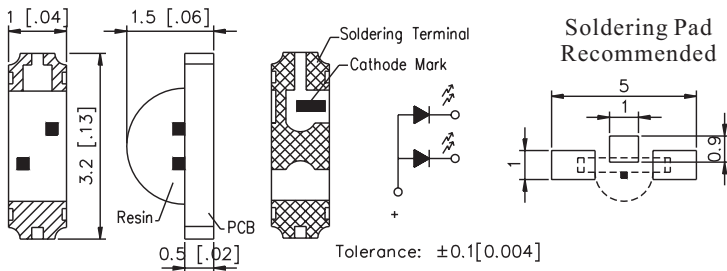


110 Series 1204 (3.2x1.0x1.5mm)



● Absolute Maximum Ranges (Ta=25°C)

Power Dissipation	P _D	78mW
DC Forward Current	I _F	30mA
Pulsed Forward Current	I _{FP}	100mA
Reverse Voltage	V _R	5V
Operating Temperature	T _{opr}	-30~+80°C
Storage Temperature	T _{stg}	-40~+85°C

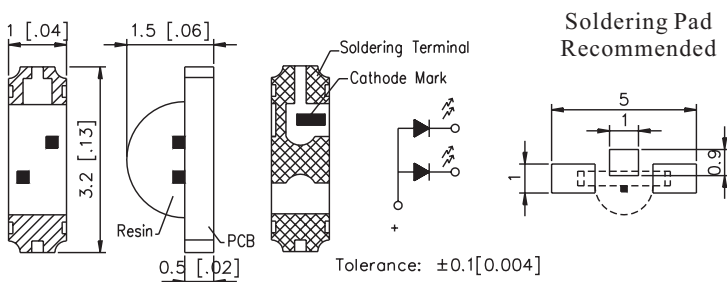
*Polarity referring onto the cathode mark is reversed on the UR/HR/SR

● Electrical and Optical Characteristics (I_f=20mA, Ta=25°C)

Part No.	Chip			V _f (V)		Luminous Intensity I _v *		View Angle (Deg.)
	Material	Emitting Color	Wavelength (nm)	Typ.	Max.	Min. (mcd)	Typ. (mcd)	
110SR	AlGaAs	Super Red	640	1.85	2.3	10	15	110
110HY	GaAsP	Yellow	585	2.1	2.7	3	6	110
110YG	GaP	Yellow-green	570	2.3	2.7	10	15	110
110UHR	AlGaInP	Ultra Red	645	2.1	2.6	40	60	110
110UHD	AlGaInP	Ultra Orange	620	2.1	2.5	40	55	110
110USO	AlGaInP	Ultra Amber	610	2.1	2.6	70	90	110
110UHY	AlGaInP	Ultra Yellow	590	2.1	2.6	40	60	110
110UYG	AlGaInP	Ultra Yellow-green	570	2.2	2.7	30	50	110
110DLG	InGaN	Pure Green	525	3.5	4.2	80	105	110
110DBG	InGaN	Bluish-green	505	3.5	4.2	80	90	110
110CB	InGaN	Blue	470	3.5	4.2	30	40	110

* Per NIST standards

115 Series 1204 (3.2x1.0x1.5mm)



● Absolute Maximum Ranges (Ta=25°C)

Power Dissipation	P _D	78mW
DC Forward Current	I _F	30mA
Pulsed Forward Current	I _{FP}	100mA
Reverse Voltage	V _R	5V
Operating Temperature	T _{opr}	-30~+80°C
Storage Temperature	T _{stg}	-40~+85°C

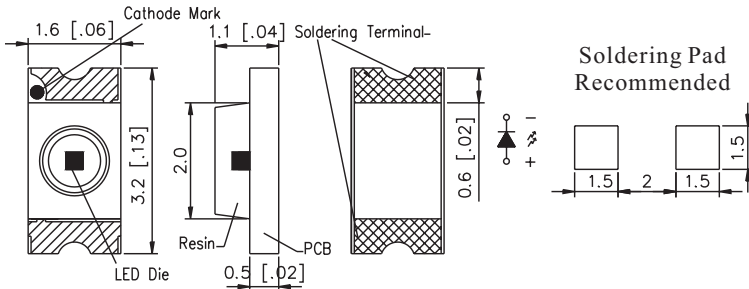
*Polarity referring onto the cathode mark is reversed on the UR/HR/SR

