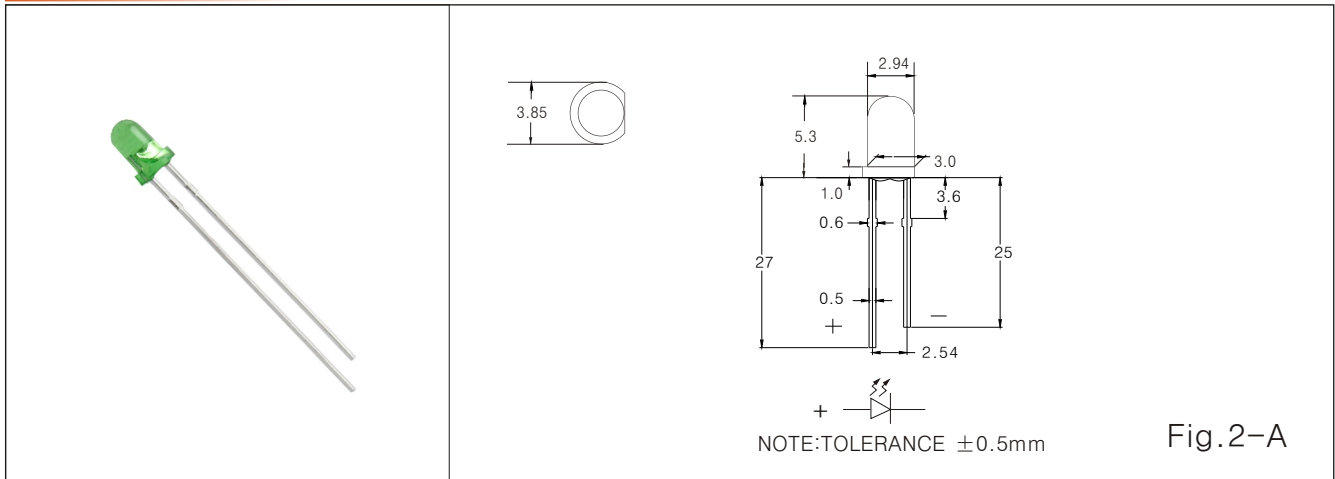


●  $\phi$  3 LED LAMP



Part Number	Chip		Lens color	V <sub>F</sub> I <sub>F</sub> =20mA			Reverse Current TYP.	Peak Forward Current MAX.	Power Dissipation TYP.	I <sub>v</sub> (mcd) I <sub>F</sub> =20mA			View Angle
	Emitted color	$\lambda_p$ (nm)		MIN	TYP	MAX				MIN	TYP	MAX	
3R4PD	● RED	640	W.D.	2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	8	---	---	30
3Y4PD	● YELLOW	590	W.D.	2.0	2.1	2.5	10 $\mu$ A	200mA	100mW	10	---	---	30
3G4PD	● GREEN	570	W.D.	2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	7	---	---	30
3R4HD	● RED	640	W.D.	1.9	2.0	2.1	10 $\mu$ A	200mA	100mW	---	60	---	30
3O4HD	● ORANGE	600	W.D.	1.9	2.0	2.1	10 $\mu$ A	200mA	100mW	---	60	---	30
3Y4HD	● YELLOW	590	W.D.	2.0	2.1	2.5	10 $\mu$ A	200mA	100mW	---	55	---	30
3G4HD	● GREEN	570	W.D.	2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	---	70	---	30
3R4SC	● RED	640	W.C.	1.7	1.8	2.1	10 $\mu$ A	200mA	100mW	---	700	---	30
3O4SC	● ORANGE	600	W.C.	1.9	2.0	2.4	10 $\mu$ A	200mA	100mW	---	800	---	30
3Y4SC	● YELLOW	590	W.C.	2.0	2.1	2.5	10 $\mu$ A	200mA	100mW	600	---	---	30
3G4SC	● GREEN	525	W.C.	2.8	3.2	3.6	10 $\mu$ A	200mA	100mW	---	2500	---	30
3W4SC	○ WHITE	B/Y	W.C.	2.8	3.2	3.6	10 $\mu$ A	200mA	100mW	---	1350	---	30
3B4SC	● BLUE	470	W.C.	2.8	3.2	3.6	10 $\mu$ A	200mA	100mW	---	2500	---	30
3P4SC	● PURPLE	410	W.C.	3.0	3.2	3.6	10 $\mu$ A	200mA	100mW	---	800	---	30
3Y4VC	● YELLOW	590	W.C.	2.0	2.1	2.5	10 $\mu$ A	200mA	100mW	3050	---	---	30
3R4VC	● RED	640	W.C.	1.7	1.8	2.1	10 $\mu$ A	200mA	100mW	---	2500	---	30
3W4VC	○ WHITE	B/Y	W.C.	2.8	3.2	3.6	10 $\mu$ A	200mA	100mW	2500	---	---	30
3G4VC	● GREEN	525	W.C.	2.8	3.2	3.6	10 $\mu$ A	200mA	100mW	---	3500	---	30

