

High-Brightness

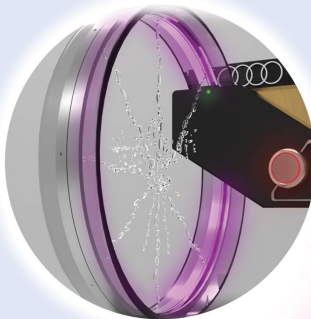
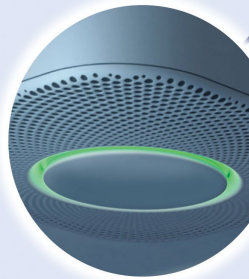
Energy-Efficient

# HELI

Colour Illumination

Low-Current

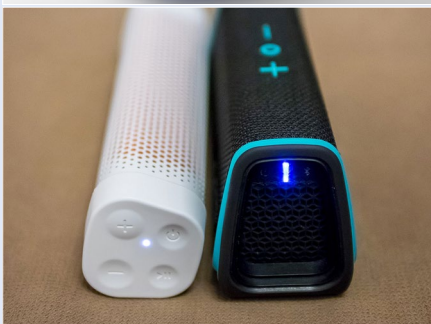
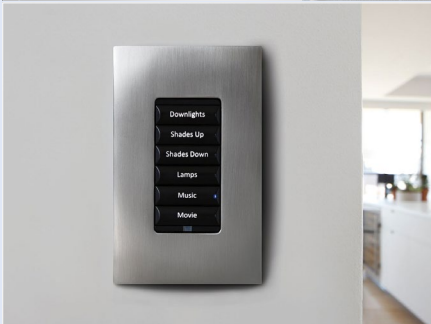
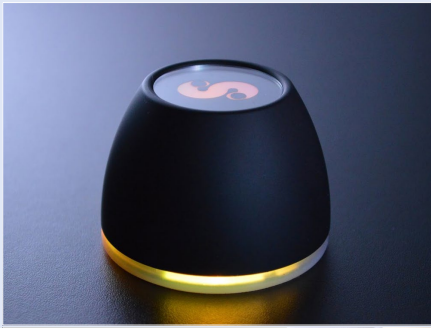
- Available in various industry SMD package types & sizes
- Designed for today's innovative hand-held devices & wearable products
- Engineered to a total comprehensive solution from the HELI product series
- Perfect fit for applications with low power consumption and high efficiency needs



## LED SOLUTION GUIDE

High-brightness • Energy-efficient • Low-current • Illumination





## BI-COLOR

- Low Current/ Low Vf requirements
- Best for battery operated devices
- Generates wide range of mixed colors
- Suitable for status indication & backlight