● Electrical and Optical Characteristics (I_f=20mA, Ta=25°C)

Part No.	Chip			V _f (V)		Luminous Intensity I _v *		View Angle (Deg.)
	Material	Emitting Color	Wavelength (nm)	Typ.	Max.	Min. (mcd)	Typ. (mcd)	
115SD/YG	GaAsP	Super Orange	640	2.1	2.6	5	10	110
	GaP	Yellow-green	570	2.3	2.7	10	15	
115UHY/UYG	AlGaInP	Ultra Yellow	590	2.1	2.6	40	60	110
	AlGaInP	Ultra Yellow-green	570	2.2	2.7	30	50	
115UHR/UYG	AlGaInP	Ultra Red	645	2.1	2.6	40	60	110
	AlGaInP	Ultra Yellow-green	570	2.2	2.7	30	50	

* Per NIST standards

150 Series 1206 (3.2x1.6x1.1mm)



● Absolute Maximum Ranges (Ta=25°C)

Power Dissipation	P _D	78mW
DC Forward Current	I _F	30mA
Pulsed Forward Current	I _{FP}	100mA
Reverse Voltage	V _R	5V
Operating Temperature	T _{opr}	-30~+80°C
Storage Temperature	T _{stg}	-40~+85°C

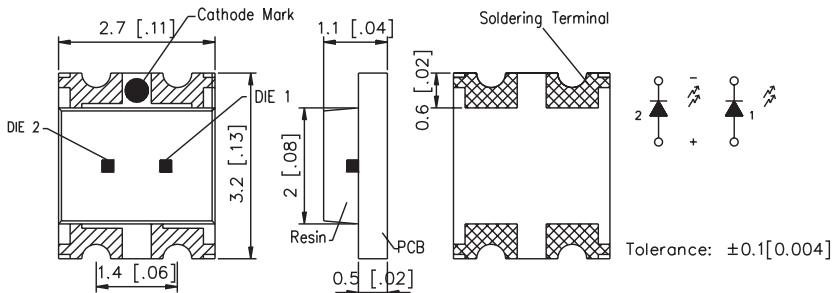
*Polarity referring onto the cathode mark is reversed on the UR/HR/SR

● Electrical and Optical Characteristics (I_f=20mA, Ta=25°C)

Part No.	Chip			V _f (V)		Luminous Intensity I _v *		View Angle (Deg.)
	Material	Emitting Color	Wavelength (nm)	Typ.	Max.	Min. (mcd)	Typ. (mcd)	
150SR	AlGaAs	Super Red	640	1.85	2.3	6	13	140
150HY	GaAsP	Yellow	585	2.1	2.7	3	6	140
150YG	GaP	Yellow-green	570	2.3	2.7	10	15	140
150UHR	AlGaInP	Ultra Red	645	2.1	2.6	40	80	140
150UHD	AlGaInP	Ultra Orange	620	2.1	2.5	50	110	140
150USO	AlGaInP	Ultra Amber	610	2.1	2.6	35	70	140
150UHY	AlGaInP	Ultra Yellow	590	2.1	2.6	40	75	140
150UYG	AlGaInP	Ultra Yellow-green	570	2.2	2.7	15	45	140
150DLG	InGaN	Pure Green	525	3.5	4.2	80	100	140
150DBG	InGaN	Bluish-green	505	3.5	4.2	80	110	140
150CB	InGaN	Blue	470	3.5	4.2	20	30	140

* Per NIST standards

155 Series 1210 (3.2x2.7x1.1mm)

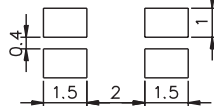


● Absolute Maximum Ranges (Ta=25°C)

Power Dissipation	P _D	78mW
DC Forward Current	I _F	30mA
Pulsed Forward Current	I _{FP}	100mA
Reverse Voltage	V _R	5V
Operating Temperature	T _{opr}	-30~+80°C
Storage Temperature	T _{stg}	-40~+85°C