● Packing Dimensions

NOTE:TOLERANCE  $\pm 0.5\text{mm}$  UNIT : mm

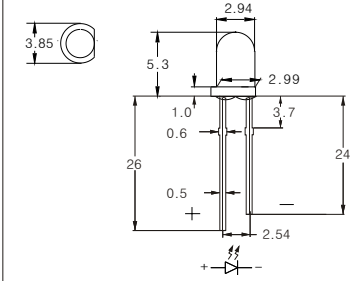


Fig.2-B

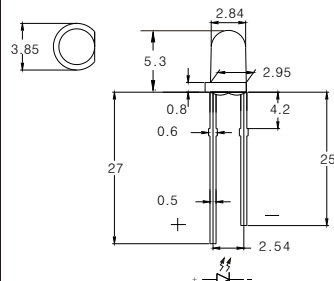


Fig.2-C

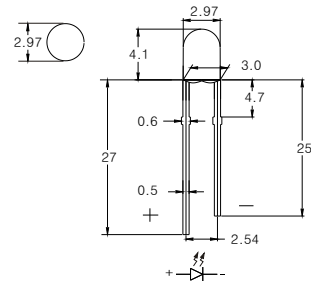


Fig.2-D

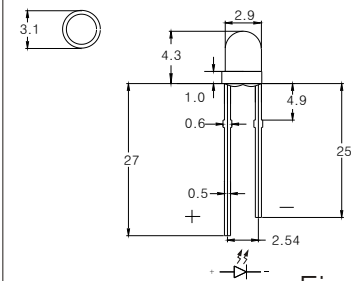


Fig.2-E

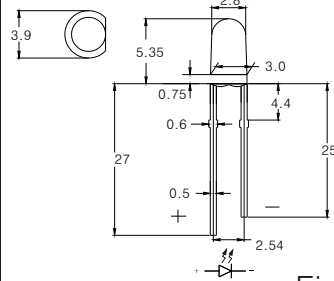


Fig.2-F

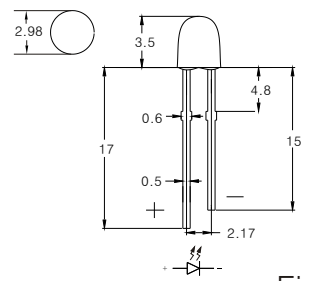


Fig.2-G

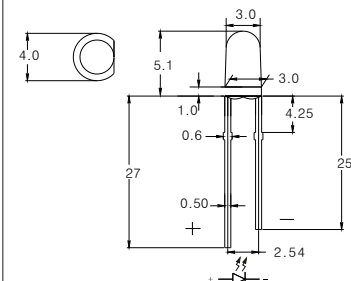


Fig.2-H

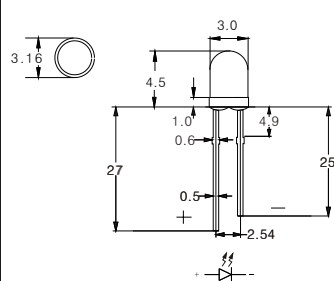


Fig.2-I

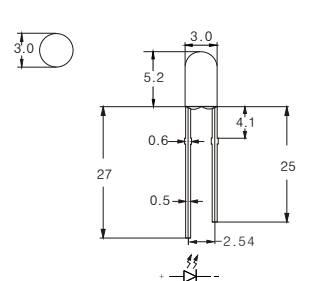


Fig.2-J

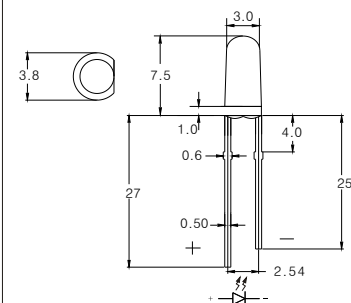


Fig.2-K

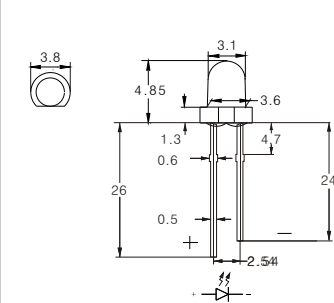


Fig.2-L

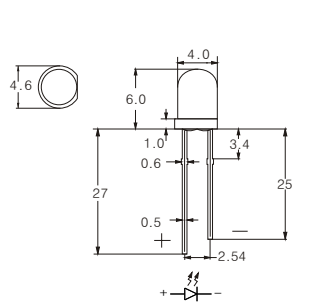
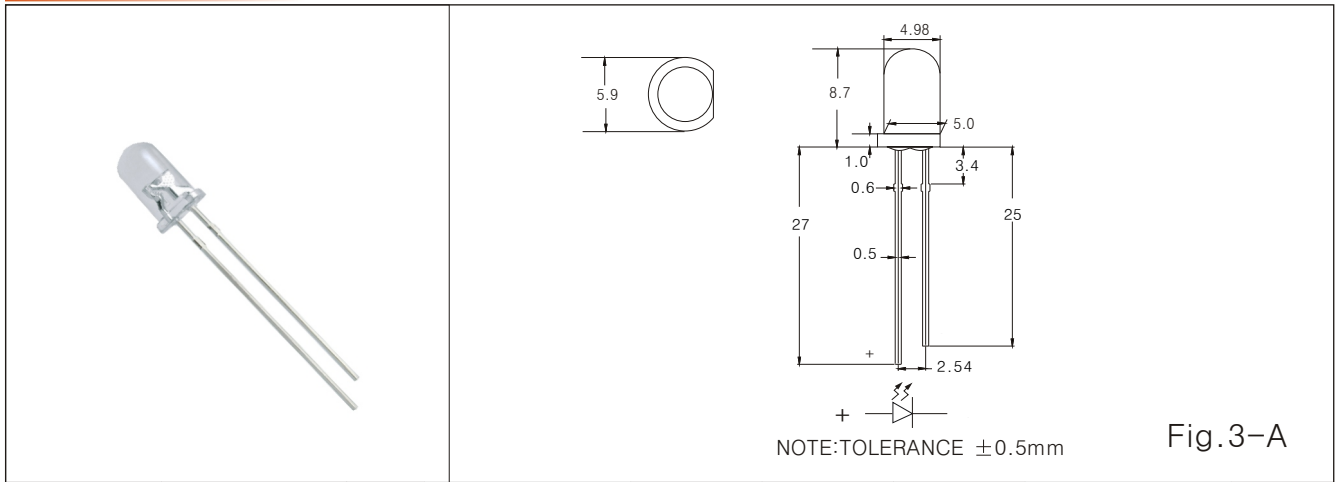


