



Item no. 1565565

V1\_04232018\_01\_en

## **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

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## **Datasheet**

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#### **Device Selection Guide**

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

#### Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit	
Continuous Forward Current	l <sub>F</sub>	25	mA	
Peak Forward Current (Duty 1/10 @ 1KHZ)	I <sub>FP</sub>	60	mA	
Reverse Voltage	VR	5	v	
Power Dissipation	Pd	60	mW	
Operating Temperature	Торг	-40 ~ +85	T	
Storage Temperature	Tstg	-40 ~ +100	r	
ESD	ESDHBM	2000	v	
Soldering Temperature	T <sub>sol</sub>	260 °⊜ for 5 sec.		

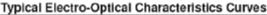
#### Electro-Optical Characteristics (Ta=25℃)

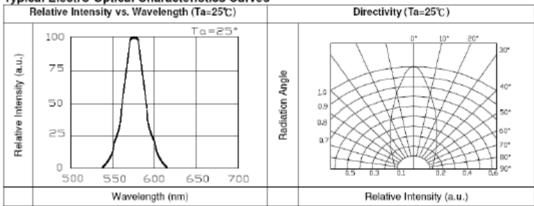
Parameter	Symbol	Min.	Тур.	Max.	Unit	Condition
Luminous Intensity	lv	63	100		mcd	I <sub>F</sub> =20mA
Viewing Angle	201/2		45		deg	I <sub>F</sub> =20mA
Peak Wavelength	λρ		575		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λa		573		nm	I==20mA
Spectrum Radiation Bandwidth	Δλ		20		nm	I <sub>F</sub> =20mA
Forward Voltage	V <sub>F</sub>	1.7	2.0	2.4	V	Ir=20mA
Reverse Current	IR			10	μА	V <sub>R</sub> =5V

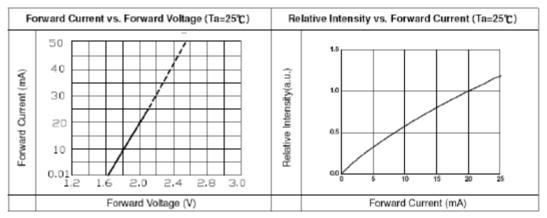


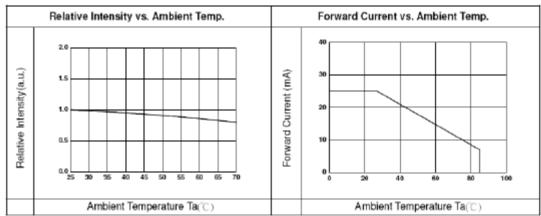
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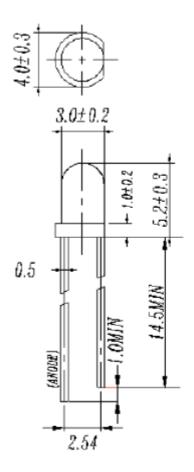




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#### Package Dimension



- 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 ±0.25mm.



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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





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Package Dimensions

3.0±0.2 3.0±0.2 3.0±0.2 3.0±0.2 4.5MIN

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	IF	25	mA
Operating Temperature	Topr	-40 to +85	Ç
s 81889 Ang Penggerature	Tstg	-40 to +100	ũ
	Tso1	260	°C
Electrostatic Discharge	ESD	2000	V
Power Dissipation	Pd	60	mW
Peak Forward Current	Ir(Peak)	60	mA
Reverse Voltage	VR	5	V

Note: \*1:Soldering time ≤ 5 seconds.