### Flat Top • Low Current • Low VF

Part Number	I <sub>F</sub>	λD (nm)	Iv (mcd)		Viewing Angle	Figure
			Min.	Typ.		
<a href="#">APHB1608LCGKSURKC</a>	2mA	570 / 630	1.2 / 2	3 / 8	130°	1
<a href="#">APHB1608LCGKSYKC</a>	2mA	570 / 590	1.2 / 6	3 / 10	130°	
<a href="#">APHB1608LZGKSURKC</a>	2mA	630 / 525	20 / 2	40 / 8	130°	
<a href="#">APHB1608LSYKSURKC</a>	2mA	590 / 630	6 / 2	10 / 8	130°	
<a href="#">APHB1608LQBDCGKC</a>	2mA	465 / 570	6 / 1.2	12 / 3	130°	
<a href="#">APHB1608LQBDSURKC</a>	2mA	465 / 630	6 / 2	12 / 8	130°	
<a href="#">APHB1608LZGKSYKC</a>	2mA	525 / 590	20 / 6	40 / 10	130°	
<a href="#">APHB1608LVBDZGKC</a>	2mA	470 / 525	6 / 20	15 / 40	130°	
<a href="#">APHB1608LVBDSEKJ3C</a>	2mA	470 / 625	6 / 20	15 / 40	130°	
<a href="#">APHB1608LVBDSYKJ3C</a>	2mA	470 / 590	6 / 20	15 / 30	130°	
<a href="#">APHBM2012LSURKCGKC</a>	2mA	630 / 570	2 / 1.2	10 / 2	120°	2
<a href="#">APHBM2012LCGKSYKC</a>	2mA	570 / 590	1.2 / 6	2 / 10	120°	
<a href="#">APHBM2012LSURKZGKC</a>	2mA	630 / 525	2 / 50	10 / 90	120°	
<a href="#">APHBM2012LSURKSYKC</a>	2mA	630 / 590	2 / 6	10 / 10	120°	
<a href="#">APHBM2012LQBDCGKC</a>	2mA	465 / 570	6 / 1.2	12 / 2	120°	
<a href="#">APHBM2012LQBDSURKC</a>	2mA	465 / 630	6 / 2	12 / 10	120°	
<a href="#">APHBM2012LZGKSYKC</a>	2mA	525 / 590	50 / 6	90 / 10	120°	
<a href="#">APHBM2012LVBDZGKC</a>	2mA	470 / 525	10 / 50	20 / 90	120°	
<a href="#">APHBM2012LVBDSEKJ3C</a>	2mA	470 / 625	10 / 30	20 / 60	120°	
<a href="#">APHBM2012LVBDSYKJ3C</a>	2mA	470 / 590	10 / 20	20 / 35	120°	
<a href="#">APTB1612LSURKCGKC</a>	2mA	630 / 570	4 / 1.2	9 / 3	120°	3
<a href="#">APTB1612LSYKCGKC</a>	2mA	590 / 570	4 / 1.2	10 / 3	120°	
<a href="#">APTB1612LSURKZGKC</a>	2mA	630 / 525	4 / 30	9 / 50	120°	
<a href="#">APTB1612LSURKSYKC</a>	2mA	630 / 590	4 / 4	9 / 10	120°	
<a href="#">APTB1612LQBDCGKC</a>	2mA	465 / 570	6 / 1.2	12 / 3	120°	
<a href="#">APTB1612LSURKQBC</a>	2mA	630 / 465	4 / 6	9 / 12	120°	
<a href="#">APTB1612LZGKSYKC</a>	2mA	525 / 590	30 / 4	50 / 10	120°	
<a href="#">APTB1612LVBDZGKC</a>	2mA	470 / 525	10 / 30	20 / 50	120°	
<a href="#">APTB1612LVBDSEKJ3C</a>	2mA	470 / 625	10 / 20	20 / 40	120°	
<a href="#">APTB1612LVBDSYKJ3C</a>	2mA	470 / 590	10 / 20	20 / 35	120°	

### Dome Lens • Low Current • Low VF

Part Number	I <sub>F</sub>	λD (nm)	Iv (mcd)		Viewing Angle	Figure
			Min.	Typ.		
<a href="#">APBD3224LSURKCGKC</a>	2mA	630 / 570	10 / 10	30 / 30	20°	4
<a href="#">APBD3224LSYKCGKC</a>	2mA	590 / 570	10 / 10	35 / 30	20°	
<a href="#">APBD3224LSURKZGKC</a>	2mA	630 / 525	10 / 120	30 / 250	20°	
<a href="#">APBD3224LSURKSYKC</a>	2mA	630 / 590	10 / 20	30 / 50	20°	
<a href="#">APBD3224LQBDCGKC</a>	2mA	465 / 570	12 / 10	30 / 30	20°	



## Dome Lens • Low Current • Low VF

Part Number	I <sub>F</sub>	λD (nm)	I <sub>v</sub> (mcd)		Viewing Angle	Figure
			Min.	Typ.		
<a href="#">APBD3224LSURKQBDC</a>	2mA	630 / 465	10 / 20	30 / 40	20°	4
<a href="#">APBD3224LZGKSYKC</a>	2mA	525 / 590	50 / 20	150 / 50	20°	
<a href="#">APBD3224LVBDZGKC</a>	2mA	470 / 525	50 / 120	100 / 250	20°	
<a href="#">APBD3224LVBDSEKJ3C</a>	2mA	470 / 625	50 / 30	100 / 50	20°	
<a href="#">APBD3224LVBDSYKJ3C</a>	2mA	470 / 590	50 / 50	100 / 100	20°	

## TRI-COLOR

- Available in top-emitting and side-firing
- Low Current/ Low Vf requirements
- Available in different footprints
- Display multiple statuses in one LED