Fig.2-M

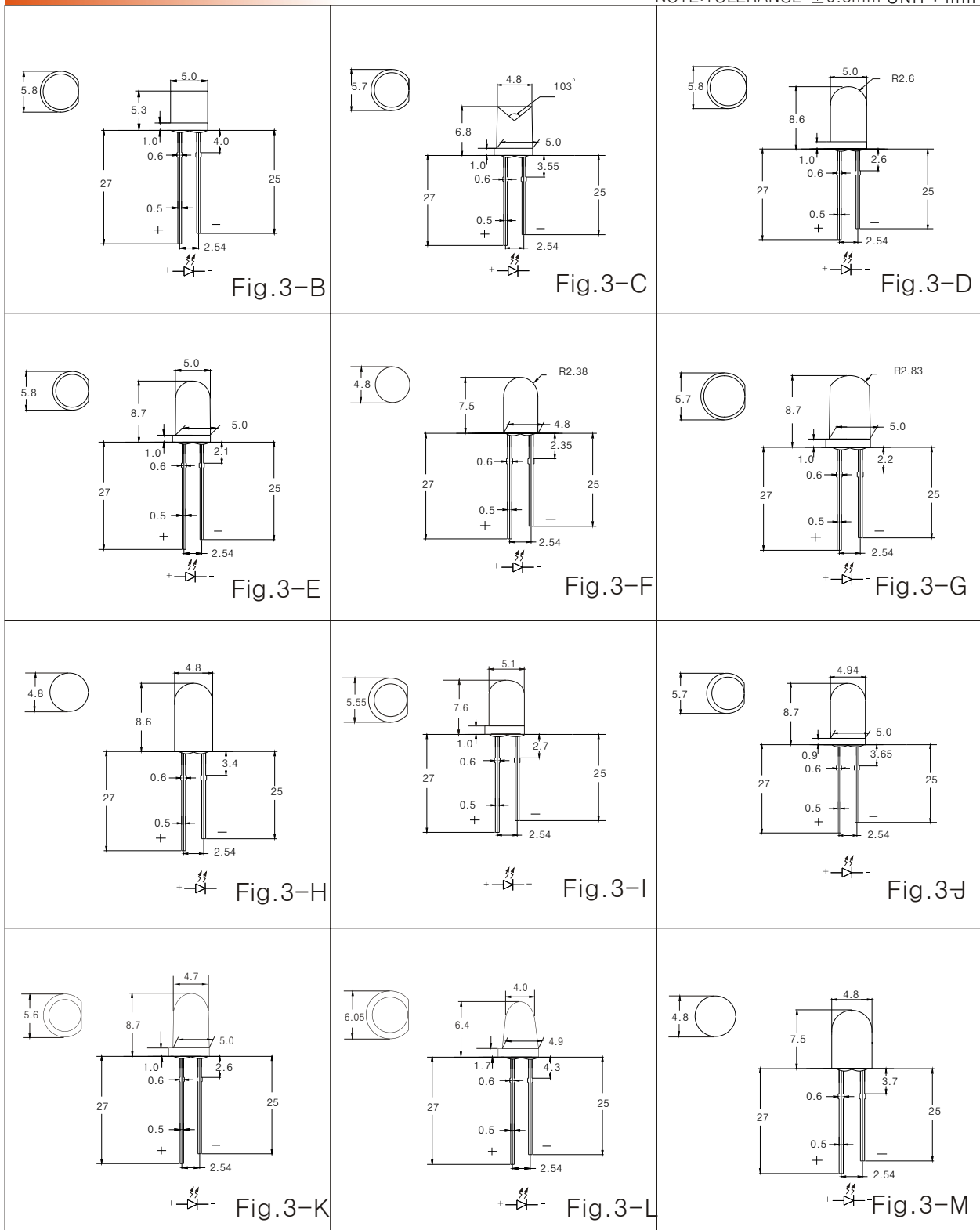
●  $\phi$  5 LED LAMP



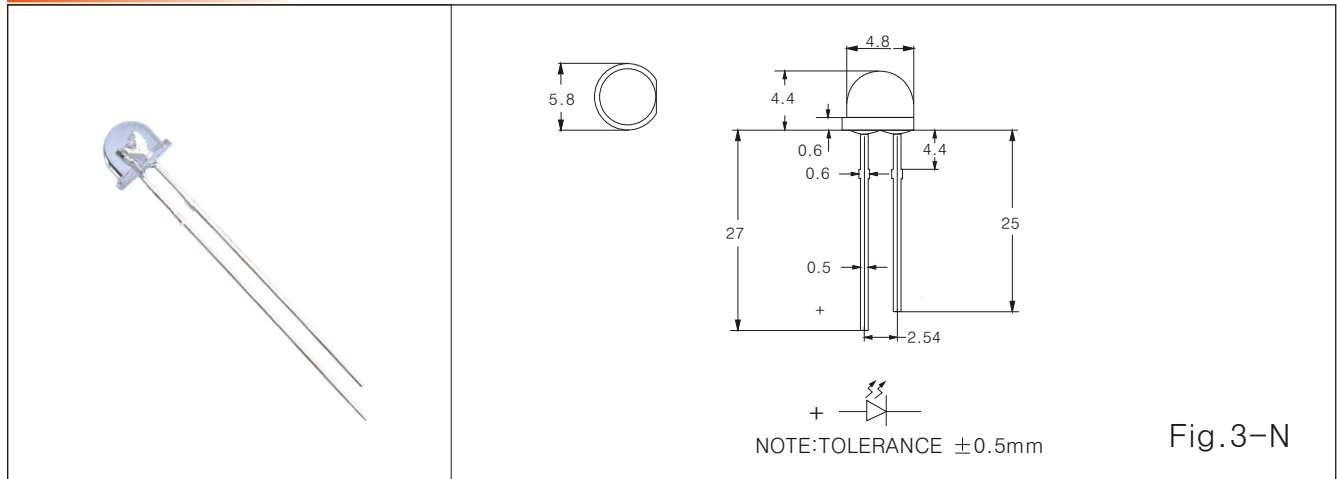
Part Number	Chip		Lens color	V <sub>F</sub> I <sub>F</sub> =20mA			Reverse Current TYP.	Peak Forward Current MAX.	Power Dissipation TYP.	I <sub>v</sub> (mcd) I <sub>F</sub> =20mA			View Angle
	Emitted color	$\lambda_P$ (nm)		MIN	TYP	MAX				MIN	TYP	MAX	
5R4PD	● RED	640	W.D.	2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	8	---	---	30
5Y4PD	● YELLOW	590	W.D.	2.0	2.1	2.5	10 $\mu$ A	200mA	100mW	10	---	---	30
5G4PD	● GREEN	570	W.D.	2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	7	---	---	30
5R3HD	● RED	640	W.D.	1.9	2.0	2.1	10 $\mu$ A	200mA	100mW	---	60	---	30
5O3HD	● ORANGE	600	W.D.	1.9	2.0	2.1	10 $\mu$ A	200mA	100mW	---	60	---	30
5Y3HD	● YELLOW	590	W.D.	2.0	2.1	2.5	10 $\mu$ A	200mA	100mW	---	55	---	30
5G3HD	● GREEN	570	W.D.	2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	---	70	---	30
5R4SC	● RED	640	W.C.	1.7	1.8	2.1	10 $\mu$ A	200mA	100mW	---	700	---	30
5O4SC	● ORANGE	600	W.C.	1.9	2.0	2.4	10 $\mu$ A	200mA	100mW	---	800	---	30
5Y3SC	● YELLOW	590	W.C.	2.0	2.1	2.5	10 $\mu$ A	200mA	100mW	600	---	---	30
5G4SC	● GREEN	570	W.C.	2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	500	---	---	30
5G4SC	● GREEN	525	W.C.	2.8	3.2	3.6	10 $\mu$ A	200mA	100mW	---	2500	---	30
5W4SC	○ WHITE	B/Y	W.C.	2.8	3.2	3.6	10 $\mu$ A	200mA	100mW	---	1350	---	30
5B4SC	● BLUE	470	W.C.	2.8	3.2	3.6	10 $\mu$ A	200mA	100mW	---	2500	---	30
5P4SC	● PURPLE	410	W.C.	3.0	3.2	3.6	10 $\mu$ A	200mA	100mW	---	800	---	30
5Y4VC	● YELLOW	590	W.C.	2.0	2.1	2.5	10 $\mu$ A	200mA	100mW	1550	---	---	30
5R4VC	● RED	640	W.C.	1.7	1.8	2.1	10 $\mu$ A	200mA	100mW	---	2500	---	30
5G4VC	● GREEN	525	W.C.	2.8	3.2	3.6	10 $\mu$ A	200mA	100mW	---	3500	---	30
5W4VC	○ WHITE	B/Y	W.C.	2.8	3.2	3.6	10 $\mu$ A	200mA	100mW	2500	---	---	30