*Polarity referring onto the cathode mark is reversed on the UR/HR/SR

Soldering Pad Recommended

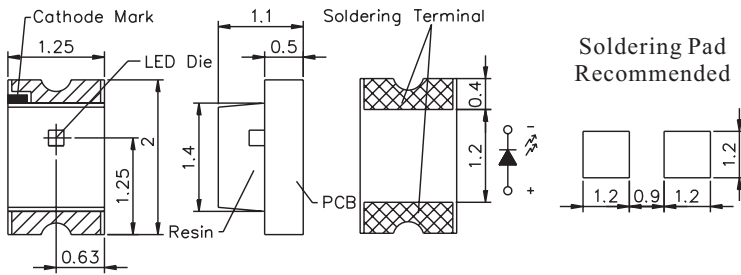


● Electrical and Optical Characteristics (I_f=20mA, Ta=25°C)

Part No.	Chip			V _f (V)		Luminous Intensity I _v *		View Angle (Deg.)
	Material	Emitting Color	Wavelength (nm)	Typ.	Max.	Min. (mcd)	Typ. (mcd)	
155SD/YG	GaAsP	Super Orange	640	2.1	2.6	5	8	130
	GaP	Yellow-green	570	2.3	2.7	10	15	
155UHY/UYG	AlGaInP	Ultra Yellow	590	2.1	2.6	55	70	130
	AlGaInP	Ultra Yellow-green	570	2.2	2.7	30	45	
155UHR/UYG	AlGaInP	Ultra Red	645	2.1	2.6	60	80	130
	AlGaInP	Ultra Yellow-green	570	2.2	2.7	30	45	

* Per NIST standards

170 Series 0805 (2.0x1.25x1.1mm)



● Absolute Maximum Ranges (Ta=25°C)

Power Dissipation	P _D	78mW
DC Forward Current	I _F	30mA
Pulsed Forward Current	I _{FP}	100mA
Reverse Voltage	V _R	5V
Operating Temperature	T _{opr}	-30~+80°C
Storage Temperature	T _{stg}	-40~+85°C

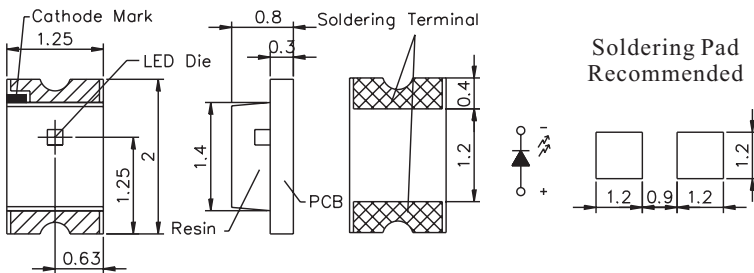
*Polarity referring onto the cathode mark is reversed on the UR/HR/SR

● Electrical and Optical Characteristics (I_f=20mA, Ta=25°C)

Part No.	Chip			V _f (V)		Luminous Intensity I _v *		View Angle (Deg.)
	Material	Emitting Color	Wavelength (nm)	Typ.	Max.	Min. (mcd)	Typ. (mcd)	
170SR	AlGaAs	Super Red	640	1.85	2.3	6	13	130
170HY	GaAsP	Yellow	585	2.1	2.7	3	6	130
170YG	GaP	Yellow-green	570	2.3	2.7	10	15	130
170UHR	AlGaInP	Ultra Red	645	2.1	2.6	40	80	130
170UHD	AlGaInP	Ultra Orange	620	2.1	2.5	50	110	130
170USO	AlGaInP	Ultra Amber	610	2.1	2.6	35	70	130
170UHY	AlGaInP	Ultra Yellow	590	2.1	2.6	40	75	130
170UYG	AlGaInP	Ultra Yellow-green	570	2.2	2.7	15	45	130
170DLG	InGaN	Pure Green	525	3.5	4.2	80	100	130
170DBG	InGaN	Bluish-green	505	3.5	4.2	80	110	130
170CB	InGaN	Blue	470	3.5	4.2	20	30	130

* Per NIST standards

172 Series 0805 (2.0x1.25x0.8mm)



● Absolute Maximum Ranges (Ta=25°C)

Power Dissipation	P _D	78mW
DC Forward Current	I _F	30mA
Pulsed Forward Current	I _{FP}	100mA
Reverse Voltage	V _R	5V
Operating Temperature	T _{opr}	-30~+80°C
Storage Temperature	T _{stg}	-40~+85°C

