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# Delivery Performance & Descriptions



# Home appliance

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## 3mm ICE BLUE LAMP PKG



## Delivery Performance

1. 適用ユニット: サムス洗濯機・エアコン
2. 年間所要量 : 100KK/年
3. ESD Level : 2K ↑

## LED specification

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

Parameter	Symbol	Value	Unit
Power Dissipation	P <sub>d</sub>	102	mW
Continuous Forward Current	I <sub>F</sub>	30	mA
Peak Forward Current *1	I <sub>FP</sub>	100	mA
Operating Temperature	T <sub>opr</sub>	-30 ~ 85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ 100	°C
Soldering Temperature	T <sub>sol</sub>	260 (5sec)	°C

\*1 Duty ratio = 1/10, Pulse width = 0.1ms

### Electrical & Optical Characteristics ( Ta = 25 °C )

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage *2	V <sub>F</sub>	I <sub>F</sub> = 20 mA	2.8	-	3.4	V
Reverse Voltage	V <sub>R</sub>	I <sub>R</sub> = 10 mA	11	14	20	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 10 V	-	-	1	μA
Luminous Intensity *3	I <sub>v</sub>	I <sub>F</sub> = 20 mA	2,700	-	7,600	mcd
Chromaticity Coordinates *4	-	I <sub>F</sub> = 20 mA	Refer to Color Coordinates Rank			
Viewing Angle *5	2θ <sub>1/2</sub>	I <sub>F</sub> = 20 mA	-	30	-	deg.



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## ■ 5mm IR LAMP PKG



## ■ Delivery Performance

1. 適用ユニット：サムスン掃除機
2. 年間所要量：2KK/年
3. ESD Level：2K ↑

## ■ LED specification

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

Parameter	Symbol	Value	Unit
Power Dissipation	$P_d$	180	mW
Continuous Forward Current	$I_F$	100	mA
Peak Forward Current *1	$I_{FP}$	1000	mA
Operating Temperature	$T_{opr}$	-30 ~ 85	℃
Storage Temperature	$T_{stg}$	-40 ~ 100	℃
Soldering Temperature	$T_{sol}$	260 (5sec)	℃

\*1 Duty ratio = 1/10, Pulse width = 10ms

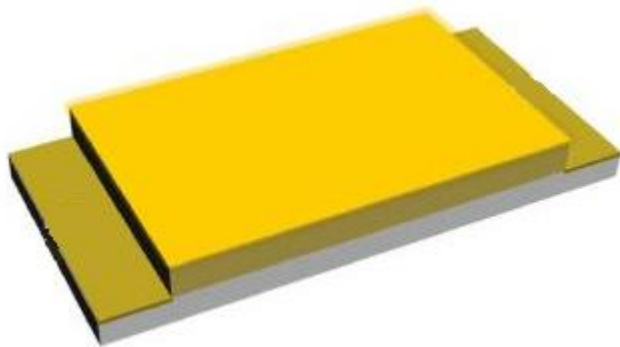
### Electrical & Optical Characteristics (Ta = 25℃)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Forward Voltage *2	$V_F$	$I_F = 20 \text{ mA}$	1.2	-	1.8	V
Reverse Current	$I_R$	$V_R = 5 \text{ V}$	-	-	10	$\mu\text{A}$
Radiant Intensity *3	$I_e$	$I_F = 20 \text{ mA}$	22	-	85	mW/sr
Peak Wavelength *4	$\lambda_p$	$I_F = 20 \text{ mA}$	840	-	860	nm
Viewing angle *5	$2\theta_{1/2}$	$I_F = 20 \text{ mA}$	-	15	-	deg.

