

## 80 Assorted LEDs Set

1. Dia. 3 mm LED Green @ 15 pcs
2. Dia. 3 mm LED Red @ 20 pcs
3. Dia. 5 mm LED Green @ 15 pcs
4. Dia. 5 mm LED Red @ 20 pcs
5. Dia. 5 mm LED Yellow @ 10 pcs

### LAMP 3MM GREEN 204-10SYGD/S530-E3



#### Features

- Choice of various viewing angles
- Available on tape and reel.
- Reliable and robust
- Pb free
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH
- Compliance Halogen Free .(Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm)

#### Description

- The series is specially designed for applications requiring higher brightness
- The led lamps are available with different colors, intensities..

#### Applications

- TV set
- Monitor
- Telephone
- Computer

# Datasheet

Item no. 1565565

V1\_04232018\_01\_en

## Device Selection Guide

Chip Materials	Emitted Color	Resin Color
AlGaInP	Brilliant Yellow Green	Green Diffused

## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Continuous Forward Current	$I_F$	25	mA
Peak Forward Current (Duty 1/10 @ 1KHZ)	$I_{FP}$	60	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation	$P_D$	60	mW
Operating Temperature	$T_{oper}$	-40 ~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +100	°C
ESD	$ESD_{HBM}$	2000	V
Soldering Temperature	$T_{sol}$	260 °C for 5 sec.	

## Electro-Optical Characteristics (Ta=25°C)

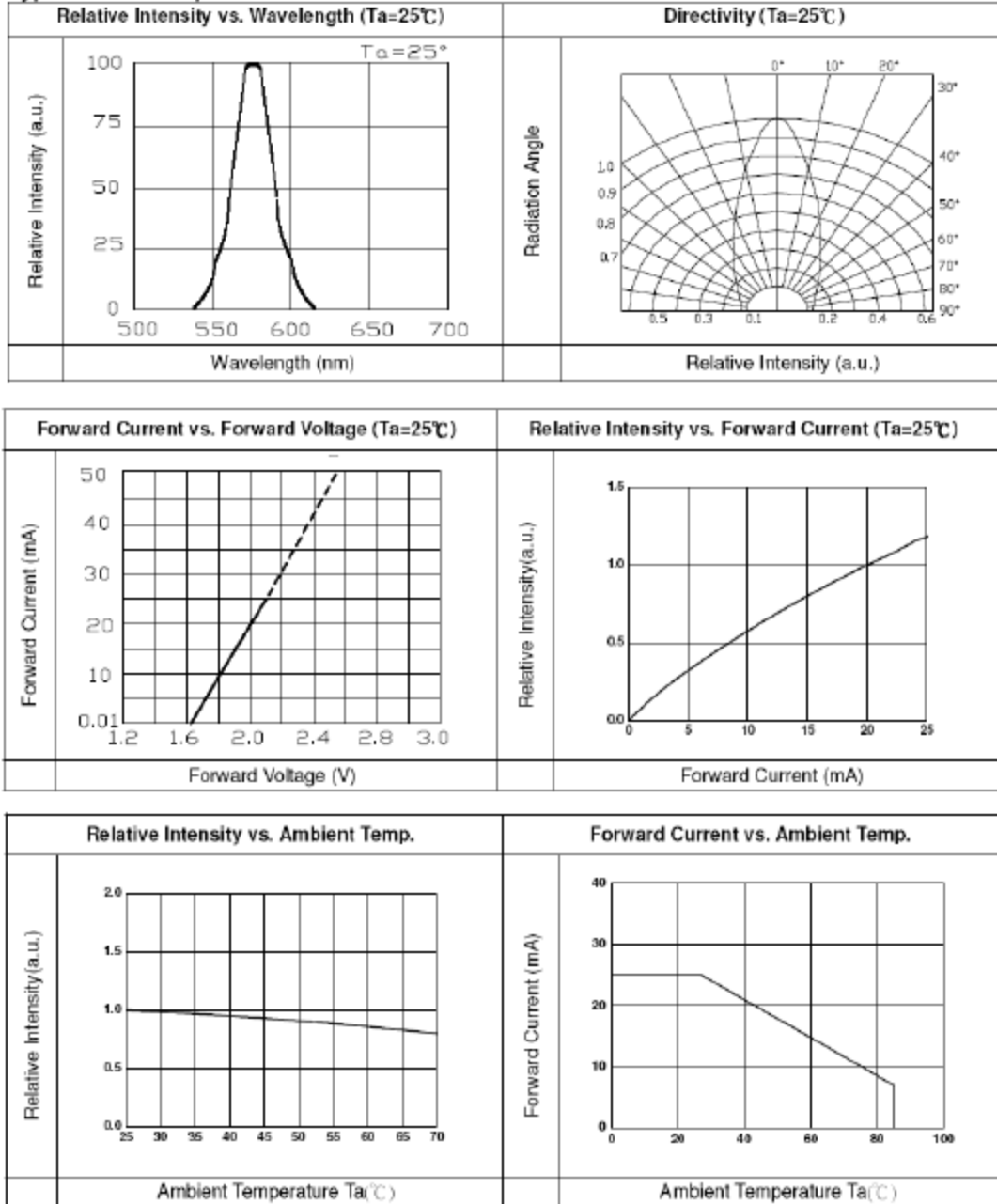
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	$I_v$	63	100		md	$I_F=20mA$
Viewing Angle	$2\theta_{1/2}$	-----	45	-----	deg	$I_F=20mA$
Peak Wavelength	$\lambda_p$	-----	575	-----	nm	$I_F=20mA$
Dominant Wavelength	$\lambda_d$	-----	573	-----	nm	$I_F=20mA$
Spectrum Radiation Bandwidth	$\Delta\lambda$	-----	20	-----	nm	$I_F=20mA$
Forward Voltage	$V_F$	1.7	2.0	2.4	V	$I_F=20mA$
Reverse Current	$I_R$	-----	-----	10	µA	$V_R=5V$