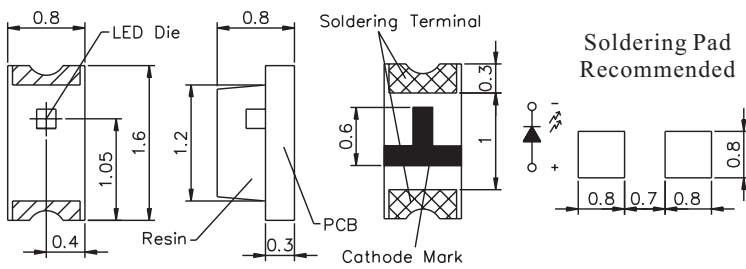
*Polarity referring onto the cathode mark is reversed on the UR/HR/SR

● Electrical and Optical Characteristics (I_f=20mA, Ta=25°C)

Part No.	Chip			V _f (V)		Luminous Intensity I _v *		View Angle (Deg.)
	Material	Emitting Color	Wavelength (nm)	Typ.	Max.	Min. (mcd)	Typ. (mcd)	
172SR	AlGaAs	Super Red	640	1.85	2.3	6	13	130
172HY	GaAsP	Yellow	585	2.1	2.7	3	6	130
172YG	GaP	Yellow-green	570	2.3	2.7	10	15	130
172UHR	AlGaInP	Ultra Red	645	2.1	2.6	40	80	130
172UHD	AlGaInP	Ultra Orange	620	2.1	2.5	50	105	130
172USO	AlGaInP	Ultra Amber	610	2.1	2.6	35	75	130
172UHY	AlGaInP	Ultra Yellow	590	2.1	2.6	40	75	130
172UYG	AlGaInP	Ultra Yellow-green	570	2.2	2.7	15	45	130
172DLG	InGaN	Pure Green	525	3.5	4.2	80	100	130
172DBG	InGaN	Bluish-green	505	3.5	4.2	80	110	130
172CB	InGaN	Blue	470	3.5	4.2	20	30	130

* Per NIST standards

190 Series 0603 (1.6x0.8x0.8mm)



● Absolute Maximum Ranges (Ta=25°C)

Power Dissipation	P _D	78mW
DC Forward Current	I _F	30mA
Pulsed Forward Current	I _{FP}	100mA
Reverse Voltage	V _R	5V
Operating Temperature	T _{opr}	-30~+80°C
Storage Temperature	T _{stg}	-40~+85°C

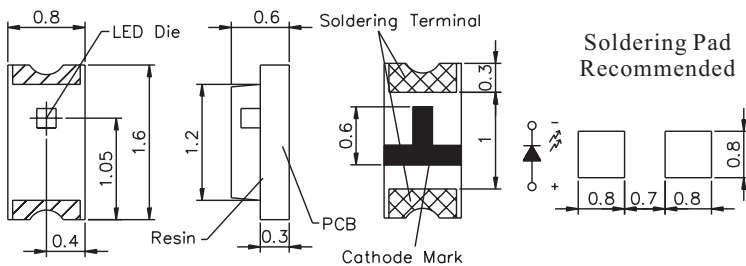
*Polarity referring onto the cathode mark is reversed on the UR/HR/SR

● Electrical and Optical Characteristics (I_f=20mA, Ta=25°C)

Part No.	Chip			V _f (V)		Luminous Intensity I _v *		View Angle (Deg.)
	Material	Emitting Color	Wavelength (nm)	Typ.	Max.	Min. (mcd)	Typ. (mcd)	
190SR	AlGaAs	Super Red	640	1.85	2.3	6	13	130
190HY	GaAsP	Yellow	585	2.1	2.7	3	6	130
190YG	GaP	Yellow-green	570	2.3	2.7	8	10	130
190UHR	AlGaInP	Ultra Red	645	2.1	2.6	30	75	130
190UHD	AlGaInP	Ultra Orange	620	2.1	2.5	50	105	130
190USO	AlGaInP	Ultra Amber	610	2.1	2.6	35	75	130
190UHY	AlGaInP	Ultra Yellow	590	2.1	2.6	20	65	130
190UYG	AlGaInP	Ultra Yellow-green	570	2.2	2.7	15	45	130
190DLG	InGaN	Pure Green	525	3.5	4.2	80	100	130
190DBG	InGaN	Bluish-green	505	3.5	4.2	80	110	130
190CB	InGaN	Blue	470	3.5	4.2	20	30	130

