Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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Selection **Guide**

Status: April 2010

[High-luminosity white chip LEDs for lighting applications]

High brightness and luminous intensity, industry-leading performance levels, compact packages:
Sharp's high-luminosity white chip LEDs bring clear benefits in a wide variety of lighting applications.
The sizes and performance details of these LEDs are listed in the tables below.

[Standard package]

NEW

Package type size	Type number	Outline dimensions (L x W x D) in mm	Colour range/ wavelength [x, y]	Colour temperature [K]	CRI TYP. [Ra]	Luminous flux lv [lm]	Luminous intensity lv (typ.) [mcd]	V_F [V]	I_F [mA]	T_opr [°C]
CRI 80+ 3228 (PLCC 2)	GM5SAE27P0A	3.2 x 2.8 x 1.9	(0.458, 0.410) warm white	2,700	85	4.9	2,000	3.2	20	-30 to +85
	GM5SAE30P0A	3.2 x 2.8 x 1.9	(0.434, 0.404) warm white	3,000	85	5.0	1,900	3.2	20	-30 to +85
	GM5SAE35P0A	3.2 x 2.8 x 1.9	(0.407, 0.392) natural white	3,500	83	5.0	2,100	3.2	20	-30 to +85
	GM5SAE40P0A	3.2 x 2.8 x 1.9	(0.382, 0.380) natural white	4,000	83	5.3	2,100	3.2	20	-30 to +85
	GM5SAE45P0A	3.2 x 2.8 x 1.9	(0.361, 0.366) pure white	4,500	83	5.5	2,200	3.2	20	-30 to +85
	GM5SAE50P0A	3.2 x 2.8 x 1.9	(0.345, 0.355) pure white	5,000	83	5.5	2,200	3.2	20	-30 to +85
	GM5SAE57P0A	3.2 x 2.8 x 1.9	(0.329, 0.342) pure white	5,700	80	5.5	2,200	3.2	20	-30 to +85
	GM5SAE65P0A	3.2 x 2.8 x 1.9	(0.312, 0.328) cool white	6,500	80	5.5	2,200	3.2	20	-30 to +85

According to energy star requirements concerning CRI and colour temperature

Package type size	Type number	Outline dimensions (L x W x D) in mm	Colour range/ wavelength [x, y]	Colour temperature [K]	CRI TYP. [Ra]	Luminous flux lv [lm]	Luminous intensity lv (typ.) [mcd]	V_F [V]	I_F [mA]	T_opr [°C]
3228 (PLCC 2)	GM5BN96385A	3.2 x 2.8 x 1.9	(0.34, 0.35) pure white	5,200	90 **CRI 80+**	3.5	1,400	3.2	20	-30 to +100
	GM5BW96382A	3.2 x 2.8 x 1.9	(0.31, 0.31) cool white	6,800		5.0	2,000	3.2	20	-30 to +100
	GM5BW96385A	3.2 x 2.8 x 1.9	(0.34, 0.36) pure white	5,200		5.5	2,300	3.2	20	-30 to +100
	GM5BW96387A	3.2 x 2.8 x 1.9	(0.29, 0.28) cool white	10,000	60	5.0	2,000	3.2	20	-30 to +100

SHARP | Microelectronics

[3-chip package]

Package type size	Type number	Outline dimensions (L x W x D) in mm	Colour range/ wavelength [x, y]	Colour temperature [K]	CRI (typ.) [Ra]	Luminous flux lv [lm]	Luminous intensity lv (typ.) [mcd]	V_F [V]	I_F [mA]	T_{opr} [°C]
3228 (PLCC 4)	GM5BW97330A	3.2 x 2.8 x 1.9 3 chip	(0.338, 0.356) pure white	5,300	62	17.0	6,400	3.2	20	-30 to +100
	GM5BW97331A	3.2 x 2.8 x 1.9 3 chip	(0.335, 0.344) pure white	5,300	62	17.0	6,400	3.2	20	-30 to +100
	GM5BW97332A	3.2 x 2.8 x 1.9 3 chip	(0.312, 0.311) cool white	6,700		15.0	5,800	3.2	20	-30 to +100
	GM5BW97333A	3.2 x 2.8 x 1.9 3 chip	(0.283, 0.262) ultra-cool white	11,500		12.0	5,100	3.2	20	-30 to +100

[Thin package]

Package type size	Type number	Outline dimensions (L x W x D) in mm	Colour range/ wavelength [x, y]	Colour temperature [K]	Luminous intensity lv (typ.) [mcd]	V_F [V]	I_F [mA]	T_{opr} [°C]
3228	GM5BW93330A	3.2 x 2.8 x 0.9	(0.31, 0.31) cool white	6,850	5,400	3.4	25	-30 to +85

[Ultra small package]

Package type size	Type number	Outline dimensions (L x W x D) in mm	Colour range/ wavelength [x, y]	Colour temperature [K]	Luminous intensity lv (typ.) [mcd]	V_F [V]	I_F [mA]	T_{opr} [°C]
1608	GM1BW20300A	1.6 x 0.8 x 0.2	(0,27, 0,24) warm white	2,200	50	2.9	5	-20 to +80

[Side shoot package]

Package type size	Type number	Outline dimensions (L x W x D) in mm	Colour range/ wavelength [x, y]	Colour temperature [K]	Luminous intensity lv (typ.) [mcd]	V_F [V]	I_F [mA]	T_{opr} [°C]
2812	GM4BW853A0A	2.8 x 1.2 x 0.8	(0.30, 0.29) cool white	8,000	1,900	3.2	20	-30 to +85
	GM4BW853B0A	2.8 x 1.2 x 0.8	(0.30, 0.29) cool white	8,000	2,200	3.2	20	-30 to +85

Package type size	Type number	Outline dimensions (L x W x D) in mm	Colour range/ wavelength [x, y]	Colour temperature [K]	Luminous intensity lv (typ.) [mcd]	V_F [V]	I_F [mA]	T_{opr} [°C]
	GM4BW653A0A	3.85 x 1.0 x 0.6	(0.30, 0.29) cool white	8,000	1,900	3.2	20	-30 to +85
	GM4BW653B0A	3.85 x 1.0 x 0.6	(0.30, 0.29) cool white	8,000	2,200	3.2	20	-30 to +85
	GM4BN653C0A	3.85 x 1.0 x 0.6	(0.29, 0.28) cool white Hi NTSC	9,400	1,700	3.2	20	-30 to +85

Package type size	Type number	Outline dimensions (L x W x D) in mm	Colour range/ wavelength [x, y]	Colour temperature [K]	Luminous intensity lv (typ.) [mcd]	V_F [V]	I_F [mA]	T_{opr} [°C]
	GM4BW53340A	3.85 x 1.0 x 0.5	(0.30, 0.29) cool white	8,000	1,800	3.2	20	-30 to +85

Subject to alterations and modifications.
For complete product information please refer to the product specifications.

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