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## Typical Electro-Optical Characteristics Curves

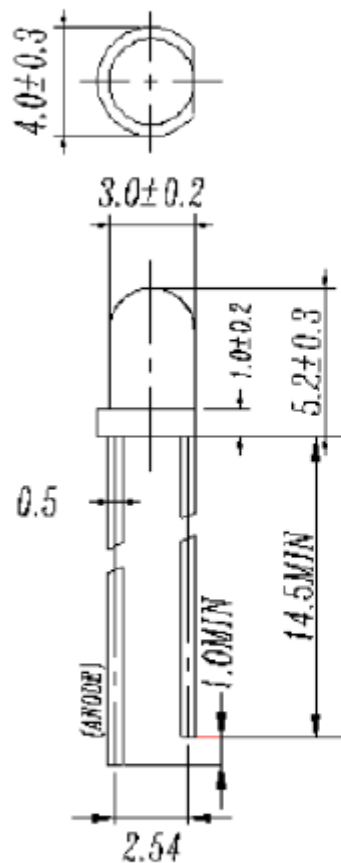


## Datasheet

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### Package Dimension



Note:

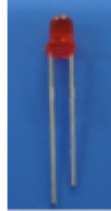
1. All dimensions are in millimeters
2. The height of flange must be less than  $1.5 \text{ mm} (0.059")$ .
3. Without special declared, the tolerance is  $\pm 0.25 \text{ mm}$ .

# Datasheet

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**204-10SURD/S530-A3**



3.0mm Round Type LED Lamps RED

■ Features :

- Choice of various viewing angles
- Available on tape and reel.
- Reliable and robust
- Pb free
- The product itself will remain within RoHS compliant version.

■ Descriptions :

- The series is specially designed for applications requiring higher brightness
- The led lamps are available with different colors, intensities.

■ Applications :

- TV set
- Monitor
- Telephone
- Computer

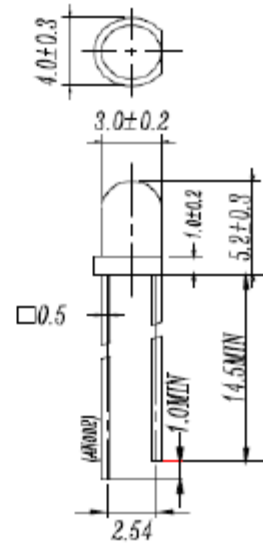
PART NO.	Material	Emitted Color	Lens Color
204-10SURD/S530-A3	AlGaInP	Brilliant Red	Red Diffused

# Datasheet

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## Package Dimensions



- Notes:
1. All dimensions are in millimetres
  2. The height of flange must be less than 1.5mm(0.059").
  3. Without special declared,the tolerance is ±0.25mm.

■ Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Rating	Unit
Forward Current	I <sub>F</sub>	25	mA
Operating Temperature	T <sub>opr</sub>	-40 to +85	°C
Storage Temperature	T <sub>stg</sub>	-40 to +100	°C
Soldering Temperature	T <sub>sol</sub>	260	°C
Electrostatic Discharge	ESD	2000	V
Power Dissipation	P <sub>d</sub>	60	mW
Peak Forward Current	I <sub>F(peak)</sub>	60	mA
Reverse Voltage	V <sub>R</sub>	5	V

Note: \*1:Soldering time ≤ 5 seconds.

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## 3.0mm Round Type LED Lamps RED

204-10SURD/S530-A3

### Electro-Optical Characteristics (Ta=25°C)

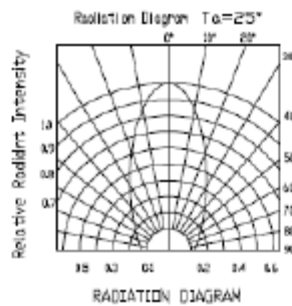
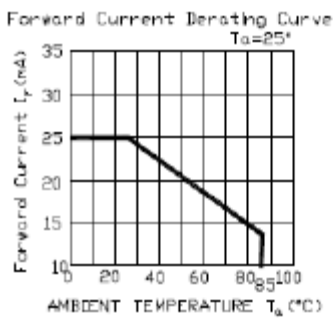
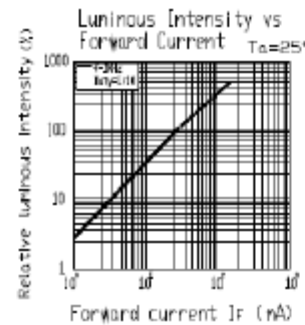
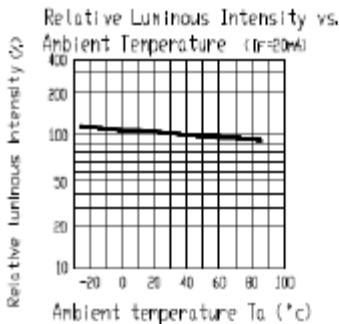
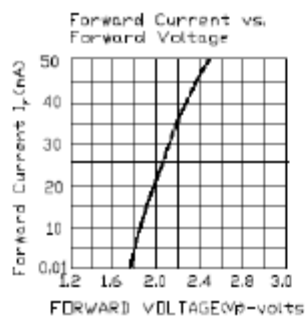
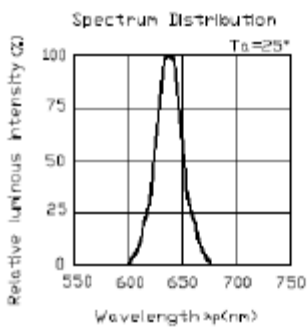
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 20 mA	/	2.0	2.4	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 5 V	/	/	10	μA
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> = 20 mA	40	80	/	md
Viewing Angle	2θ 1/2	I <sub>F</sub> = 20 mA	/	45	/	deg
Peak Wavelength	λ <sub>p</sub>	I <sub>F</sub> = 20 mA	/	632	/	nm
Dominant Wavelength	λ <sub>d</sub>	I <sub>F</sub> = 20 mA	/	624	/	nm
Spectrum Radiation Bandwidth	Δλ	I <sub>F</sub> = 20 mA	/	20	/	nm

## 3.0mm Round Type LED Lamps RED

204-10SURD/S530-A3

### ■ Typical Electro-Optical Characteristic Curves:

(SUR)





# Datasheet

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## 3.0mm Round Type LED Lamps RED

204-10SURD/S530-A3

### ■ Reliability test items and conditions:

The reliability of products shall be satisfied with items listed below.