## Low Current • Low VF

Part Number	I <sub>F</sub>	λD (nm)	I <sub>v</sub> (mcd)		Viewing Angle	Figure
			Min.	Typ.		
<a href="#">AAA3528LSEEZGKBKS</a>	2mA	621 / 525 / 465	10 / 80 / 12	20 / 180 / 30	120°	5
<a href="#">AAA3528LSEKJ3ZGKBKS</a>	2mA	625 / 525 / 465	30 / 80 / 12	60 / 180 / 30	120°	
<a href="#">AAF3529LSEEZGKBKS</a>	2mA	621 / 525 / 465	10 / 80 / 12	20 / 180 / 30	120°	6
<a href="#">AAF3529LSEKJ3ZGKBKS</a>	2mA	625 / 525 / 465	30 / 80 / 12	60 / 180 / 30	120°	
<a href="#">APF3236LSEEZGKBKC</a>	2mA	621 / 525 / 465	6 / 20 / 4	15 / 60 / 10	120°	7
<a href="#">APF3236LSEKJ3ZGKBKC</a>	2mA	625 / 525 / 465	20 / 20 / 4	40 / 60 / 10	120°	
<a href="#">APFA2507LQBDSSEEZGKC</a>	2mA	465 / 621 / 525	4 / 6 / 20	10 / 10 / 60	140° / 110° / 130°	8
<a href="#">APFA3010LSEEZGKBKC</a>	2mA	621 / 525 / 465	6 / 20 / 4	15 / 60 / 10	120°	9
<a href="#">APFA3010LSEKJ3ZGKBKC</a>	2mA	625 / 525 / 465	20 / 20 / 4	40 / 60 / 10	120°	
<a href="#">APTF1616LSEKJ3ZGKBKC</a>	2mA	625 / 525 / 465	20 / 20 / 6	40 / 50 / 14	120°	10
<a href="#">APTF1616LSEEZGKBKC</a>	2mA	621 / 525 / 465	6 / 20 / 6	15 / 50 / 14	120°	

## Top Emitting

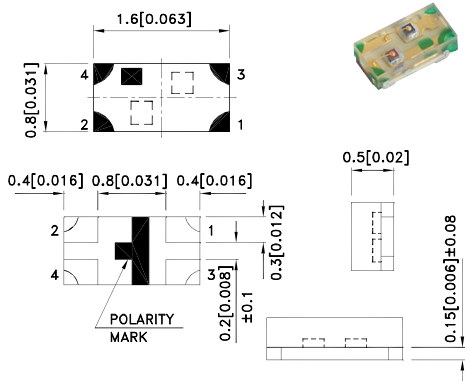
Part Number	I <sub>F</sub>	λD (nm)	I <sub>v</sub> (mcd)		Viewing Angle	Figure
			Min.	Typ.		
<a href="#">AAA3528SEEZGGVBD5</a>	20mA	621 / 525 / 470	120 / 1000 / 200	220 / 1600 / 330	120°	5
<a href="#">AAA3528SEEZGKBKS</a>	20mA	621 / 525 / 465	120 / 400 / 55	220 / 500 / 100	120°	
<a href="#">AAA3528SEKJ3ZGKBKS</a>	20mA	625 / 525 / 465	400 / 400 / 80	500 / 600 / 200	120°	
<a href="#">AAF3529SEEZGKBKS</a>	20mA	621 / 525 / 465	80 / 400 / 80	180 / 580 / 130	120°	6
<a href="#">AAF3529SEKJ3ZGKBKS</a>	20mA	625 / 525 / 465	400 / 400 / 80	500 / 580 / 130	120°	
<a href="#">APF3236SEEZGKBKC</a>	20mA	621 / 525 / 465	80 / 200 / 40	140 / 330 / 70	120°	7
<a href="#">APF3236SEKJ3ZGKBKC</a>	20mA	625 / 525 / 465	200 / 200 / 40	350 / 320 / 70	120°	
<a href="#">APGF1011SEEPBVG-C-TT</a>	20mA	527 / 467 / 624	50 / 10 / 15	80 / 23 / 30	150° / 150° / 130°	11
<a href="#">APTF1616SEEZGKBKC</a>	20mA	621 / 525 / 465	55 / 120 / 40	110 / 280 / 70	120°	10
<a href="#">APTF1616SEKJ3ZGKBKC</a>	20mA	625 / 525 / 465	200 / 200 / 40	350 / 300 / 70	120°	