● Packing Dimensions

NOTE:TOLERANCE  $\pm 0.5\text{mm}$  UNIT : mm

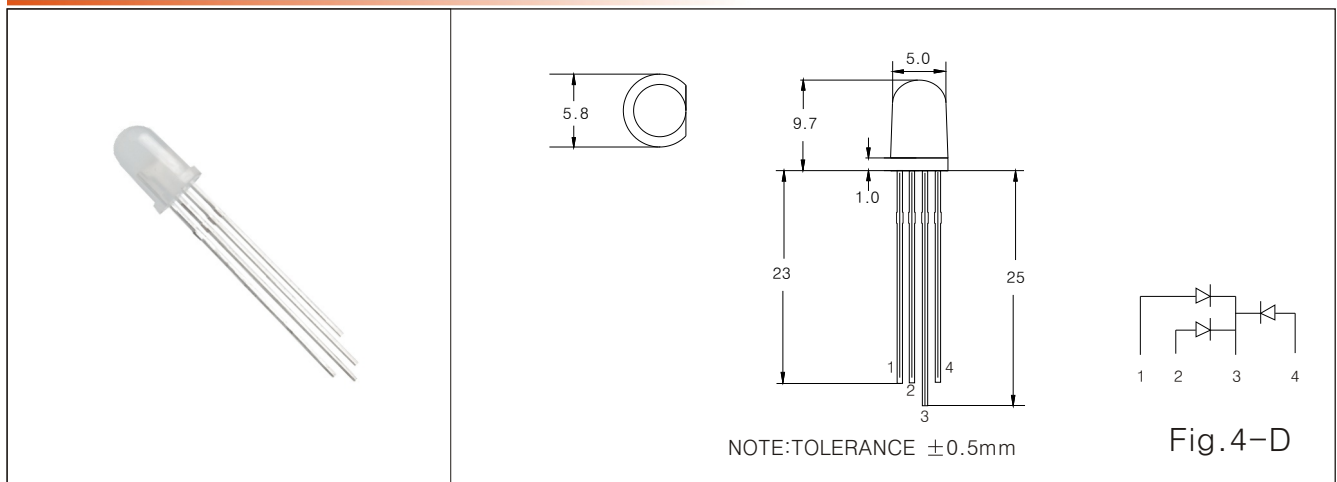


●  $\phi$  4.8 LED LAMP



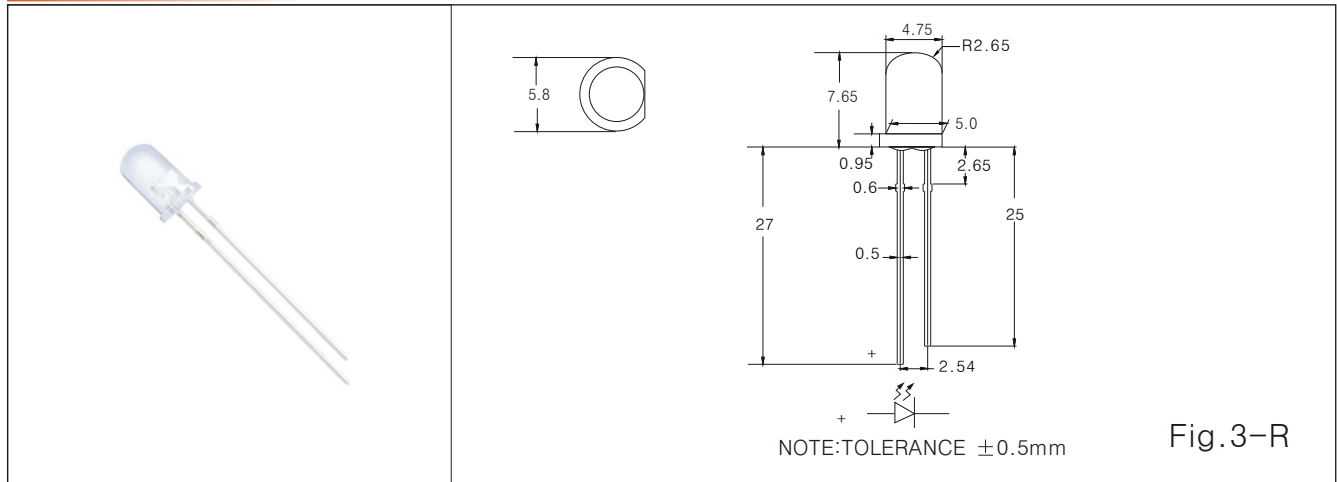
Part Number	Chip		Lens color	$V_F$ $I_F=20\text{mA}$			Reverse Current TYP.	Peak Forward Current MAX.	Power Dissipation TYP.	$I_V(\text{mcd})$ $I_F=20\text{mA}$			View Angle
	Emitted color	$\lambda_P$ (nm)		MIN	TYP	MAX				MIN	TYP	MAX	
5R4SC	● RED	640	W.C.	1.7	1.8	2.1	$10\mu\text{A}$	200mA	100mW	---	500	---	160
5G4SC	● GREEN	525	W.C.	2.8	3.2	3.6	$10\mu\text{A}$	200mA	100mW	---	2000	---	160
5W4SC	○ WHITE	B/Y	W.C.	2.8	3.2	3.6	$10\mu\text{A}$	200mA	100mW	---	1150	---	160
5B4SC	● BLUE	470	W.C.	2.8	3.2	3.6	$10\mu\text{A}$	200mA	100mW	---	2000	---	160
5R4VC	● RED	640	W.C.	1.7	1.8	2.1	$10\mu\text{A}$	200mA	100mW	---	2000	---	160
5G4VC	● GREEN	525	W.C.	2.8	3.2	3.6	$10\mu\text{A}$	200mA	100mW	---	3000	---	160