Confidence level : 97%

LTPD : 3%

NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Failure Judgment Criteria	Ac/Re
1	Solder Heat	TEMP : 260°C ± 5 °C	10 SEC	76 PCS	$I_v \leq I_{vt} * 0.5$ or $V_f \geq U$ or $V_f \leq L$	0/1
2	Temperature Cycle	H : +100°C 15min $\int$ 5 min L : -40°C 15min	300 CYCLES	76 PCS		0/1
3	Thermal Shock	H : +100°C 5min $\int$ 10 sec L : -10°C 5min	300 CYCLES	76 PCS		0/1
4	High Temperature Storage	TEMP : 100°C	1000 HRS	76 PCS		0/1
5	Low Temperature Storage	TEMP : -40°C	1000 HRS	76 PCS		0/1
6	DC Operating Life	TEMP : 25°C $I_F = 20mA$	1000 HRS	76 PCS		0/1
7	High Temperature / High Humidity	85°C / 85% RH	1000 HRS	76 PCS		0/1

Note :  $I_{vt}$  : To test  $I_v$  value of the chip before the reliability test

$I_v$  : The test value of the chip that has completed the reliability test

U : Upper Specification Limit

L : Lower Specification Limit

## Datasheet

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### LAMP 5MM GREEN 333-2SYGD/S530-E2



#### Features

- Choice of various viewing angles
- Available on tape and reel.
- Reliable and robust
- Pb free
- The product itself will remain within RoHS compliant version.

#### Description

- The series is specially designed for applications requiring higher brightness
- The led lamps are available with different colors, intensities..

#### Applications

- TV set
- Monitor
- Telephone
- Computer

# Datasheet

Item no. 1565565

V1\_04232018\_01\_en

## Device Selection Guide

Chip Materials	Emitted Color	Resin Color
AlGaInP	Brilliant Yellow Green	Green Diffused

## Absolute Maximum Ratings (Ta=25 °C)

Parameter	Symbol	Rating	Unit
Continuous Forward Current	$I_F$	25	mA
Peak Forward Current (Duty 1/10 @ 1KHZ)	$I_{FP}$	60	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation	$P_d$	60	mW
Operating Temperature	$T_{opr}$	-40 ~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +100	°C
Soldering Temperature	$T_{sol}$	250 °C for 5 sec.	

## Electro-Optical Characteristics (Ta=25 °C)

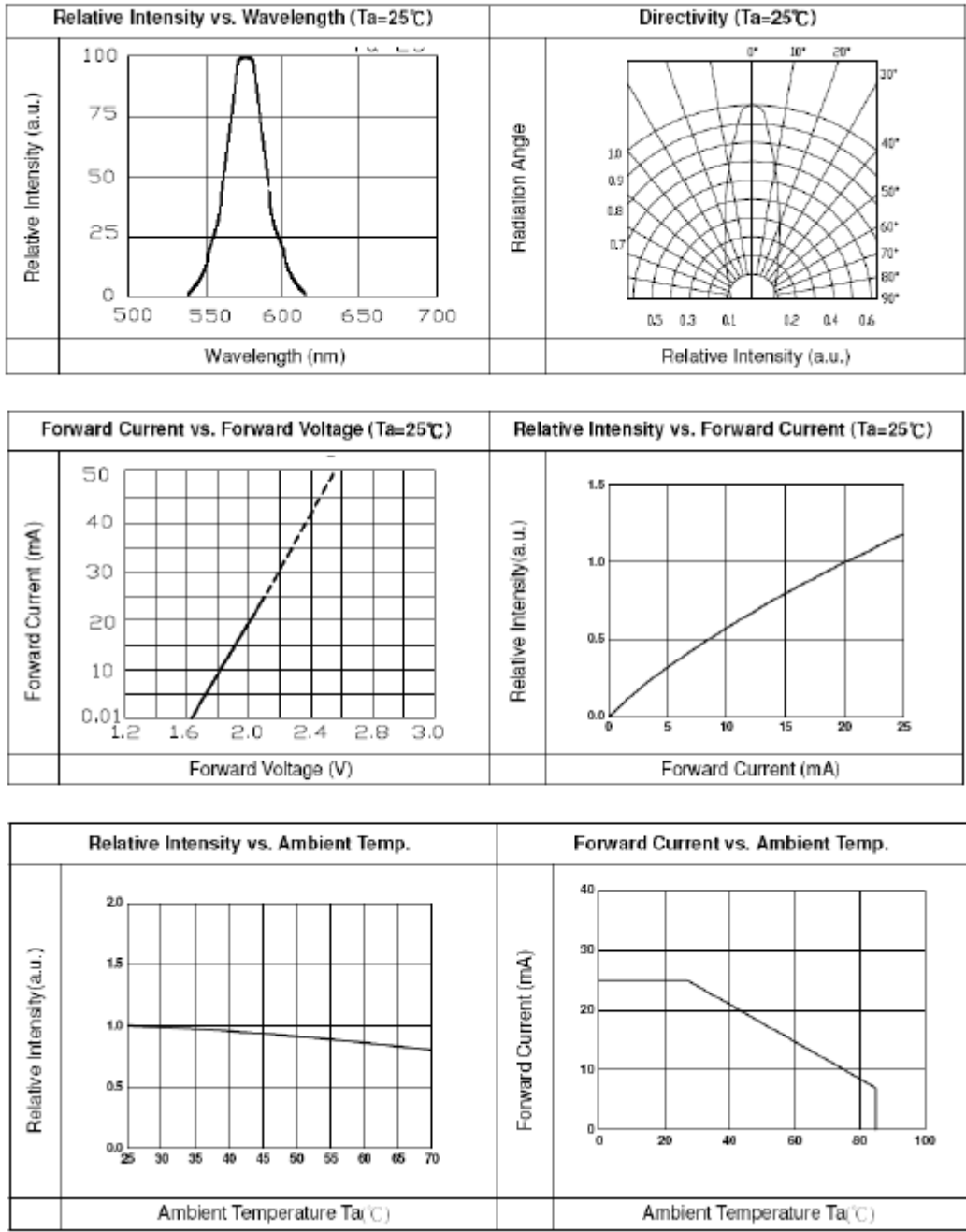
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	$I_v$	40	80	----	mod	$I_F=20mA$
Viewing Angle	$2\theta_{1/2}$	----	30	----	deg	$I_F=20mA$
Peak Wavelength	$\lambda_p$	----	575	----	nm	$I_F=20mA$
Dominant Wavelength	$\lambda_d$	----	573	----	nm	$I_F=20mA$
Spectrum Radiation Bandwidth	$\Delta\lambda$	----	20	----	nm	$I_F=20mA$
Forward Voltage	$V_F$	1.7	2.0	2.4	V	$I_F=20mA$
Reverse Current	$I_R$	----	----	10	µA	$V_R=5V$

