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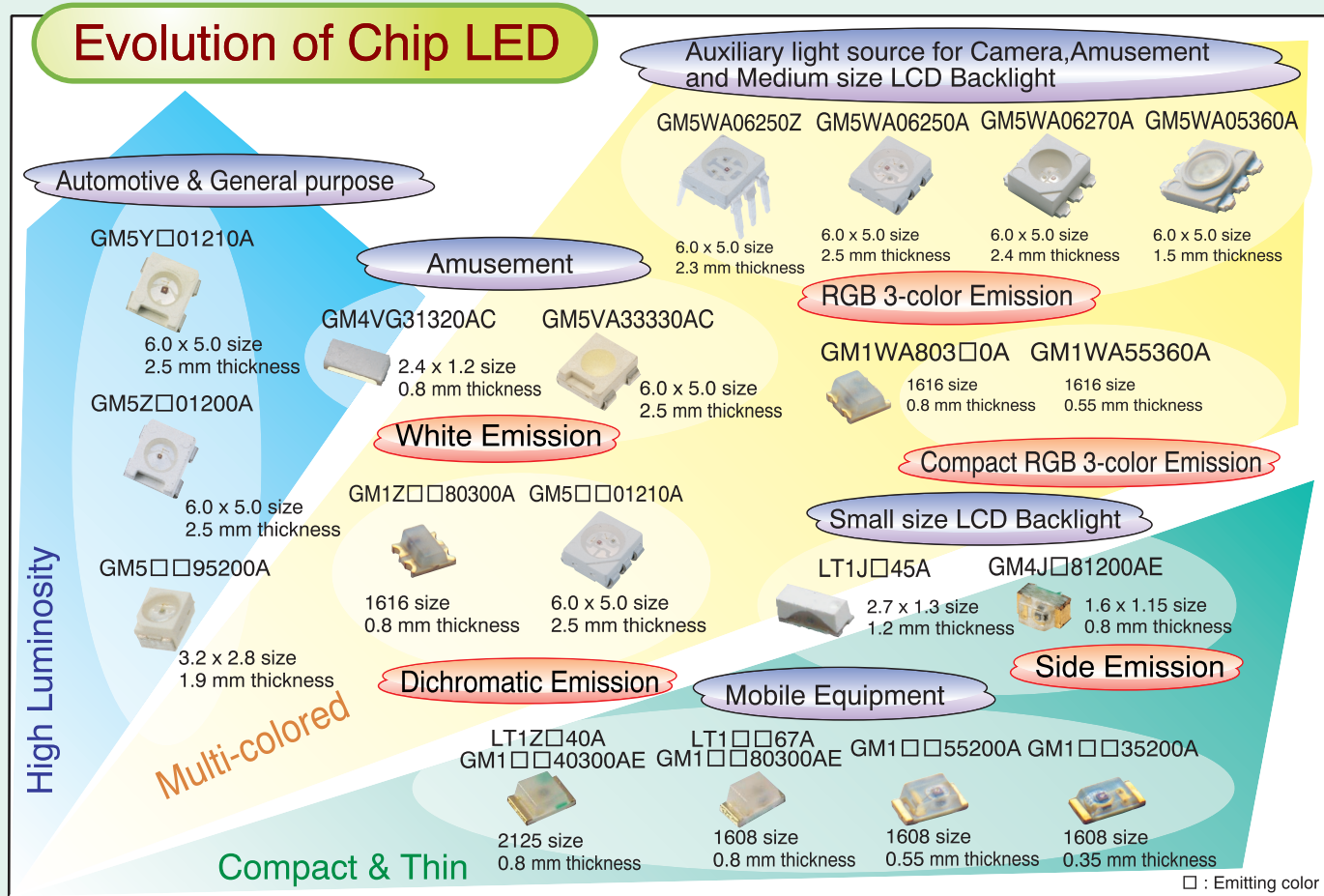
Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Evolution of Chip LED



Super-luminosity RGB 3-color Chip LED

Electro-optical Characteristics

[6.0 x 5.0 size] (RGB 3-color Emission)