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## 1608 WHITE SMD PKG



## Delivery Performance

1. 適用ユニット: サムソン電気オープン・  
DONGBU DAEWOO冷蔵庫
2. 年間所要量: 7KK/年
3. ESD Level : 2K ↑

## LED specification

### Absolute Maximum Ratings

Items	Symbols	Ratings	Unit
Operation Forward Current	$I_F$	30	mA
Peak Pulsed Forward Current*1	$I_{PF}$	100	mA
Operating Temperature Range	$T_{OP}$	-25 ~ 80	°C
Power Dissipation	$T_D$	120	mW
Reverse Current	$I_R$	50	uA
Storage Temperature Range	$T_S$	-30 ~ +85	°C
Soldering Temperature	$T_{SOL}$	260±10	°C

\*1 Duty ratio = 1/10, Pulse width = 0.1ms

### Electrical & Optical Characteristics (Ta : 25°C)

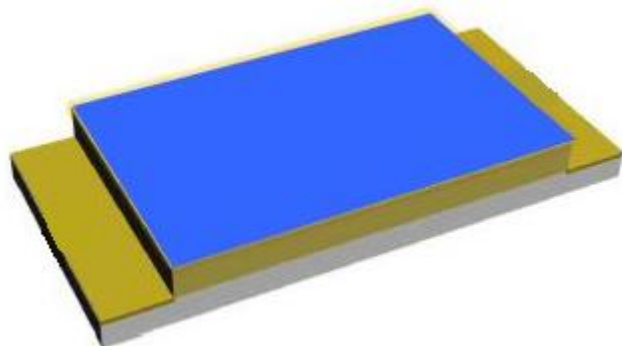
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Forward Voltage*3	$V_{F1}$	$I_F = 5mA$	2.7	3.0	3.1	V
Forward Voltage	$V_{F2}$	$I_F = 1uA$	2.0	2.4	2.6	V
Reverse Current	$I_R$	$V_R = 5V$	-	-	50	uA
Luminous Intensity*4	$I_V$	$I_F = 5mA$	70	90	110	mcd
View Angle*5	2θ1/2	$I_F = 5mA$	110	120	130	Degrees
CIE Index	--	$I_F = 5mA$	-	x=0.270 y=0.260	-	-



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## 1608 BLUE SMD PKG



## Delivery Performance

1. 適用ユニット: : LG電子洗濯機、Panasonic 空気清浄機
2. 年間所要量 : 2KK/年
3. ESD Level : 2K ↑

## LED specification

### Absolute Maximum Ratings( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Power Dissipation	$P_d$	64	mW
Continuous Forward Current	$I_F$	20	mA
Peak Forward Current *1	$I_{FP}$	50	mA
Operating Temperature	$T_{opr}$	-30 ~ 85	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40 ~ 100	$^\circ\text{C}$
Soldering Temperature	$T_{sol}$	260 (5sec)	$^\circ\text{C}$

\*1 Duty ratio = 1/10, Pulse width = 0.1ms

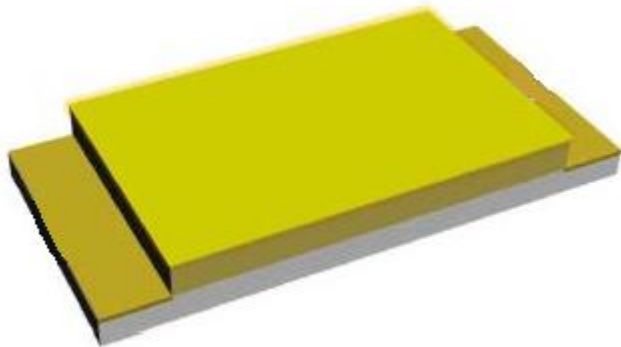
### Electro-optical Characteristics( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Forward Voltage *2	$V_{F1}$	$I_F = 5\text{ mA}$	2.7	-	3.2	V
Forward Voltage	$V_{F2}$	$I_F = 1\text{ }\mu\text{A}$	1.9	-	3	V
Reverse Voltage	$V_R$	$I_R = 10\text{ mA}$	11	14	17	V
Reverse Current	$I_R$	$V_R = 10\text{ V}$	-	-	1	$\mu\text{A}$
Luminous Intensity *3	$I_v$	$I_F = 5\text{ mA}$	35		55	mcd
Dominant Wavelength *4	$W_D$	$I_F = 5\text{ mA}$	460	-	470	nm
Viewing Angle *5	$2\theta_{1/2}$	$I_F = 5\text{ mA}$	-	130	-	$^\circ$