●  $\phi$  5 Bi-COLOR(MULTI-COLOR) LED LAMP



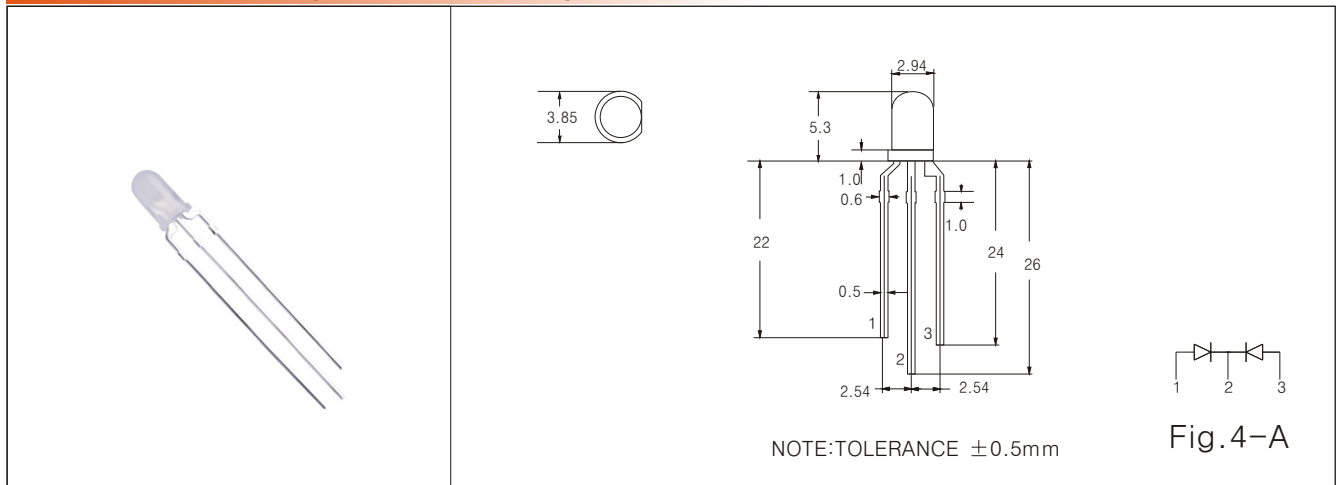
Part Number	Chip		Lens color	$V_F$ $I_F=20\text{mA}$			Reverse Current TYP.	Peak Forward Current MAX.	Power Dissipation TYP.	$I_V(\text{mcd})$ $I_F=20\text{mA}$			View Angle
	Emitted color	$\lambda_P$ (nm)		MIN	TYP	MAX				MIN	TYP	MAX	
5RGB9SW	● RED	640	W.D.	1.7	1.8	2.6	$10\mu\text{A}$	200mA	100mW	500	---	---	100
	● GREEN	525		2.8	3.2	3.6	$10\mu\text{A}$	200mA	100mW	850	---	---	100
	● BLUE	470		2.8	3.2	3.6	$10\mu\text{A}$	200mA	100mW	450	---	---	100

●  $\phi$  5 LED LAMP



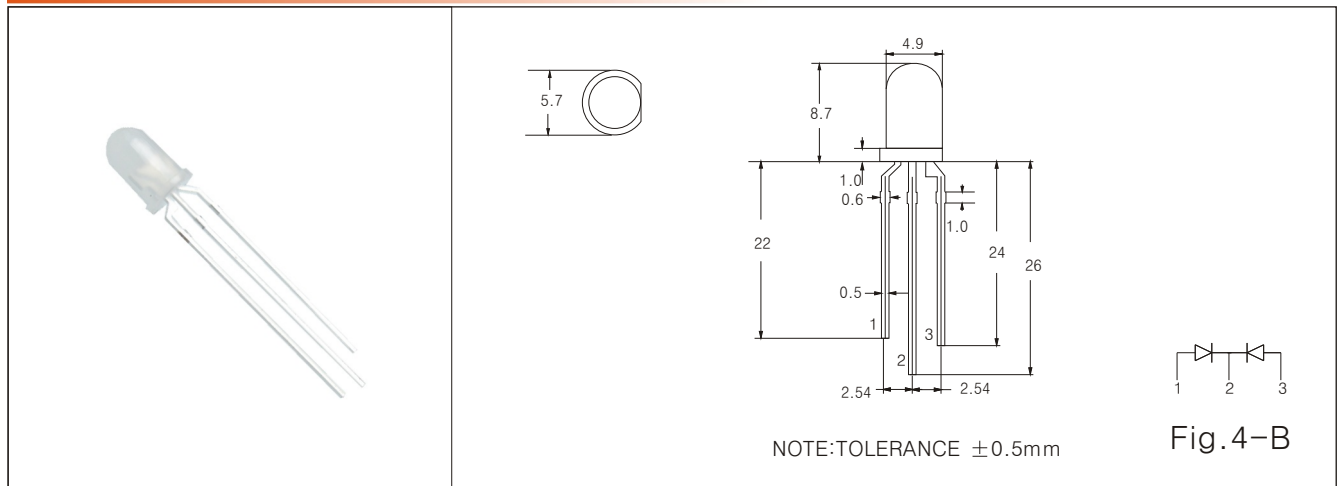
Part Number	Chip		Lens color	V <sub>F</sub> I <sub>F</sub> =20mA			Reverse Current TYP.	Peak Forward Current MAX.	Power Dissipation TYP.	I <sub>v</sub> (mcd) I <sub>F</sub> =20mA			View Angle
	Emitted color	$\lambda_P$ (nm)		MIN	TYP	MAX				MIN	TYP	MAX	
5R4SC	● RED	640	W.C.	1.7	1.8	2.1	10 $\mu$ A	200mA	100mW	---	2000	---	60
5G4SC	● GREEN	525	W.C.	2.8	3.2	3.6	10 $\mu$ A	200mA	100mW	---	2100	---	60
5W4SC	○ WHITE	B/Y	W.C.	2.8	3.2	3.6	10 $\mu$ A	200mA	100mW	---	1250	---	60
5B4SC	● BLUE	470	W.C.	2.8	3.2	3.6	10 $\mu$ A	200mA	100mW	---	2100	---	60

●  $\phi$  3 Bi-COLOR(MULTI-COLOR) LED LAMP



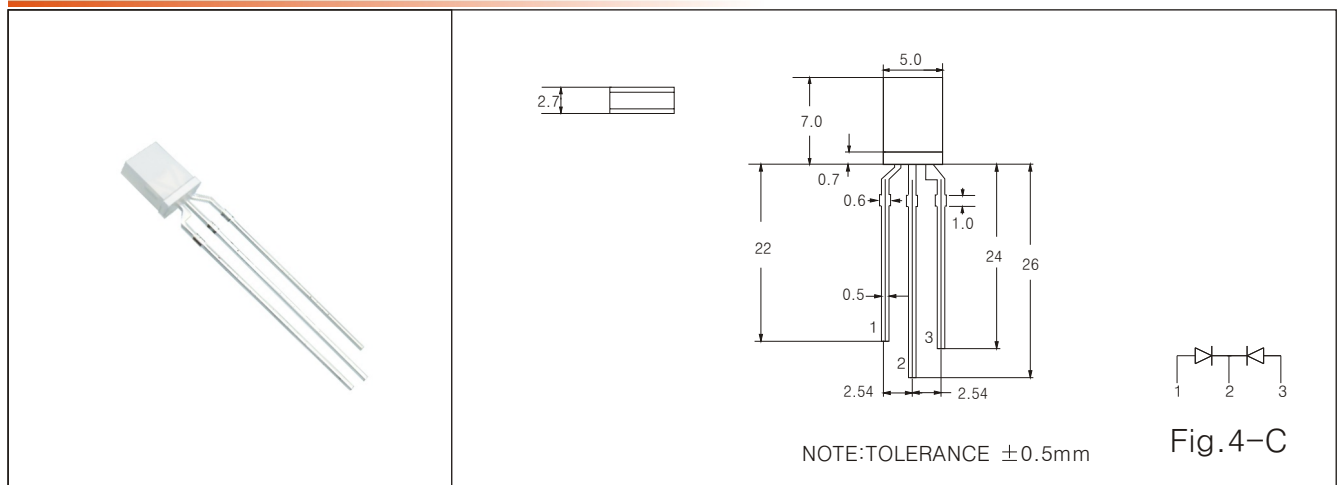
Part Number	Chip		Lens color	V <sub>F</sub> I <sub>F</sub> =20mA			Reverse Current TYP.	Peak Forward Current MAX.	Power Dissipation TYP.	I <sub>v</sub> (mcd) I <sub>F</sub> =20mA			View Angle
	Emitted color	$\lambda_P$ (nm)		MIN	TYP	MAX				MIN	TYP	MAX	
3RG9HW	● RED	640	W.D.	1.9	2.0	2.1	10 $\mu$ A	200mA	100mW	10	---	---	100
	● GREEN	570		2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	6	---	---	100
3RG9SW	● RED	640	W.D.	1.9	2.0	2.3	10 $\mu$ A	200mA	100mW	700	---	---	100
	● GREEN	570		2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	550	---	---	100