Lens type	Model No.	Forward voltage V _F (V) TYP. (I _F =35mA)		Luminous intensity I _v (mcd) TYP.		I _F (mA)	Image
		④	⑤	③	②		
Colorless transparency	*GM5WA06203A *GM5WA06203Z	2.0	4.2	850	40	40	
		4.2	4.2		40		
		4.2	20		20		
Colorless transparency	GM5WA06250A GM5WA06250Z	2.3	4.2	1 400	35	35	
		4.2	4.2		40		
		4.2	20		20		
Colorless transparency	GM5WA06260A	2.2	4.2	1 725	40	40	
		4.2	4.2		40		
		4.2	20		20		
Colorless transparency	GM5WA06270A	2.2	4.2	3 000	35	35	
		4.2	4.2		35		
		4.2	35		35		
Thin	Colorless transparency	*GM5WA05260A	2.2	4.2	1 700	35	
			4.2	35			
			4.2	35			
Thin	Milky diffusion	*GM5WA05360A	2.2	4.2	2 200	35	
			4.2	35			
			4.2	35			

* Under development

Application

Auxiliary light source for Camera mobile phone



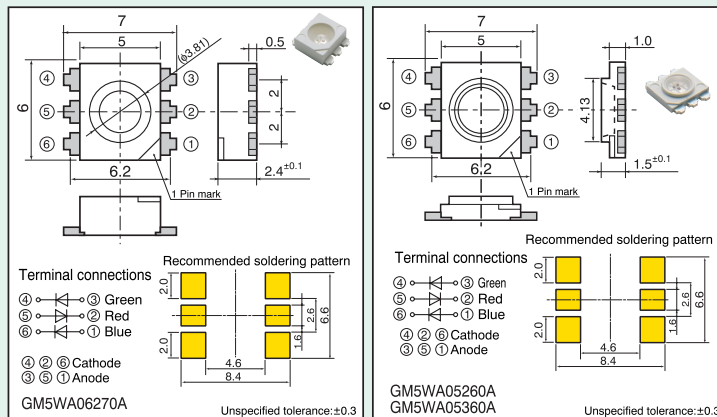
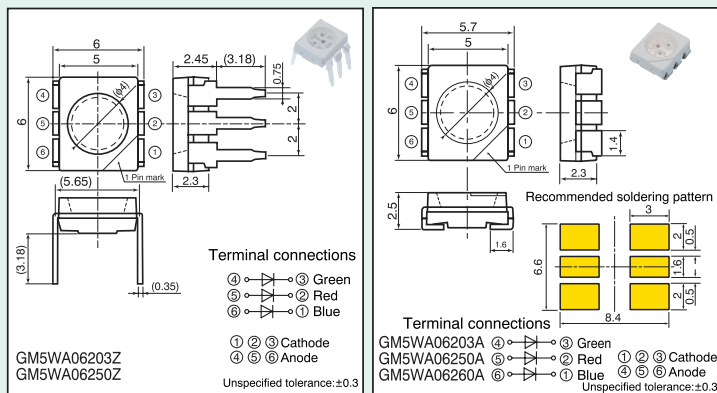
Flashlight for Digital still camera



Decorative light for Amusement



Outline Dimensions (Unit : mm)



Super-luminosity (AlGaInP, InGaN) Chip LED

Absolute Maximum Ratings

(Ta=25°C)

Emitting color	Material	Power dissipation P (mW)	Forward current IF (mA)	Peak forward current IFM*1 (mA)	Derating factor (mA/°C)		Reverse voltage VR (V)	Operating temperature Ttopr (°C)	Storage temperature Ttopr (°C)	Soldering temperature Tsol*2 (°C)	Model No. List
					DC	Pulse					
J□(R,J,S,V,E)	AlGaInP on GaAs	52	20	40	0.27	0.53	5	-30 to +85	-40 to +100	350	GM1J□35200AE/GM1J□55200AE/GM1J□40300AE
Z□(R,J,S,V,E,G)	AlGaInP on GaAs	78	30	50	0.40	0.67	5	-30 to +85	-40 to +100	350	LT1Z□67A/LT1Z□40A/GM1Z□40300AE
GM5Z□01200A(R,J,S,V)	AlGaInP on GaAs	200	70	80	0.82	0.94	5	-55 to +110	-55 to +110	295	GM5Z□01200A
GM5S□01200A(R,J,E,G)	AlGaInP on GaAs	200	70	80	0.82	0.94	5	-30 to +85	-40 to +85	295	GM5S□01200A
GM5Y□01210A(J,S,V)	AlGaInP on GaAs	320	100	120	1.18	1.41	5	-55 to +110	-55 to +110	295	GM5Y□01210A
GM1BC35200AC	InGaN	78	20	40	0.27	0.53	5	-20 to +80	-40 to +100	250	GM1BC35200AC
GM1GC35200AC	InGaN	82	20	40	0.27	0.53	5	-20 to +80	-40 to +100	250	GM1GC35200AC
GM5□C01250AC	InGaN	330	60	70	1.00	1.17	5	-30 to +85	-40 to +85	295	GM5BC01250AC/GM5GC01250AC