## **Datasheet**

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## 3.0mm Round Type LED Lamps RED

204-10SI	JRD/S530-	-A3
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#### Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	Min.	Тур.	Max.	Unit
Forward Voltage	VF	I <sub>F</sub> = 20 mA	/	2.0	2.4	V
Reverse Current	IR	V <sub>R</sub> = 5 V	/	/	10	μΑ
Luminous Intensity	Iv	Ir= 20 mA	40	80	/	mcd
Viewing Angle	2 <del>0</del> 1/2	I <sub>F</sub> = 20 mA	/	45	/	deg
Peak Wavelength	λp	I <sub>F</sub> = 20 mA	/	632	/	nm
Dominant Wavelength	λd	I <sub>F</sub> = 20 mA	/	624	/	nm
Spectrum Radiation Bandwidth	Δλ	I <sub>F</sub> = 20 mA	/	20	/	nm



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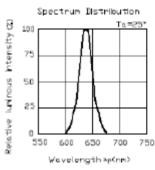
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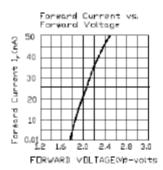
## 3.0mm Round Type LED Lamps RED

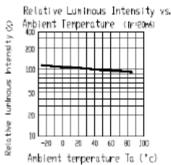
#### 204-10SURD/S530-A3

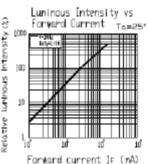
#### ■ Typical Electro-Optical Characteristic Curves:

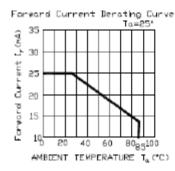
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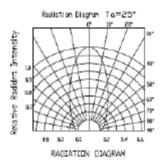














## **Datasheet**

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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%

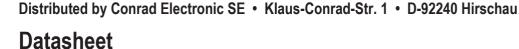
LTPD: 3%

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		0/1
2	Temperature Cycle	H:+100°C 15min § 5 min L:-40°C 15min	300 CYCLES	76 PCS		0/1
3	Thermal Shock	H:+100°C 5min ∫ 10 sec L:-10°C 5min	300 CYCLES	76 PCS		0/1
4	High Temperature Storage	TEMP: 100°C	1000 HRS	76 PCS	Iv≦Ivt*0.5 or Vf≧U or Vf≦L	0/1
5	Low Temperature Storage	TEMP : -40°C	1000 HRS	76 PCS		0/1
6	DC Operating Life	TEMP : 25℃ IF = 20mA	1000 HRS	76 PCS		0/1
7	High Temperature / High Humidity	85°C / 85% RH	1000 HRS	76 PCS		0/1

Note: Ivt: To test Iv value of the chip before the reliablility test

Iv: The test value of the chip that has completed the reliablility test

U: Upper Specification Limit L: Lower Specification Limit





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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

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#### **Device Selection Guide**

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

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

Parameter	Symbol	Rating	Unit	
Continuous Forward Current	lF	25	mA	
Peak Forward Current (Duty 1/10 @ 1KHZ)	IFP	60	mA	
Reverse Voltage	VR	5	V	
Power Dissipation	Pd	60	mW	
Operating Temperature	Торг	-40 ~ +85	o"	
Storage Temperature	Tstg	-40 ~ <b>+1</b> 00	°C	
Soldering Temperature	Taol	260 °C for 5 sec.		

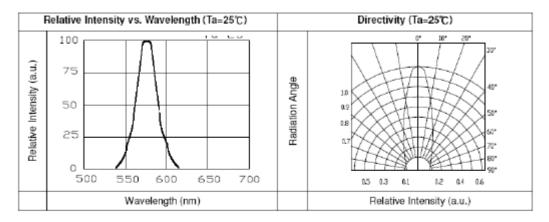
#### Electro-Optical Characteristics (Ta=25\_)

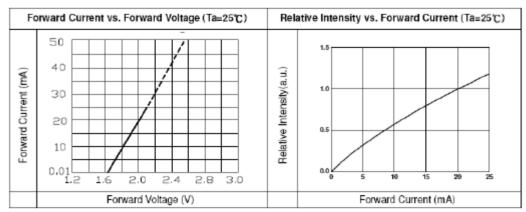
Parameter	Symbol	Min.	Тур.	Max.	Unit	Condition
Luminous Intensity	lv	40	80		mod	lr=20mA
Viewing Angle	201/2		30		deg	lr=20mA
Peak Wavelength	λp		575		nm	I <sub>F</sub> =20mA
Dominant Wavelength	$\lambda_d$		573		nm	I <sub>F</sub> =20mA
Spectrum Radiation Bandwidth	Δλ		20		nm	I <sub>F</sub> =20mA
Forward Voltage	VF	1.7	2.0	2.4	٧	I <sub>F</sub> =20mA
Reverse Current	I <sub>R</sub>			10	μА	Vr=5V