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## ■ 1608 AMBER SMD PKG



## ■ Delivery Performance

1. 適用ユニット: サムソン電子・Arcelik 冷蔵庫
2. 年間所要量 : 4KK/年
3. ESD Level : 2K ↑

## ■ LED specification

### Absolute Maximum Ratings( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Power Dissipation	$P_d$	44	mW
Continuous Forward Current	$I_F$	20	mA
Peak Forward Current *1	$I_{FP}$	100	mA
Operating Temperature	$T_{opr}$	-30 ~ 85	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40 ~ 100	$^\circ\text{C}$
Soldering Temperature	$T_{sol}$	260 (5sec)	$^\circ\text{C}$

\* 1 Duty ratio = 1/10, Pulse width = 0.1ms

### Electro-optical Characteristics( $T_a = 25\text{ }^\circ\text{C}$ )

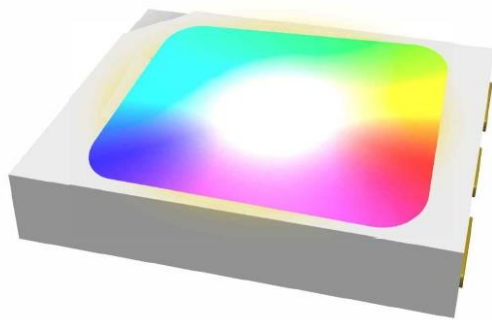
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Forward Voltage	$V_{F1}$	$I_F = 5\text{ mA}$	1.6	-	2.2	V
Forward Voltage	$V_{F2}$	$I_F = 1\text{ uA}$	1.1	-	1.7	V
Reverse Current	$I_R$	$V_R = 5\text{ V}$	-	-	0.1	$\mu\text{A}$
Luminous Intensity *2	$I_V$	$I_F = 5\text{ mA}$	20	-	78	mcd
Dominant Wavelength*3	$W_D$	$I_F = 5\text{ mA}$	584	-	594	nm
Viewing Angle *4	$2\theta_{1/2}$	$I_F = 5\text{ mA}$	-	130	-	$^\circ$



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## 3528 RGB SMD PKG



## Delivery Performance

1. 適用ユニット: : LG電子エアコン
2. 年間所要量 : 3KK/年
3. ESD Level : 2K ↑

## LED specification

### Absolute Maximum Ratings( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Power Dissipation	$P_d$	44	mW
Continuous Forward Current	$I_F$	20	mA
Peak Forward Current *1	$I_{FP}$	100	mA
Operating Temperature	$T_{opr}$	-30 ~ 85	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40 ~ 100	$^\circ\text{C}$
Soldering Temperature	$T_{sol}$	260 (5sec)	$^\circ\text{C}$

\* 1 Duty ratio = 1/10, Pulse width = 0.1ms

### Electro-optical Characteristics( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Forward Voltage	$V_{F1}$	$I_F = 5\text{ mA}$	1.6	-	2.2	V
Forward Voltage	$V_{F2}$	$I_F = 1\text{ uA}$	1.1	-	1.7	V
Reverse Current	$I_R$	$V_R = 5\text{ V}$	-	-	0.1	$\mu\text{A}$
Luminous Intensity *2	$I_V$	$I_F = 5\text{ mA}$	20	-	78	mcd
Dominant Wavelength*3	$W_D$	$I_F = 5\text{ mA}$	584	-	594	nm
Viewing Angle *4	$2\theta_{1/2}$	$I_F = 5\text{ mA}$	-	130	-	$^\circ$