●  $\phi 5$  Bi-COLOR(MULTI-COLOR) LED LAMP



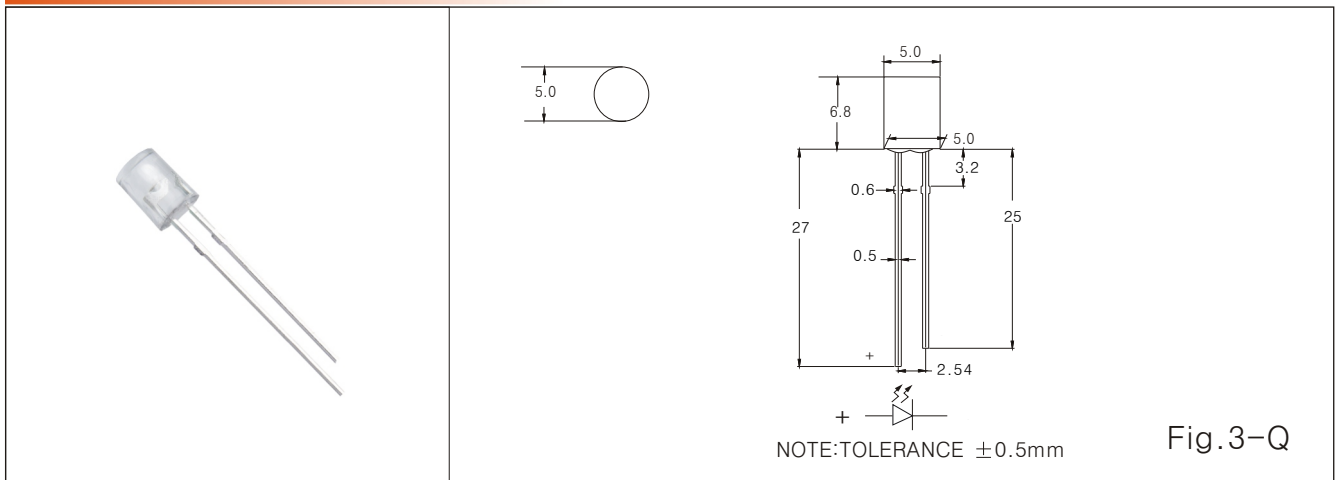
Part Number	Chip		Lens color	V <sub>F</sub> I <sub>F</sub> =20mA			Reverse Current TYP.	Peak Forward Current MAX.	Power Dissipation TYP.	I <sub>v</sub> (mcd) I <sub>F</sub> =20mA			View Angle
	Emitted color	$\lambda_P$ (nm)		MIN	TYP	MAX				MIN	TYP	MAX	
5RG9HW	● RED	640	W.D.	1.9	2.0	2.1	10 $\mu$ A	200mA	100mW	10	---	---	100
	● GREEN	570		2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	6	---	---	100
5RG9SW	● RED	640	W.D.	1.9	2.0	2.3	10 $\mu$ A	200mA	100mW	700	---	---	100
	● GREEN	570		2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	550	---	---	100

● 2x5 Bi-COLOR(MULTI-COLOR) LED LAMP



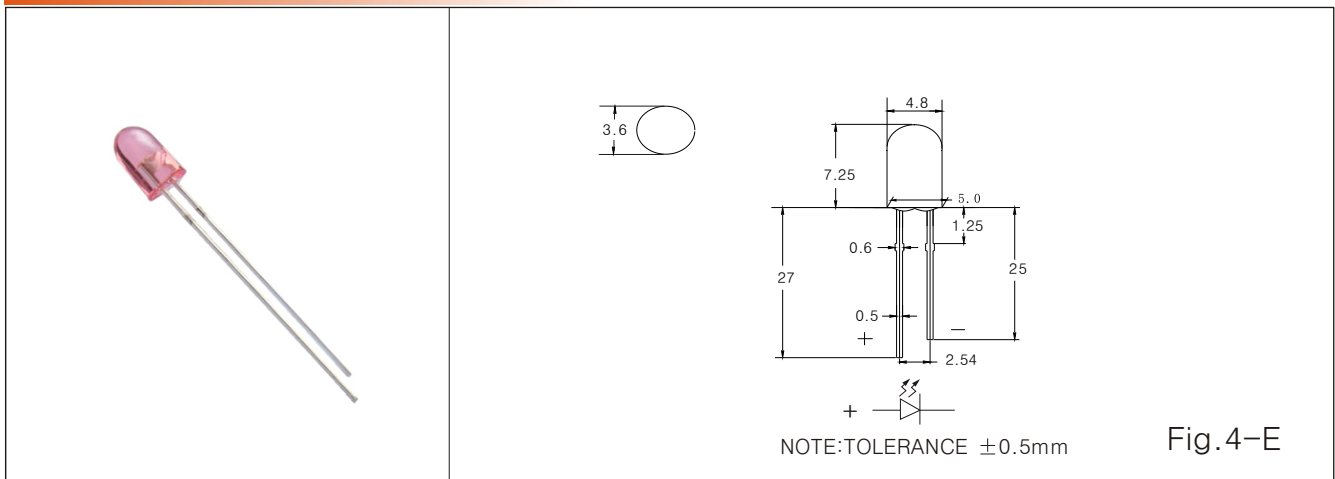
2RG59HW	● RED	640	W.D.	1.9	2.0	2.1	10 $\mu$ A	200mA	100mW	10	---	---	120
	● GREEN	570		2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	6	---	---	120
2RG59SW	● RED	640	W.D.	1.9	2.0	2.3	10 $\mu$ A	200mA	100mW	25	---	---	120
	● GREEN	570		2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	40	---	---	120