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## Typical Electro-Optical Characteristics Curves

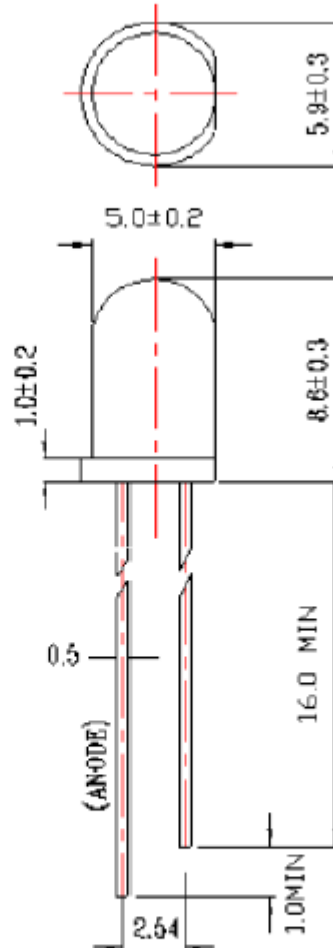


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## Package Dimension



**Note:**

1. All dimensions are in millimeters
2. The height of flange must be less than 1.5mm(0.059").
3. Without special declared, the tolerance is  $\pm 0.25$ mm.