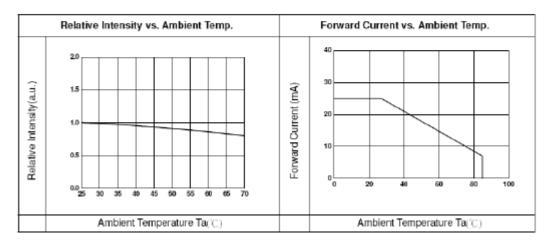
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#### Typical Electro-Optical Characteristics Curves







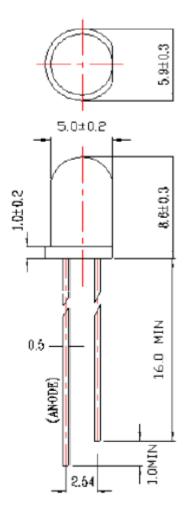




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#### Package Dimension



#### Note:

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



## **Datasheet**

Item no. 1565565

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Device Number: DLE-033-858 REV: 1.0

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

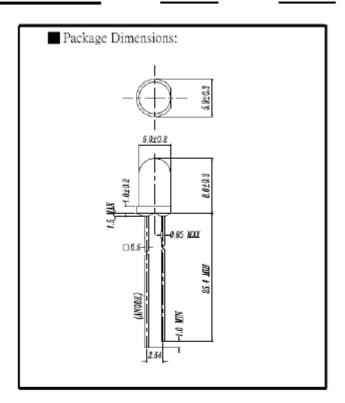
MODEL NO: 333-2SURD/S530-A6 ECN: Page: 1/4

#### Features:

- Populart 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.



#### Applications:

- TV Set
- Monitor
- Telephone
- Commuter

#### Notes:

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

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



## **Datasheet**

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	Device Number:	DLE-033-858	REV:	1.0
T-1 3/4 (5mm) Roun	d Shape LEDs RED			
MODEL NO:	333-2SURD/S530-A6	ECN:	Page:	2/4

■ Absolute Maximum Ratings at  $Ta = 25^{\circ}C$ 

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

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Тур.	Max.	Unit	Condition
Luminous Intensity	Iv	250	400		mcd	IF=20mA
Viewing Angle	2 θ 1/2		30		deg	Ir=20mA
Peak Wavelength	λр		632		nm	IF=20mA
Dominant Wavelength	λd		624		nm	IF=20mA
Spectrum Radiation Bandwidth	Δλ		20		nm	I=20mA
Forward Voltage	VF		2.0	2.4	V	I=20mA
Reverse Current	IR			10	$\mu$ A	VR=5V



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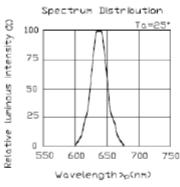
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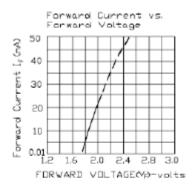
Device Number: DLE-033-858 REV: 1.0

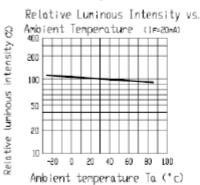
T-1 3/4 (5mm) Round Shape LEDs RED

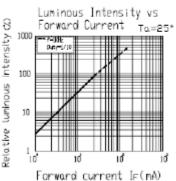
MODEL NO: 333-2SURD/S530-A6 ECN: Page: 3/4

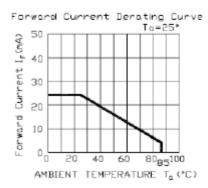
■ Typical Electro-Optical Characteristic Curves

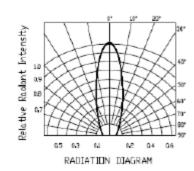












Radiation Diagram Ta.=25\*



## **Datasheet**

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	Device Number:	DLE-033-858	REV:	1.0
T-1 3/4 (5mm) Ro	und Shape LEDs RED			
MODEL NO:	333-2SURD/S530-A6	ECN:	Page:	4/4