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

*2 For 3 s or less, Hand soldering

□: Emitting color R: Red, J: Orange, S: Sunset orange, V: Amber, E: Yellow-green, G: Green, B: Blue

Electro-optical Characteristics

[1608 size, 0.35mm thickness]

(Ta=25°C)

Lens type	Model No.	Forward voltage VF(V)		Dominant wavelength		Luminous intensity	
		TYP	MAX	λd (nm) TYP.	λp (nm) TYP.	lv(mcd) TYP.	IF (mA)
Colorless transparency	GM1JR35200AE	2.0	2.6	630	638	13	5
	GM1JJ35200AE	2.0	2.6	618	627	19	5
	GM1JS35200AE	2.0	2.6	605	609	19	5
	GM1JV35200AE	2.0	2.6	588	591	18.8	5
	GM1JE35200AE	2.0	2.6	572	575	13	5



Colorless transparency	GM1BC35200AC	3.2	3.9	472	470	13	10
	*GM1BC35310AC	2.9	3.0	470	470	20	5
	GM1GC35200AC	3.7	4.1	525	518	54	10

[1608 size, 0.55mm thickness]

Colorless transparency	GM1JJ55200AE	2.0	2.6	618	627	20.9	5
	GM1JS55200AE	2.0	2.6	605	609	20.9	5
	GM1JV55200AE	2.0	2.6	588	591	20.9	5
	GM1JE55200AE	2.0	2.6	573	575	13.0	5
Colorless transparency	GM1BC55200AC	3.2	3.9	472	470	35	10
	GM1GC55200AC	3.2	3.9	530	528	47	10



[1608 size, 0.8mm thickness]

Milky diffusion	LT1ZR67A	2.1	2.6	635	647	73.9	20
	LT1ZJ67A	2.1	2.6	618	627	123.3	20
	LT1ZS67A	2.1	2.6	605	609	123.2	20
	LT1ZV67A	2.1	2.6	588	591	78.7	20
	LT1ZE67A	2.1	2.6	570	570	25.4	20
	LT1ZG67A	2.1	2.6	560	560	6.1	20



Milky diffusion	LT1JS67A	2.0	2.6	605	609	14.1	5
	LT1JV67A	2.0	2.6	588	591	16.5	5

Milky diffusion	GM1ZR80300AE	2.1	2.6	630	638	55	20
	GM1ZJ80300AE	2.1	2.6	618	627	75	20
	GM1ZS80300AE	2.1	2.6	605	609	75	20
	GM1ZV80300AE	2.1	2.6	588	591	75	20

[2125 size, 0.8mm thickness]

(Ta=25°C)

Lens type	Model No.	Forward voltage VF(V)		Dominant wavelength		Luminous intensity	
		TYP	MAX	λd (nm) TYP.	λp (nm) TYP.	lv(mcd) TYP.	IF (mA)
Milky diffusion	LT1ZR40A	2.1	2.6	635	647	78.7	20
	LT1ZJ40A	2.1	2.6	618	627	127.8	20
	LT1ZS40A	2.1	2.6	605	609	144.1	20
	LT1ZV40A	2.1	2.6	588	591	92.7	20
	LT1ZE40A	2.1	2.6	570	570	28.2	20
	LT1ZG40A	2.1	2.6	560	560	6.2	20
Milky diffusion	GM1ZR40300AE	2.1	2.6	630	638	55	20
	GM1ZJ40300AE	2.1	2.6	618	627	60	20
	GM1ZS40300AE	2.1	2.6	605	609	78	20
	GM1ZV40300AE	2.1	2.6	588	591	60	20
Milky diffusion	GM1JJ40300AE	2.0	2.6	618	627	9.5	5
	GM1JS40300AE	2.0	2.6	605	609	12	5
	GM1JV40300AE	2.0	2.6	588	591	11	5



[1.6 x 1.15 size, 0.8mm thickness, Side Emission Type]

(Ta=25°C)

Lens type	Model No.	Forward voltage VF(V)		Dominant wavelength		Luminous intensity	
		TYP	MAX	λd (nm) TYP.	λp (nm) TYP.	lv(mcd) TYP.	IF (mA)
Colorless transparency	GM4JR81200AE	2.0	2.6	630	638	30	10
	GM4J81200AE	2.0	2.6	618	627	40	10
	GM4JS81200AE	2.0	2.6	605	609	40	10
	GM4JV81200AE	2.0	2.6	588	591	35	10



[2.7 x 1.3 size, 1.2mm thickness, Side Emission Type]