# Datasheet

Item no. 1565565

V1\_04232018\_01\_en

Device Number : DLE-033-858 REV: 1.0

T-1 3/4 (5mm) Round Shape LEDs RED

MODEL NO : 333-2SURD/S530-A6 ECN : \_\_\_\_\_ Page: 1/4

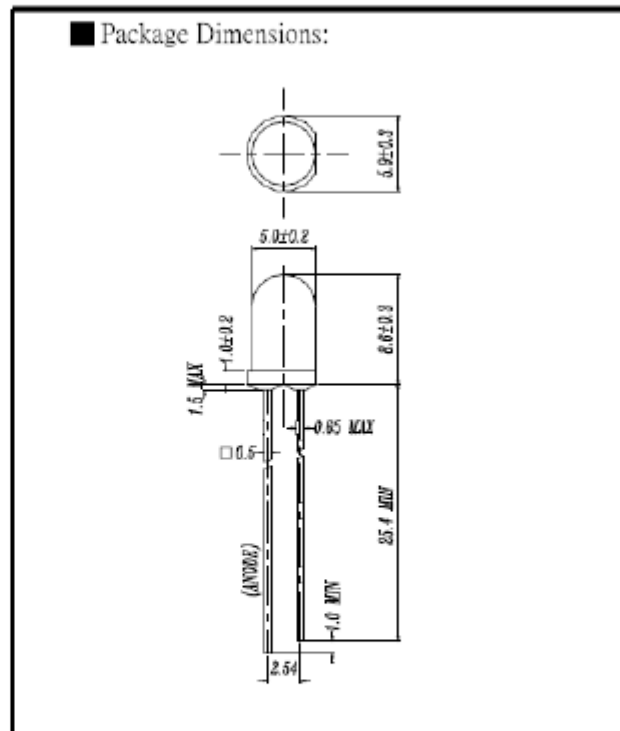
■ Features :

- Popular T-1 3/4 diameter package.
- Choice of various viewing angles.
- Available on tape and reel.
- Reliable and robust.

■ Descriptions :

- The series is specially designed for applications requiring higher brightness.
- The LED lamps are available with different colors, intensities, epoxy colors, etc.

■ Package Dimensions:



■ Applications :

- TV Set
- Monitor
- Telephone
- Computer

■ Notes :

1. All dimensions are in millimeters.
2. An epoxy meniscus may extend about 1.5mm(0.059") down to the lead.

PART NO	Chip		Lens Color
	Material	Emitted Color	
333-2SURD/S530-A6	AlGaInP	Hyper Red	Red Diffused

# Datasheet

Item no. 1565565

V1\_04232018\_01\_en

Device Number : DLE-033-858 REV: 1.0

T-1 3/4 (5mm) Round Shape LEDs RED

MODEL NO : 333-2SURD/S530-A6 ECN : \_\_\_\_\_ Page: 2/4

## ■ Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Rating	Unit
Forward Current	IF	25	mA
Operating Temperature	Topr	-40 to +85	°C
Storage Temperature	Tstg	-40 to +100	°C
Soldering Temperature	Tsol	260 ± 5	°C
Electrostatic Discharge :	ESD	2000	V
Power Dissipation	Pd	60	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	IF(Peak)	160	mA
Reverse voltage	VR	5	V

## ■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	250	400	---	mcd	IF=20mA
Viewing Angle	2 θ 1/2	---	30	----	deg	IF=20mA
Peak Wavelength	λ p	----	632	----	nm	IF=20mA
Dominant Wavelength	λ d	-----	624	----	nm	IF=20mA
Spectrum Radiation Bandwidth	Δ λ	----	20	-----	nm	IF=20mA
Forward Voltage	VF	----	2.0	2.4	V	IF=20mA
Reverse Current	IR	----	----	10	μ A	VR=5V

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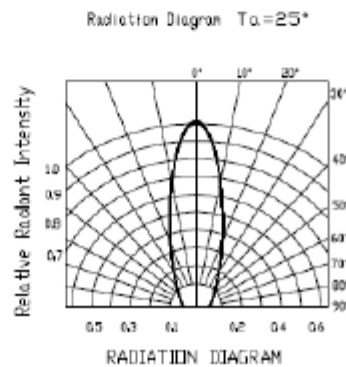
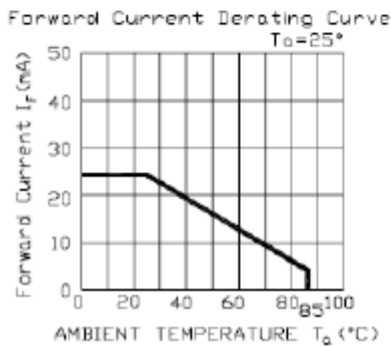
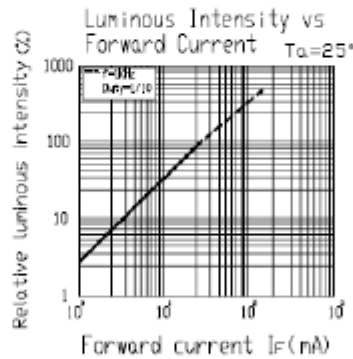
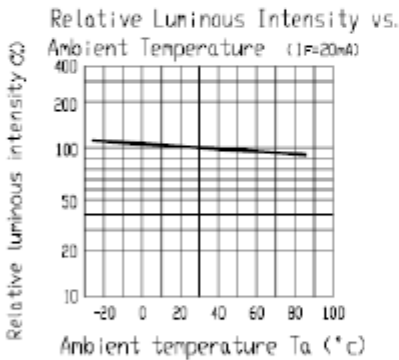
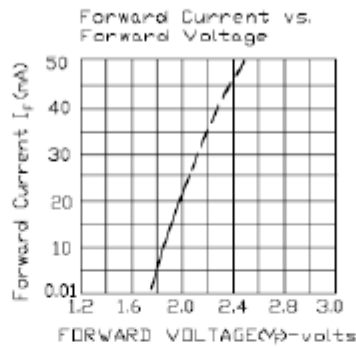
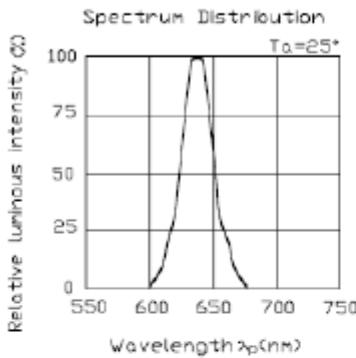
V1\_04232018\_01\_en