●  $\phi$  5 CYLINDRICAL LED LAMP



Part Number	Chip		Lens color	$V_F$ $I_F=20\text{mA}$			Reverse Current TYP.	Peak Forward Current MAX.	Power Dissipation TYP.	$I_V(\text{mcd})$ $I_F=20\text{mA}$			View Angle
	Emitted color	$\lambda_P$ (nm)		MIN	TYP	MAX				MIN	TYP	MAX	
5R4SC	● RED	640	W.C.	1.7	1.8	2.1	$10\mu\text{A}$	200mA	100mW	---	25	---	160
5G4SC	● GREEN	525	W.C.	2.8	3.2	3.6	$10\mu\text{A}$	200mA	100mW	---	40	---	160
5B4SC	● BLUE	470	W.C.	2.8	3.2	3.6	$10\mu\text{A}$	200mA	100mW	---	35	---	160

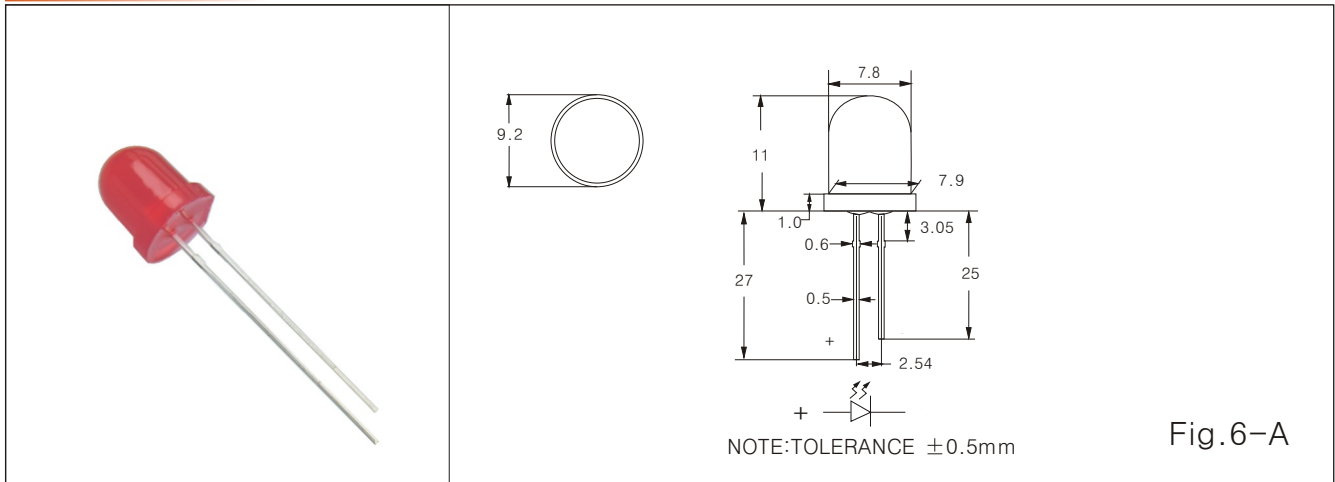
● 3.6x4.8 ELLIPTICAL LED LAMP



Part Number	Chip		Lens color	$V_F$ $I_F=20\text{mA}$			Reverse Current TYP.	Peak Forward Current MAX.	Power Dissipation TYP.	$I_V(\text{mcd})$ $I_F=20\text{mA}$			View Angle
	Emitted color	$\lambda_P$ (nm)		MIN	TYP	MAX				MIN	TYP	MAX	
5R4SC	● RED	640	W.C.	1.7	1.8	2.1	$10\mu\text{A}$	200mA	100mW	---	700	---	60
5G4SC	● GREEN	525	W.C.	2.8	3.2	3.6	$10\mu\text{A}$	200mA	100mW	---	2500	---	60
5W4SC	○ WHITE	B/Y	W.C.	2.8	3.2	3.6	$10\mu\text{A}$	200mA	100mW	---	1350	---	60
5B4SC	● BLUE	470	W.C.	2.8	3.2	3.6	$10\mu\text{A}$	200mA	100mW	---	2500	---	60

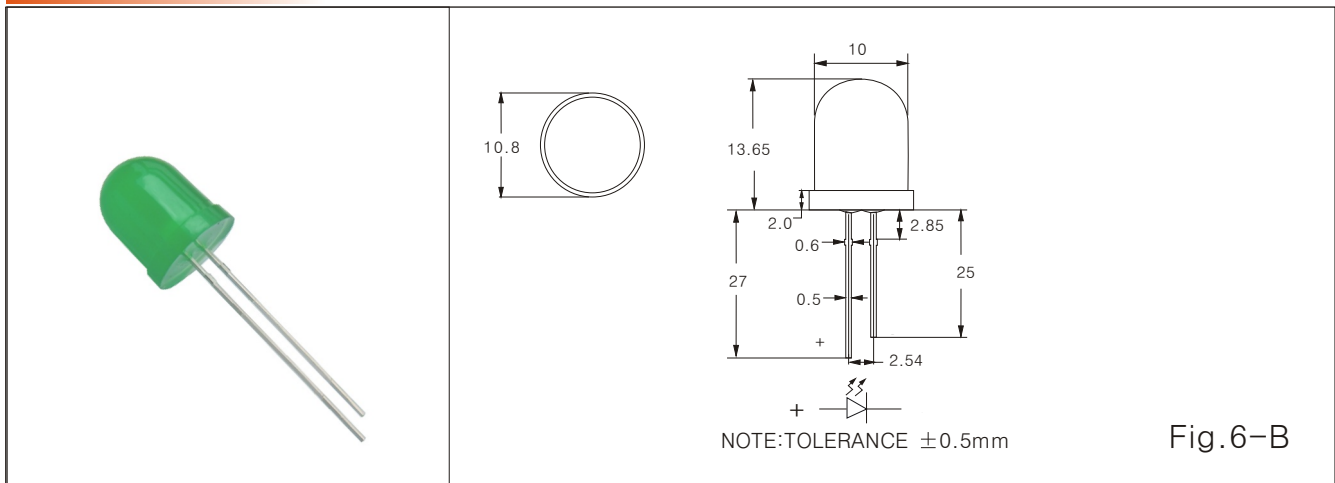


●  $\phi$  8 LED LAMP



Part Number	Chip		Lens color	V <sub>F</sub> I <sub>F</sub> =20mA			Reverse Current TYP.	Peak Forward Current MAX.	Power Dissipation TYP.	I <sub>v</sub> (mcd) I <sub>F</sub> =20mA			View Angle
	Emitted color	$\lambda_P$ (nm)		MIN	TYP	MAX				MIN	TYP	MAX	
8R4SD	● RED	640	C.D.	1.7	1.8	2.1	10 $\mu$ A	200mA	100mW	---	500	---	60
8Y4SD	● YELLOW	590	C.D.	2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	600	---	---	60
8G4SD	● GREEN	570	C.D.	2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	450	---	---	60
8B4SC	● BLUE	470	W.C.	2.8	3.2	3.6	10 $\mu$ A	200mA	100mW	---	800	---	60

