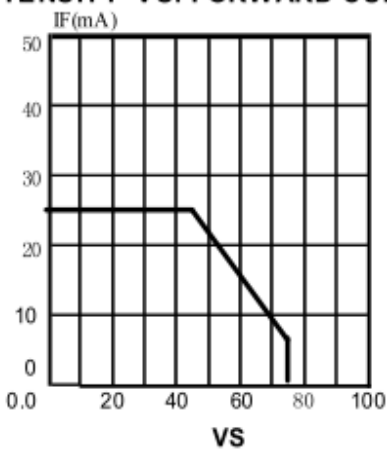
**Fig.2 REVERSE CURRENT VS. REVERSE VOLTAGE.**



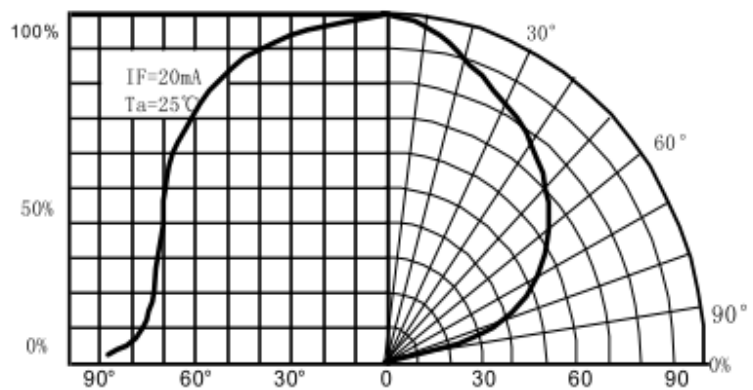
**Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.**



**Fig.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.**



**VS AMBIENT TEMPERATURE ( $T_{j\text{max}}=105^\circ\text{C}$ )**



**Fig.6 FAR FIELD PATTERN**

### LED Lamp Reliability test standard

Type	Test Item	REF. Standard	Test conditions		Note	Number of Damaged
			Binary / Trinary Chip	Quaternary Chip		
Environments Sequence	Temperature Cycle	JIS C7021 (1977)A4	-20°C~25°C~80°C~25°C 30min,5min,30min,5min	-40°C~25°C~100°C~25°C 30min,5min,30min,5min	100 cycles	0/100
	Thermal shock	MIL-STD-202G	-20°C~80°C 30min, 30min	-40°C~100°C 30min, 30min	100 cycles	0/100
	High Temperature Storage(*)	JIS C7021 (1977)B10	Ta=80°C	Ta=100°C	1000Hrs	0/100
	Low Temperature Storage	JIS C7021 (1977)B12	Ta=-30°C	Ta=-40°C	1000Hrs	0/100
Operation Sequence	Life test	JIS C7035 (1985)	Ta=25°C If=25mA	Ta=25°C If=25mA	1000Hrs	0/100
	High humidity Heat life test	-----	60°C RH=90% If=20mA	60°C RH=90% If=20mA	500Hrs	0/100
	Low temperature Life test	-----	Ta=-20°C If=20mA	Ta=-30°C If=20mA	1000Hrs	0/100
Destructive Sequence	Resistance to solderingHeat	JIS C7021 (1977)A11	Tsol=260±5°C ,10sec. (3mm from the base of the epoxy bulb)		1 time	0/20
	Solder ability	JIS C7021 (1977)A2	Tsol=235±5°C ,5sec. (using flux)		1 time (over95%)	0/20
	Lead Pull/Bend Test	JIS C7021 (1977)A11	Load 2.5N(0.25kgf) 0°C~90°C~0°C;Bend 3times		3 time	0/10
ESD Test	ESD TEST	AEC (Q101002)	Human body model 1000v		-----	0/10

### Failure Criteria

Item	Symbol	Test Condition	Criteria for Judgment	
			min	Max
Forward Voltage	VF	IF = 20 mA	-----	Initial Data x 1.1
Reverse Current	IR	VR = 5 V	-----	100 A
Luminous Flux/Intensity	/IV	IF = 20 mA	Initial Data x 0.7 (Total degradation) Initial Data x 0.5 (Single lamp degradation)	