#### Reliability test items and conditions

NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Ac/Re
1	Solder Heat	TEMP: 260°C ± 5 °C	5 SEC	76 PCS	0/1
2	Temperature Cycle	H:+85°C 30min ∫ 5 min L:-55°C 30min	50 CYCLE	76 PCS	0/1
3	Thermal Shock	H:+100°C 5min ∫ 10 sec L:-10°C 5min	50 CYCLE	76 PCS	0/1
4	High Temperature Storage	TEMP: 100℃	1000 HRS	76 PCS	0/1
5	Low Temperature Storage	TEMP:-55°C	1000 HRS	76 PCS	0/1
6	DC Operating Life	IF = 20 mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C/85% RH	1000 HRS	76 PCS	0/1

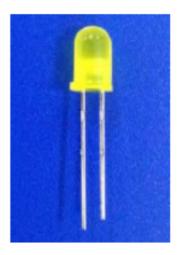




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# LAMP 5MM YELLOW 333-2UYD/S530-A3



#### 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	IF	25	mA	
Peak Forward Current (Duty 1/10 @ 1KHZ)	IFP	60	mA	
Reverse Voltage	VR	5	٧	
Power Dissipation	Pd	60	mW	
Operating Temperature	Topr	-40 ~ +85	Č	
Storage Temperature	Tstg	-40 ~ +100	'C	
Soldering Temperature	T <sub>sol</sub>	260 °C for 5 sec.		

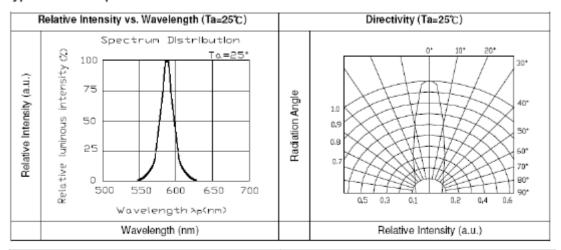
#### Electro-Optical Characteristics (Ta=25\_)

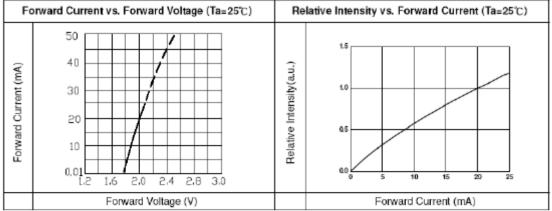
Parameter	Symbol	Min.	Тур.	Max.	Unit	Condition
Luminous Intensity	lv	100	320		mcd	I <sub>F</sub> =20mA
Viewing Angle	2θ <sub>1/2</sub>		30		deg	I <sub>F</sub> =20mA
Peak Wavelength	λp		591		nm	I <sub>P</sub> =20mA
Dominant Wavelength	λd		589		nm	l⊫20mA
Spectrum Radiation Bandwidth	Δλ		15		nm	l⊫20mA
Forward Voltage	$V_{F}$	1.7	2.0	2.4	٧	lp=20mA
Reverse Current	I <sub>R</sub>			10	μΑ	V <sub>R</sub> =5V

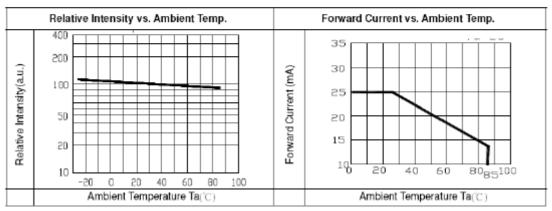
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#### Typical Electro-Optical Characteristics Curves







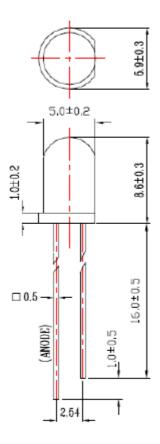




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#### Package Dimension



#### 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 ±0.25mm