Milky diffusion	LT1JJ45A	2.0	2.6	618	627	16	5
	LT1JS45A	2.0	2.6	605	609	24	5
	LT1JV45A	2.0	2.6	590	592	20	5
Milky diffusion	GM4BC13300AC	3.2	3.9	472	470	12	10
	GM4GC13300AC	3.2	3.9	530	528	46	10



[3.2 x 2.8 size, 1.9mm thickness]

(Ta=25°C)

Lens type	Model No.	Forward voltage VF(V)		Dominant wavelength		Luminous intensity	
		TYP	MAX	λd (nm) TYP.	λp (nm) TYP.	lv(mcd) TYP.	IF (mA)
Colorless transparency	GM5ZR95200AE	2.0	2.6	630	638	100	20
	LT1ZJ95A	2.2	2.6	618	627	200	20
	LT1ZS95A	2.2	2.6	605	609	290	20
	LT1ZV95A	2.2	2.6	588	591	170	20
	LT1ZE95A	2.2	2.6	570	570	45	20
	LT1ZG95A	2.2	2.6	560	560	15	20



Colorless transparency	GM5J95200AE	2.2	2.6	618	623	70	20
	GM5S95200AE	2.2	2.6	605	609	90	20
	GM5JV95200AE	2.2	2.6	588	590	80	20

Colorless transparency	*GM5SR95200A	2.05	2.6	640	658	110	20
	*GM5SJ95250AL	2.25	2.8	628	640	350	20
	*GM5SE95200A	2.1	2.6	571	573	140	20
	*GM5SG95200A	2.1	2.6	565	565	50	20

Colorless transparency	GM5BC95200AC	3.7	4.2	470	468	73	20
	GM5GC95200AC	3.7	4.2	525	518	311	20

Colorless transparency	*GM5BC95250AC	3.7	4.2	470	468	120	20
	*GM5GC95250AC	3.8	4.2	525	518	500	20

[6.0 x 5.0 size, 2.5mm thickness]

(Ta=25°C)

Lens type	Model No.	Forward voltage VF(V)		Dominant wavelength		Luminous intensity	
		TYP	MAX	λd (nm) TYP.	λp (nm) TYP.	lv(mcd) TYP.	IF (mA)
Colorless transparency	GM5ZR01200A	2.2	2.9	635	647	400	60
	GM5ZJ01200A	2.2	2.9	618	627	500	60
	GM5ZS01200A	2.2	2.9	605	609	700	60
	GM5ZV01200A	2.2	2.9	588	591	500	60



Colorless transparency	*GM5SR01200A	2.27	2.7	640	660	300	60
	*GM5SJ01250AL	2.6	3.3	628	641	1 050	60
	*GM5SE01200A	2.5	3.3	571	573	400	60
	*GM5SG01200A	2.5	3.3	565	566	160	60

Colorless transparency	GM5YJ01210A	2.2	3.2	619	627	1 500	90
	GM5YJ01210A	2.2	3.2	606	612	1 700	90
	GM5YV01210A	2.2	3.2	589	592	1 300	90

Colorless transparency	GM5BC01200AC	4.6	5.5	470	467	200	50
	GM5GC01200AC	4.4	5.5	519	513	520	50

Colorless transparency	*GM5BC01250AC	4.6	5.5	470	467	300	50
	*GM5GC01250AC	4.4	5.5	525	518	900	50

[6.0 x 5.0 size, 2.3mm (resin portion) thickness, Through hole Type]

Colorless transparency	GM5ZR03200Z	2.2	2.9	635	647	400	60
	GM5ZJ03200Z	2.2	2.9	618	627	500	60
	GM5ZS03200Z	2.2	2.9	605	609	700	60
	GM5ZV03200Z	2.2	2.9	588	591	500	60



Colorless transparency	GM5BC03200Z	4.6	5.5	470	467	200	50
	GM5GC03200Z	4.4	5.5	519	513	520	50

[6.0 x 5.0 size, 2.5mm thickness](Dichromatic Emission) (Ta=25°C)

Lens type	Model No.	Forward voltage VF(V)		Dominant wavelength		Luminous intensity	
		TYP	MAX	λd (nm) TYP.	λp (nm) TYP.	lv(mcd) TYP.	IF (mA)
Colorless transparency	GM5ZRB01210A	2.4	3.0	629	640	580	40
		4.3	5.3	469	467	300	40
	GM5ZRG01210A	2.4	3.0	629	640	580	40
		4.3	5.3	520	516	860	40
	GM5BG01210A	4.3	5.3	469	467	300	40
		4.3	5.3	520	516	860	40