* Per NIST standards

192 Series 0603 (1.6x0.8x0.6mm)



● Absolute Maximum Ranges (Ta=25°C)

Power Dissipation	P _D	78mW
DC Forward Current	I _F	30mA
Pulsed Forward Current	I _{FP}	100mA
Reverse Voltage	V _R	5V
Operating Temperature	T _{opr}	-30~+80°C
Storage Temperature	T _{stg}	-40~+85°C

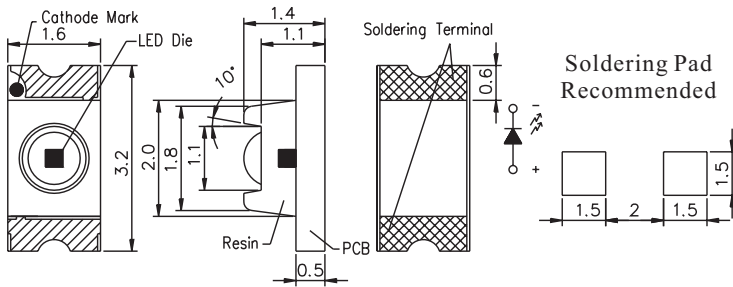
*Polarity referring onto the cathode mark is reversed on the UR/HR/SR

● Electrical and Optical Characteristics (I_f=20mA, Ta=25°C)

Part No.	Chip			V _f (V)		Luminous Intensity I _v *		View Angle (Deg.)
	Material	Emitting Color	Wavelength (nm)	Typ.	Max.	Min. (mcd)	Typ. (mcd)	
192UHR	AlGaInP	Ultra Red	645	2.1	2.6	30	75	130
192UHD	AlGaInP	Ultra Orange	620	2.1	2.5	50	105	130
192USO	AlGaInP	Ultra Amber	610	2.1	2.6	35	75	130
192UHY	AlGaInP	Ultra Yellow	590	2.1	2.6	20	65	130
192UYG	AlGaInP	Ultra Yellow-green	570	2.2	2.7	15	45	130
192DLG	InGaN	Pure Green	525	3.5	4.2	80	100	130
192DBG	InGaN	Bluish-green	505	3.5	4.2	80	100	130
192CB	InGaN	Blue	470	3.5	4.2	20	25	130

* Per NIST standards

350 Series 1206 (3.2x1.6x1.4mm)



● Absolute Maximum Ranges (Ta=25°C)

Power Dissipation	P _D	78mW
DC Forward Current	I _F	30mA
Pulsed Forward Current	I _{FP}	100mA
Reverse Voltage	V _R	5V
Operating Temperature	T _{opr}	-30~+80°C
Storage Temperature	T _{stg}	-40~+85°C

*Polarity referring onto the cathode mark is reversed on the UR/HR/SR

● Electrical and Optical Characteristics (I_f=20mA, Ta=25°C)

Part No.	Chip			V _f (V)		Luminous Intensity I _v *		View Angle (Deg.)
	Material	Emitting Color	Wavelength (nm)	Typ.	Max.	Min. (mcd)	Typ. (mcd)	
350SR	AlGaAs	Super Red	640	1.85	2.3	55	75	30
350HY	GaAsP	Yellow	585	2.1	2.7	10	16	30
350YG	GaP	Yellow-green	570	2.3	2.7	30	40	30
350UHR	AlGaInP	Ultra Red	645	2.1	2.6	250	300	30
350UHD	AlGaInP	Ultra Orange	620	2.1	2.5	500	580	30
350USO	AlGaInP	Ultra Amber	610	2.1	2.6	300	380	30
350UHY	AlGaInP	Ultra Yellow	590	2.1	2.6	220	270	30
350UYG	AlGaInP	Ultra Yellow-green	570	2.2	2.7	100	130	30
350DLG	InGaN	Pure Green	525	3.5	4.2	230	280	30
350DBG	InGaN	Bluish-green	505	3.5	4.2	200	240	30
350CB	InGaN	Blue	470	3.5	4.2	100	125	30

* Per NIST standards