●  $\phi$  10 LED LAMP



10R3SD	● RED	640	C.D.	1.7	1.8	2.1	10 $\mu$ A	200mA	100mW	---	500	---	60
10Y3SD	● YELLOW	590	C.D.	2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	600	---	---	60
10G3SD	● GREEN	570	C.D.	2.0	2.2	2.5	10 $\mu$ A	200mA	100mW	450	---	---	60
10B3SC	● BLUE	470	W.C.	2.8	3.2	3.6	10 $\mu$ A	200mA	100mW	---	800	---	60

● SUPER FLUX LED LAMP

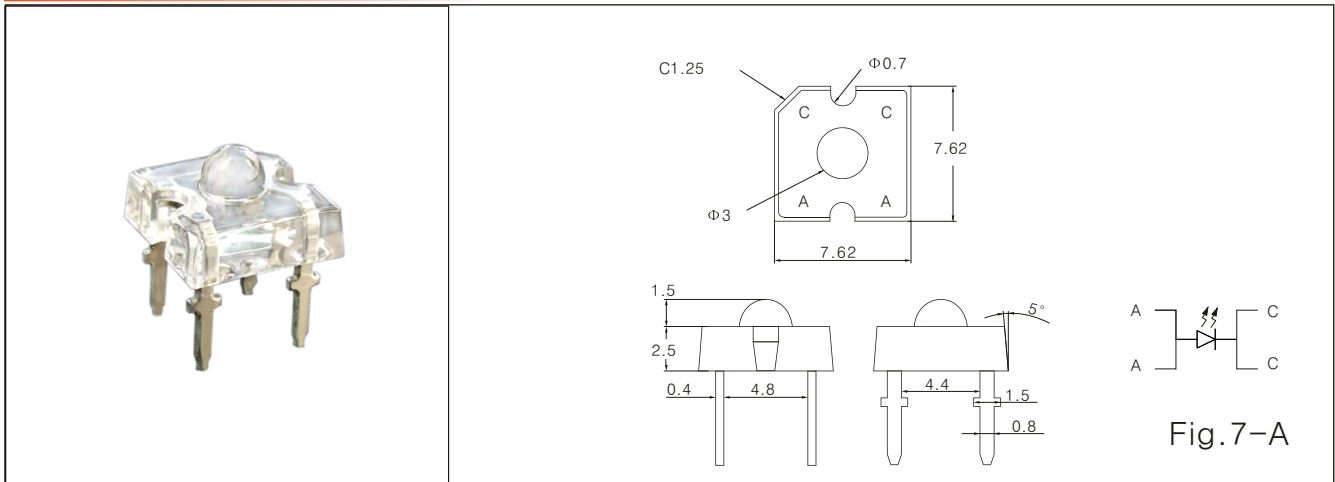


Fig.7-A

Part Number	Chip		Lens color	V <sub>f</sub> I <sub>f</sub> =20mA			Reverse Current TYP.	Peak Forward Current MAX.	Power Dissipation TYP.	I <sub>v</sub> (mcd) I <sub>f</sub> =20mA			View Angle
	Emitted color	λ <sub>P</sub> (nm)		MIN	TYP	MAX				MIN	TYP	MAX	
H-3R3C	● RED	640	W.C.	1.7	1.8	2.1	10 μA	200mA	150mW	---	700	---	60
H-3G3C	● GREEN	570	W.C.	1.7	1.8	2.1	10 μA	200mA	150mW	500	---	---	60
H-3W3C	○ WHITE	B/Y	W.C.	2.8	3.2	3.6	10 μA	200mA	150mW	---	1350	---	60
H-3B3C	● BLUE	470	W.C.	2.8	3.2	3.6	10 μA	200mA	150mW	---	2500	---	60

● SUPER FLUX LED LAMP

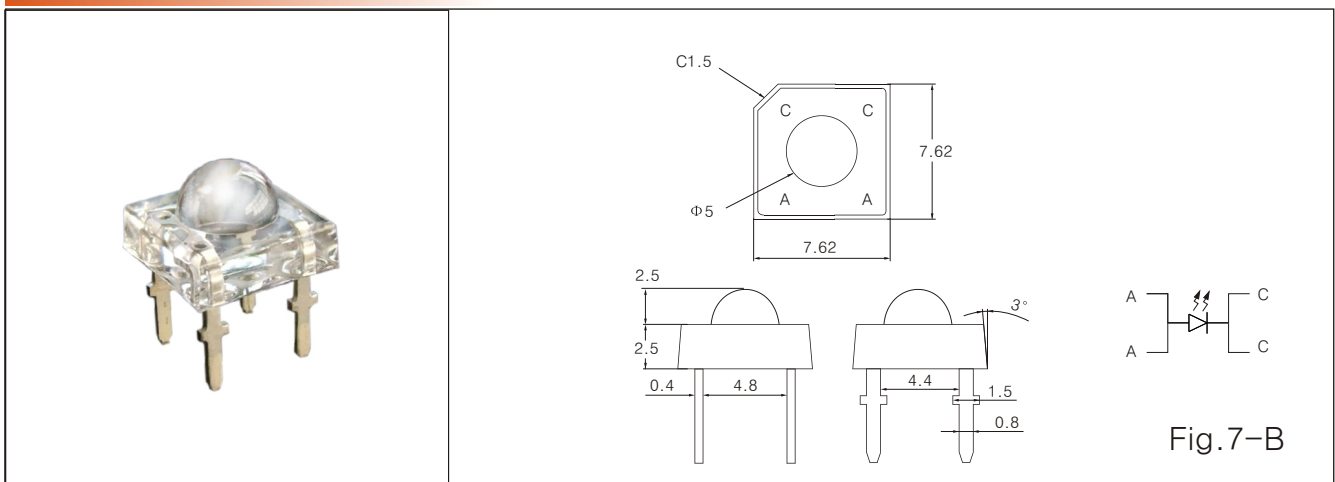


Fig.7-B

H-5R3C	● RED	640	W.C.	1.7	1.8	2.1	10 μA	200mA	150mW	---	700	---	100
H-5G3C	● GREEN	570	W.C.	1.7	1.8	2.1	10 μA	200mA	150mW	500	---	---	100
H-5W3C	○ WHITE	B/Y	W.C.	2.8	3.2	3.6	10 μA	200mA	150mW	---	1350	---	100
H-5B3C	● BLUE	470	W.C.	2.8	3.2	3.6	10 μA	200mA	150mW	---	2500	---	100