Device Number : DLE-033-858 REV: 1.0

T-1 3/4 (5mm) Round Shape LEDs RED

MODEL NO : 333-2SURD/S530-A6 ECN: \_\_\_\_\_ Page: 3/4

■ Typical Electro-Optical Characteristic Curves





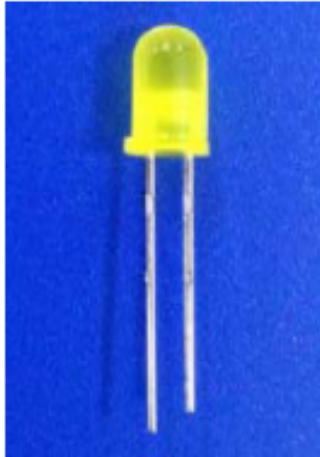


## Datasheet

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### LAMP 5MM YELLOW 333-2UYD/S530-A3



#### Features

- Choice of various viewing angles
- Available on tape and reel.
- Reliable and robust
- Pb free
- The product itself will remain within RoHS compliant version.

#### Description

- The series is specially designed for applications requiring higher brightness
- The led lamps are available with different colors, intensities..

#### Applications

- TV set
- Monitor
- Telephone
- Computer

# Datasheet

Item no. 1565565

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## Device Selection Guide

Chip Materials	Emitted Color	Resin Color
AlGaInP	Brilliant Yellow	Yellow Diffused

