

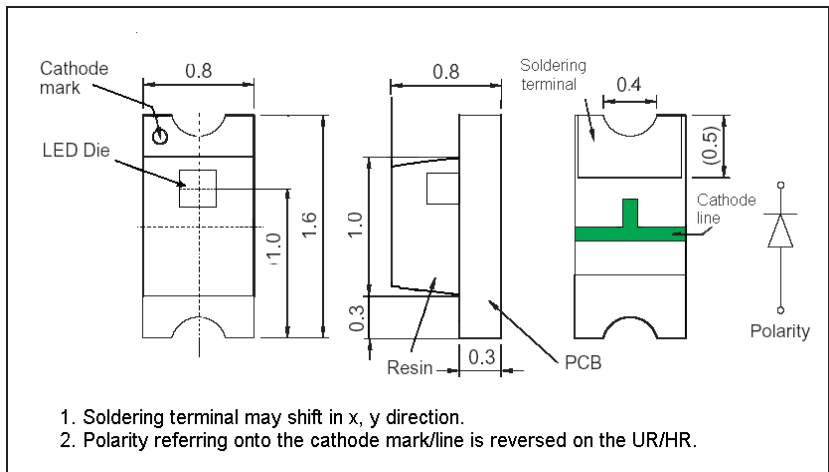
## Characters

- Chip LED (1.6x0.8x0.8)
- Super compact type

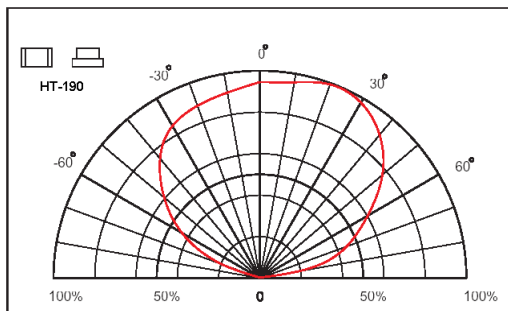
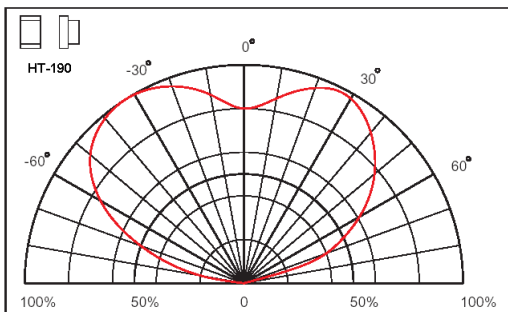


## Package Outline Dimensions

(Unit:mm Tolerance:+/-0.1)

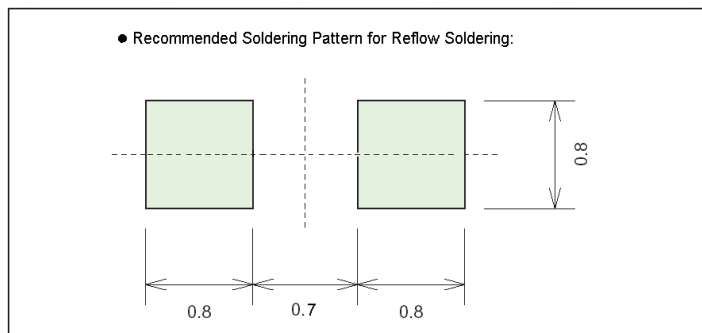


## Directive Characteristics



## Recommended Soldering Pattern

Unit: mm



## Absolute Maximum Ratings

(Ta=25 °C)

Item	Symbol	Value						Unit
		GaP	GaAsP	AlGaAs	AllnGaP	GaN	InGaN	
Power Dissipation	P <sub>D</sub>	65	65	66	72	68	80	mW
DC Forward Current	I <sub>F</sub>	25	25	30	30	15	20	mA
Pulsed Forward Current	I <sub>FP</sub> *	100	100	100	100	35	80	mA
Reverse Voltage (I <sub>R</sub> =100uA )	V <sub>R</sub>	5						V
Operating Temperature	T <sub>OP</sub>	-30 to 80						°C
Storage Temperature	T <sub>ST</sub>	-40 to 85						°C

\*Condition for I<sub>FP</sub> is pulse of 1/10 duty and 0.1msec width

## Electrical-Optical Characteristics

(Ta=25°C)

Code for parts	Lighting Color	Material	Forward Voltage (V)		Wavelength (nm) typ			Luminous Intensity (mcd)*		I <sub>F</sub> (mA)
			typ	max	λ <sub>D</sub>	λ <sub>P</sub>	Δλ	min	typ	
HT-190YG	Yellow Green	GaP	2.2	2.6	573	568	30	6.3	14	20
HT-190Y	Yellow	GaAsP	2.1	2.6	590	589	35	2.5	6	20
HT-190D	Amber	GaAsP	2.1	2.6	608	610	35	2.5	9	20
HT-190SD	Super Bright Orange	GaAsP	2.1	2.6	629	642	35	4	10	20
HT-190UR	Super Bright Red	AlGaAs	1.8	2.2	643	660	20	6.3	16	20

Code for parts	Lighting Color	Material	Forward Voltage (V)		Wavelength (nm) typ			Luminous Intensity (mcd)*		I <sub>F</sub> (mA)
			typ	max	λ <sub>D</sub>	λ <sub>P</sub>	Δλ	min	typ	
HT-190UYG	Ultra Bright Yellow Green	AllnGaP	2.0	2.4	573	574	20	25	40	20
HT-190UY	Ultra Bright Yellow	AllnGaP	1.9	2.4	591	593	15	25	60	20
HT-190UD	Ultra Bright Amber	AllnGaP	1.9	2.4	605	609	17	25	60	20
HT-190USD	Ultra Bright Orange	AllnGaP	1.9	2.4	622	636	17	25	60	20
HT-190URO	Ultra Bright Red	AllnGaP	1.9	2.4	632	645	22	25	40	20

Code for parts	Lighting Color	Material	I <sub>F</sub> =20mA							I <sub>F</sub> =5mA						
			Forward Voltage (V)		Wavelength (nm) typ			Luminous Intensity (mcd)*		Forward Voltage (V)		Wavelength (nm) typ			Luminous Intensity (mcd)*	
			typ	max	λ <sub>D</sub>	λ <sub>P</sub>	Δλ	min	typ	typ	max	λ <sub>D</sub>	λ <sub>P</sub>	Δλ	min	typ
HT-190CBS	Blue	GaN	4.2	4.5	466	428	65	2.5	8	-	-	-	-	-	-	
HT-190CB	Blue	InGaN	3.6	4.0	470	468	26	25	40	2.9	3.35	472	470	26	10	16
HT-190CG	Green	InGaN	3.6	4.0	527	518	35	63	130	2.9	3.35	529	520	35	25	40
HT-190CW	White	InGaN	3.6	4.0	X=0.29 Y=0.31	468	-	100	250	2.9	3.35	X=0.29 Y=0.32	470	-	40	80
HT-190NB	Blue	InGaN	3.3	3.9	470	468	40	25	40	2.8	3.15	472	470	40	10	16
HT-190NG	Green	InGaN	3.3	3.9	527	520	40	63	130	2.8	3.15	529	522	40	25	40
HT-190NW	White	InGaN	3.3	3.9	X=0.29 Y=0.31	468	-	100	220	2.8	3.15	X=0.29 Y=0.32	470	-	40	70

\*Per NIST standards