## Side Emitting

Part Number	I <sub>F</sub>	λD (nm)	I <sub>v</sub> (mcd)		Viewing Angle	Figure
			Min.	Typ.		
<a href="#">APFA2507QBDSSEEZGKC</a>	20mA	465 / 621 / 525	40 / 80 / 200	65 / 110 / 400	140° / 110° / 130°	8
<a href="#">APFA3010SEEZGKBKC</a>	20mA	621 / 525 / 465	80 / 200 / 40	140 / 300 / 70	120°	9
<a href="#">APFA3010SEKJ3ZGKBKC</a>	20mA	625 / 525 / 465	200 / 300 / 40	410 / 500 / 70	120°	

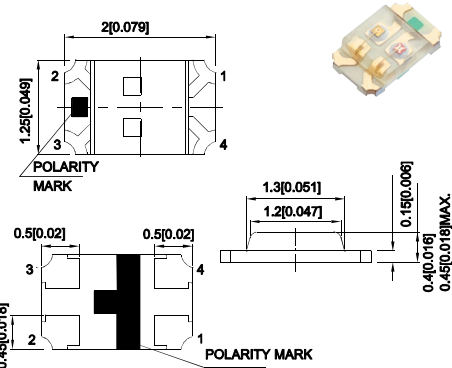
### APHB1608 package

Figure 1



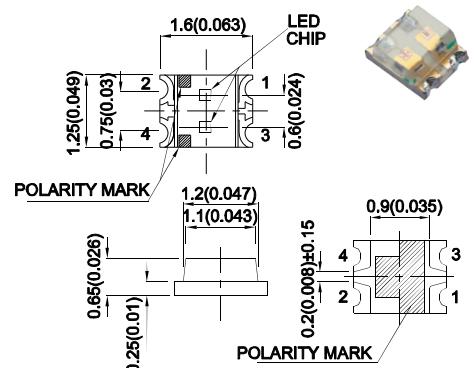
### APHBM2012 package

Figure 2



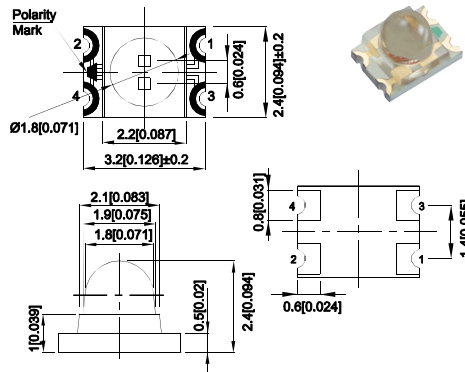
### APTB1612 package

Figure 3



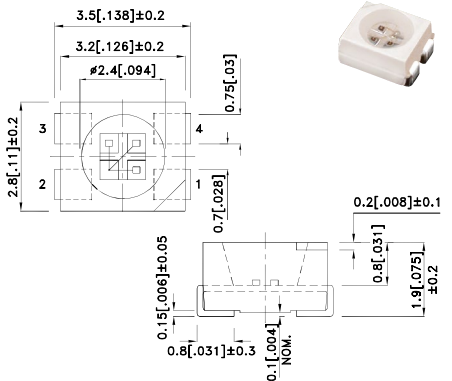
### APBD3224 package

Figure 4



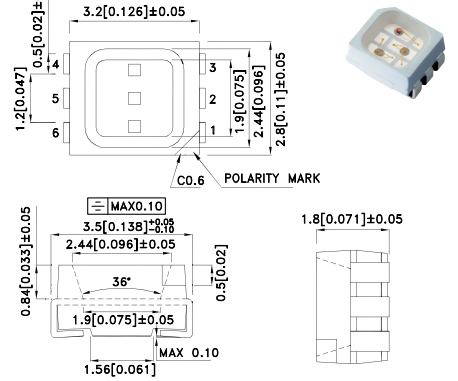
### AAA3528 package

Figure 5



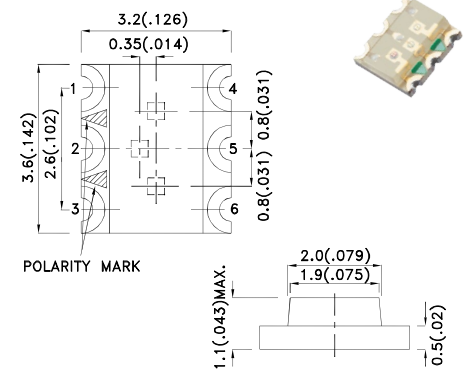
### AAAF3529 package

Figure 6



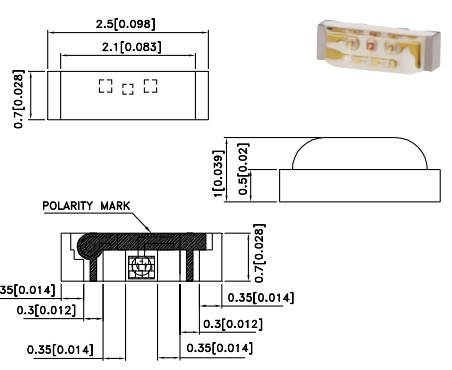
### APF3236 package

Figure 7



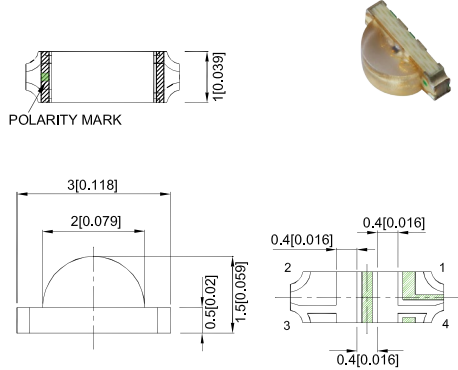
### APFA2507 package

Figure 8