* Under development

[1616 size, 0.8mm thickness] (Dichromatic Emission) (T_a=25°C)

Lens type	Model No.	Forward voltage V _F (V) TYP	Dominant wavelength		Luminous intensity	
			λ _d (nm) TYP.	λ _p (nm) TYP.	I _v (mcd) TYP.	I _F (mA)
Milky diffusion	GM1ZVB80300A	2.1	588	591	43.8	20
		3.2	472	470	14.4	10
	GM1ZSG80300A	2.1	605	609	66.0	20
		3.2	530	528	46.1	10



[1616 size, 0.8mm thickness] (RGB 3-color Emission)

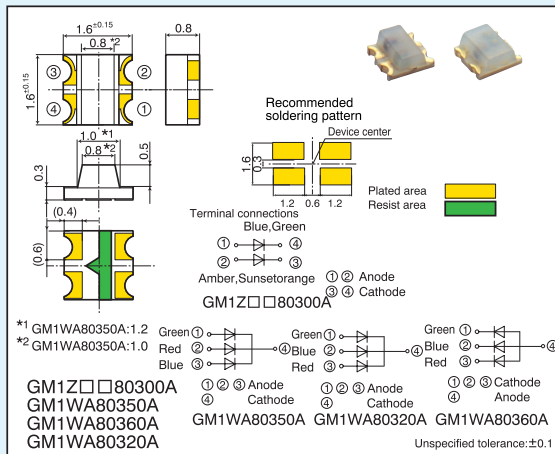
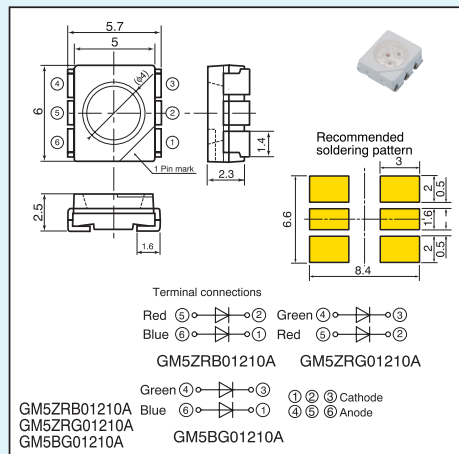
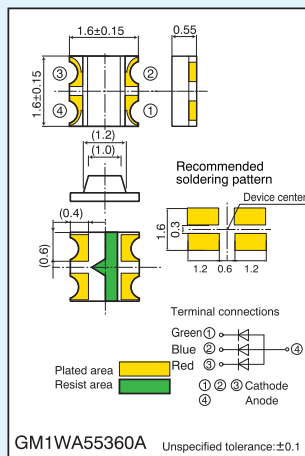
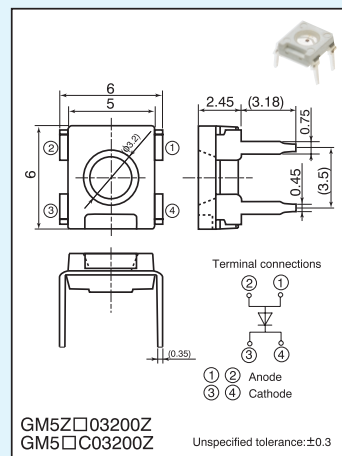
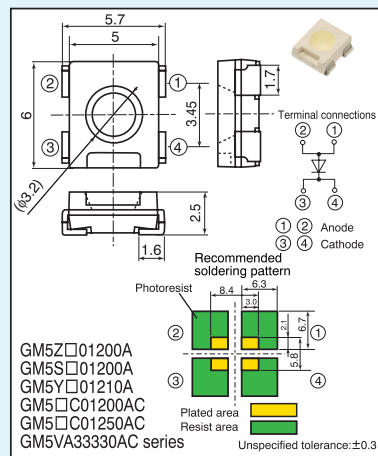
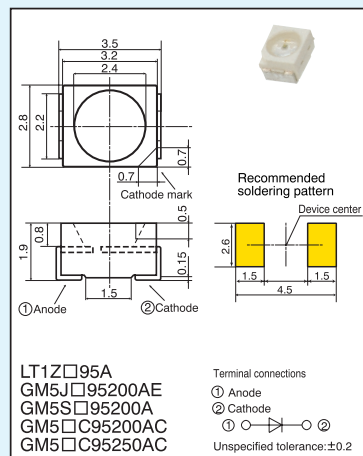
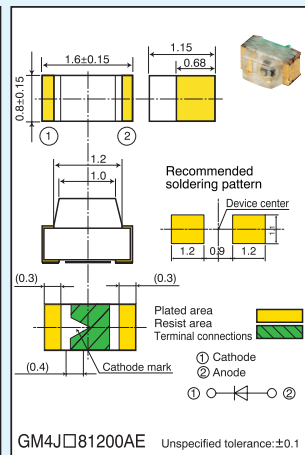
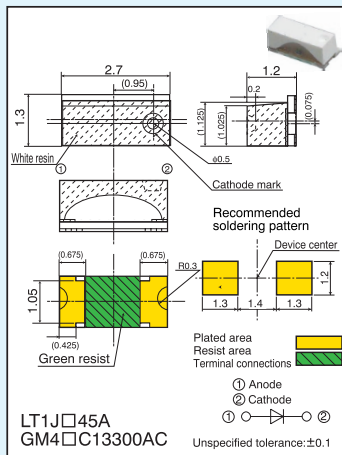
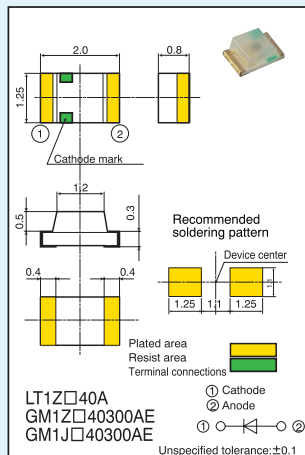
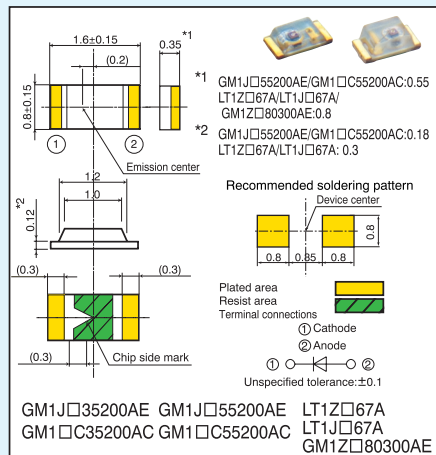
Milky diffusion	GM1WA80350A	2.1	618	627	100	20
		3.2	530	528	92	10
		3.2	472	470	30	10
Milky diffusion	*GM1WA80360A	2.3	628	640	90	20
		3.4	530	528	215	10
		3.5	472	470	57	10
Milky diffusion	*GM1WA80320A	2.0	630	638	64	20
		2.1	565	565	34	10
		3.2	472	470	30	10