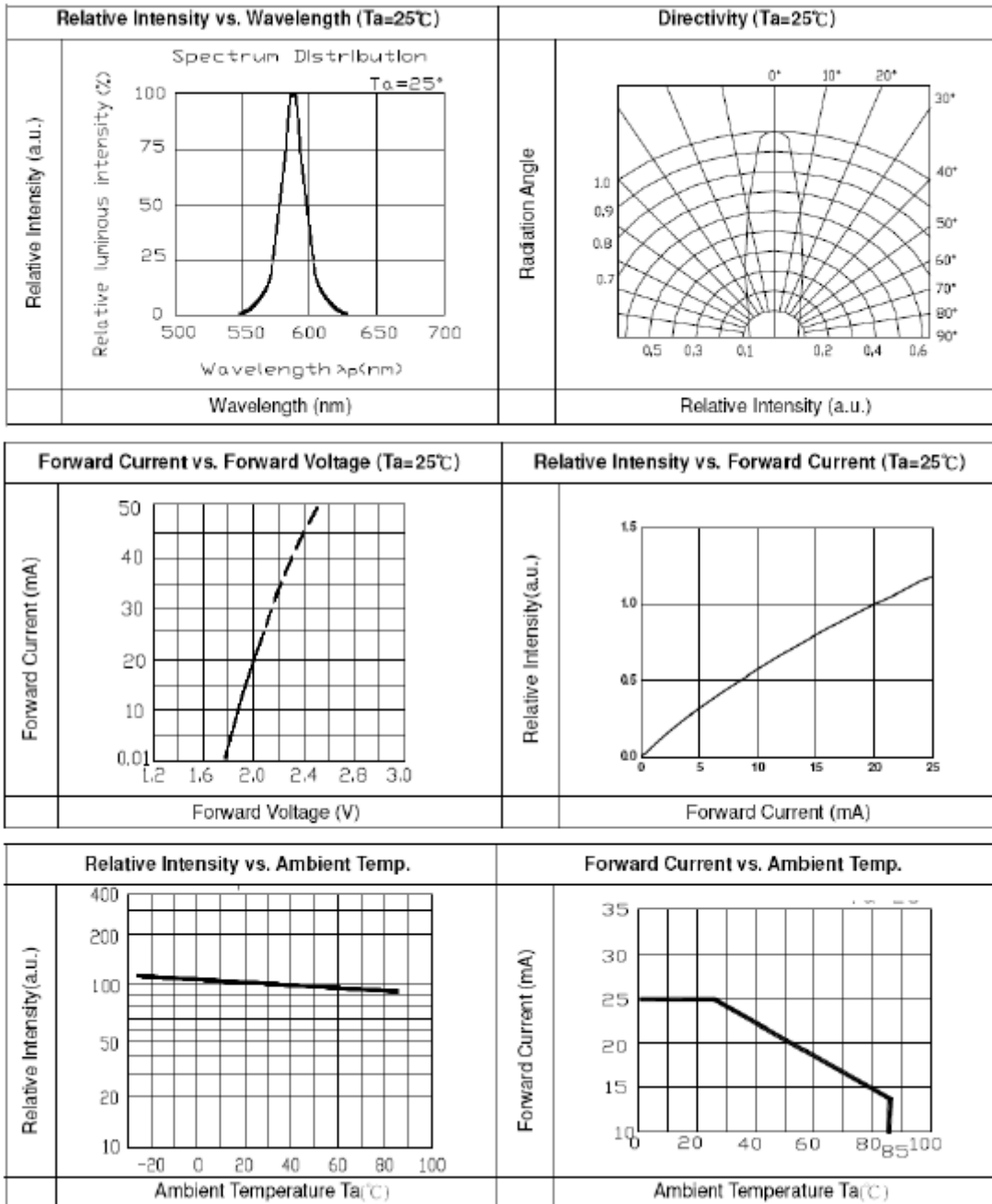
## Absolute Maximum Ratings (Ta=25\_)

Parameter	Symbol	Rating	Unit
Continuous Forward Current	$I_F$	25	mA
Peak Forward Current (Duty 1/10 @ 1KHZ)	$I_{FP}$	60	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation	$P_d$	60	mW
Operating Temperature	$T_{opr}$	-40 ~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +100	°C
Soldering Temperature	$T_{scl}$	260 °C for 5 sec.	

## Electro-Optical Characteristics (Ta=25\_)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	$I_v$	100	320	----	mcd	$I_F=20mA$
Viewing Angle	$2\theta_{1/2}$	----	30	----	deg	$I_F=20mA$
Peak Wavelength	$\lambda_p$	----	591	----	nm	$I_F=20mA$
Dominant Wavelength	$\lambda_d$	----	589	----	nm	$I_F=20mA$
Spectrum Radiation Bandwidth	$\Delta\lambda$	----	15	----	nm	$I_F=20mA$
Forward Voltage	$V_F$	1.7	2.0	2.4	V	$I_F=20mA$
Reverse Current	$I_R$	----	----	10	$\mu A$	$V_R=5V$

### Typical Electro-Optical Characteristics Curves

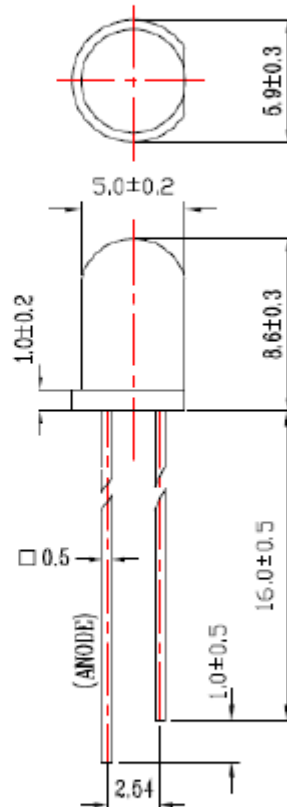


# Datasheet

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## Package Dimension



**Note:**

1. All dimensions are in millimeters
2. The height of flange must be less than 1.5mm(0.059").
3. Without special declared, the tolerance is  $\pm 0.25$ mm