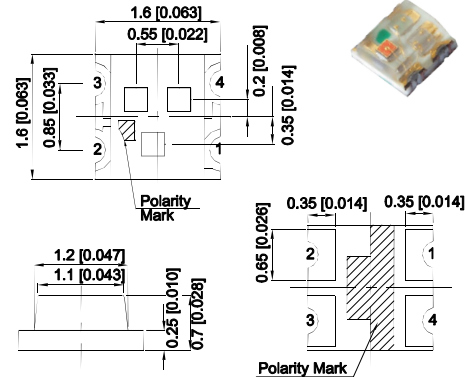
### APFA3010 package

Figure 9



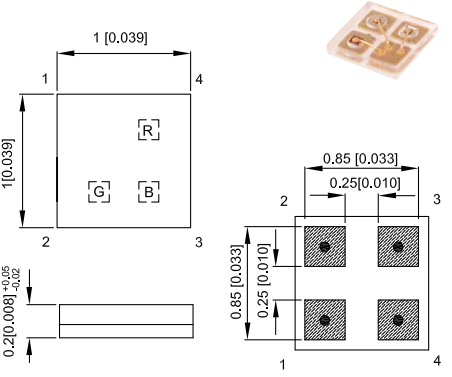
### APTF1616 package

Figure 10



### APGF1011 package

Figure 11



### About KINGBRIGHT

*A Leader in the LED Manufacturing Industry for More than 30 Years*

As one of the top LED manufacturers, Kingbright exceeds many expectations worldwide with its unsurpassed manufacturing capabilities. It is our core mission to achieve innovation through investing in R&D and to develop high efficiency LEDs with the latest standards. Our factory in China is accredited with TS16949, ISO9001, ISO14001 certifications and all of our parts are in compliance with the latest RoHS and REACH Directive. To learn more about our products, please visit us at [KingbrightUSA.com](http://KingbrightUSA.com).



E-MAIL: SALES@KINGBRIGHTUSA.COM WEBSITE: WWW.KINGBRIGHTUSA.COM  
 TEL: (909)468-0500 FAX: (909)468-0505  
 ADDRESS: 225 BREA CANYON ROAD, CITY OF INDUSTRY, CA 91789