[1616 size, 0.55mm thickness] (RGB 3-color Emission)

Milky diffusion	*GM1WA55360A	2.1	628	640	(125)	10
		3.4	527	528	(150)	10
		3.2	472	470	(55)	10

Outline Dimensions (Unit : mm)



[6.0 x 5.0 size, 2.5mm thickness] (White Emission) (T_a=25°C)

Model No.	Emitting color	Forward voltage V _F (V) TYP	Color range (x,y)	Luminous intensity	
				I _v (mcd) TYP	I _F (mA)
GM5VA33330AC	White	4.0	(0.33,0.33)	450	40
*GM5VA34400AC	Yellowish white	4.0	(0.34,0.40)	(700)	40
*GM5VA29270AC	Purplish white	4.0	(0.29,0.27)	(350)	40
*GM5VA30500AC	Greenish white	4.0	(0.30,0.50)	(900)	40

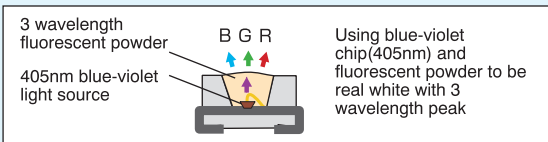


[2.4 x 1.2 size, 0.8mm thickness] (White Side Emission)

*GM4VG31320AC	White	3.7	(0.31,0.32)	(300)	20
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* Under development



Super-luminosity (AlGaInP, InGaN) LED Lamp

Absolute Maximum Ratings

Emitting color	Material	Power dissipation P (mW)	Forward current I _F (mA)	Peak forward current I _{FM} *1 (mA)	Derating factor (mA/°C)		Reverse voltage V _R (V)	Operating temperature T _{OP} (°C)	Storage temperature T _{stg} (°C)	Soldering temperature T _{sol} *2 (°C)
					DC	Pulse				
Z□(R,J,S,V,E,G)	AlGaInP on GaAs	130	50	100	0.67	1.33	5	-40 to +85	-40 to +100	260
J□(J,S,V,E,G)	AlGaInP on GaAs	78	30	50	0.40	0.67	5	-40 to +85	-40 to +100	260
S□(R,J,E,G)	AlGaInP on GaAs	130	50	100	0.40	1.33	5	-40 to +85	-40 to +100	260
C□(B,G)	InGaN	126	30	100	0.40	1.33	5	-20 to +80	-25 to +100	260

(T_a=25°C)

- *1 Duty ratio=1/10, Pulse width=0.1ms
 *2 For 5 s or less
 (At the position of 1.6mm or more from the bottom face of resin package)

□: Emitting color R: Red, J: Orange, S: Sunset orange, V: Amber, E: Yellow-green, G: Green, B: Blue

Electro-optical Characteristics

(I_F=20mA, T_a=25°C)

Lens type	Model No.	Forward voltage V _F (V)		Dominant wavelength		Luminous intensity I _v (mcd) TYP.
		TYP.	MAX.	λ _d (nm) TYP.	λ _p (nm) TYP.	
Colorless transparency φ3 40°	GL3ZR402B0SE	2.1	2.6	630	640	250
	GL3ZJ402B0SE	2.0	2.6	618	627	400
	GL3ZS402B0SE	2.0	2.6	605	609	400
	GL3ZV402B0SE	2.0	2.6	588	591	400
Colorless transparency φ3 40°	GL3JR402B0S3	2.0	2.6	630	638	200
	GL3JE402B0SE	2.0	2.6	573	575	200
	GL3JG402B0SE	2.0	2.6	562	564	85
Colorless transparency φ3 40°	*GL3SR402B0S	2.0	2.6	640	655	400
	*GL3SJ402B5SL	2.3	2.8	628	641	1100
	*GL3SE402B0S	2.1	2.6	571	573	650
	*GL3SG402B0S	2.1	2.6	565	566	250
Colorless transparency φ3,40°	GL3BC402B0S1	3.7	4.4	470	468	450
	GL3GC402B0S1	3.7	4.4	525	520	1 800
Colorless transparency φ3,40°	*GL3B2402B0SC	3.6	4.0	470	468	(650)
	*GL3G2402B0SC	3.8	4.2	525	518	(2800)
Colored transparency φ3 40°	GL3JJ404B0SE	2.0	2.6	618	627	200
	GL3JS404B0SE	2.0	2.6	605	609	280
	GL3JV404B0SE	2.0	2.6	588	591	280
Colorless transparency φ3 80°	GL3ZR802B0SE	2.0	2.6	630	638	150
	GL3ZJ802B0SE	2.0	2.6	618	627	230
	GL3ZS802B0SE	2.0	2.6	605	609	210
	GL3ZV802B0SE	2.0	2.6	588	591	200
	GL3ZE802B0S	2.1	2.6	570	570	80
Colored transparency φ3 80°	GL3JR804B0SE	2.0	2.6	618	627	100
	GL3JS804B0SE	2.0	2.6	605	609	120
	GL3JV804B0SE	2.0	2.6	588	591	110
Colored diffusion φ3 Oval 120° (Horizontal)	GL3ZR2D1C0S	2.1	2.6	635	647	180
	GL3ZJ2D1C0S	2.1	2.6	618	627	280
	GL3ZS2D1C0S	2.1	2.6	605	609	450
	GL3ZV2D1C0S	2.1	2.6	588	591	300

(I_F=20mA, T_a=25°C)

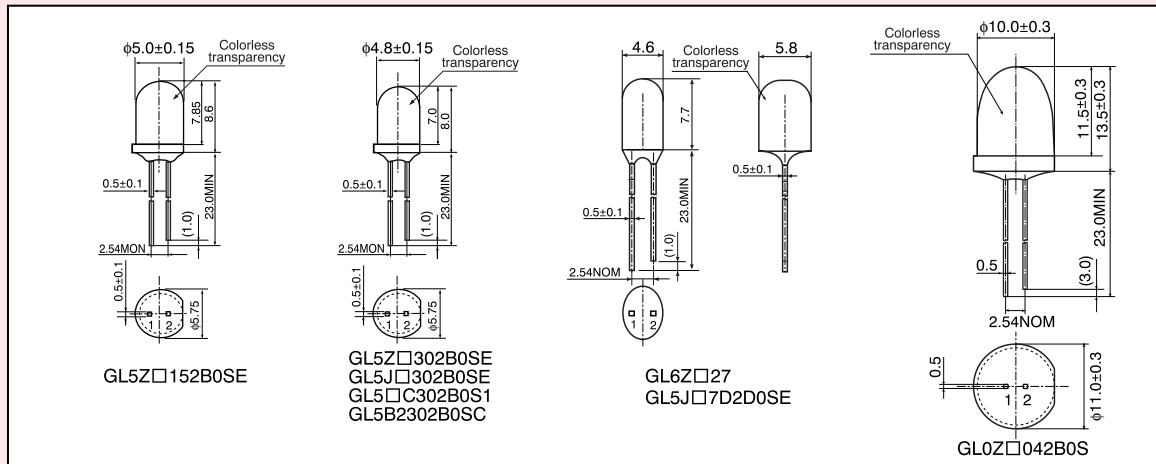
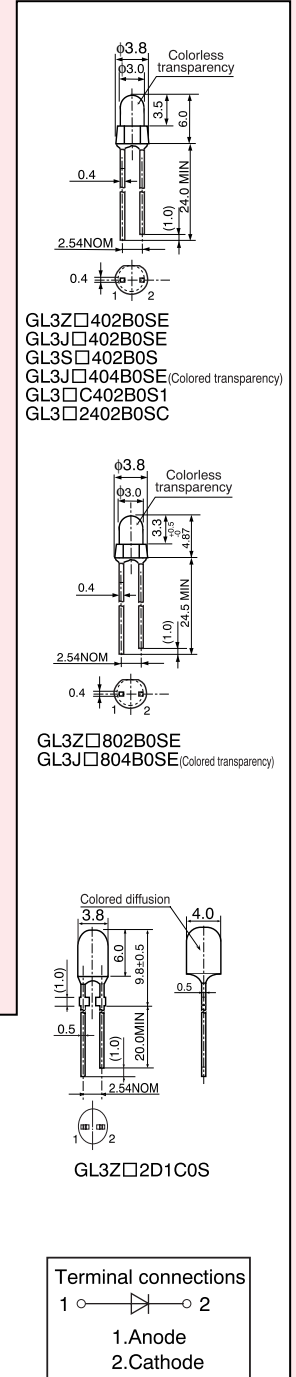
Lens type	Model No.	Forward voltage V _F (V)		Dominant wavelength		Luminous intensity I _v (mcd) TYP.
		TYP.	MAX.	λ _d (nm) TYP.	λ _p (nm) TYP.	
Colorless transparency φ5 15°	GL5ZR152B0SE	2.0	2.6	630	638	2 000
	GL5ZJ152B0SE	2.0	2.6	618	627	3 000
	GL5ZS152B0SE	2.0	2.6	605	609	3 000
	GL5ZV152B0SE	2.0	2.6	588	591	2 700
Colorless transparency φ5 30°	GL5ZR302B0SE	2.0	2.6	630	638	600
	GL5ZJ302B0SE	2.0	2.6	618	627	900
	GL5ZS302B0SE	2.0	2.6	605	609	1 000
	GL5ZV302B0SE	2.0	2.6	588	591	900
	GL5ZE302B0S	2.1	2.6	570	570	300
Colorless transparency φ5 30°	GL5JJ302B0SE	2.0	2.6	618	627	570
	GL5JS302B0SE	2.0	2.6	605	609	680
	GL5JV302B0SE	2.0	2.6	588	591	640
Colorless transparency φ5,20°	GL5BC302B0S1	3.7	4.4	470	468	700
	GL5GC302B0S1	3.7	4.4	525	520	1 700
Colorless transparency φ5,20°	GL5B2302B0SC	3.6	4.2	470	465	1 200
Colorless transparency φ5 Oval 70° (Horizontal)	GL6ZR27	2.1	2.6	635	647	360
	GL6ZJ27	2.1	2.6	618	627	750
	GL6ZS27	2.1	2.6	605	609	850
	GL6ZV27	2.1	2.6	588	591	750
	GL6ZE27	2.1	2.6	570	570	200
Colorless transparency φ5 Oval 70° (Horizontal)	GL5JJ7D2D0SE	2.0	2.6	618	627	190
	GL5JS7D2D0SE	2.0	2.6	605	609	230
	GL5JV7D2D0SE	2.0	2.6	588	591	210
Colorless transparency φ10 4°	GL0ZJ042B0S	2.1	2.6	618	627	18 500
	GL0ZS042B0S	2.1	2.6	605	609	22 600
	GL0ZV042B0S	2.1	2.6	588	591	16 900

* Under development

Viewing angle : 2θ 1/2

Outline Dimensions

(Unit : mm)



Notice

In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that may occur in equipment using any SHARP devices shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device.