

# Kingbright

## Optoelectronic Components

### SMD LED

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## RGB SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @5mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KPGF-0606GBRC-120	InGaN	527	water clear	30	90	140°	0.65mm x 0.65mm x 0.2mm      KPGF-0606
	InGaN	467		5	20	140°	
	AlGaInP	624		10	30	140°	
KPGF-1011GBRC-120	InGaN	527	water clear	50	80	150°	1.0mm x 1.0mm x 0.2mm      KPGF-1011
	InGaN	467		10	23	150°	
	AlGaInP	624		15	30	150°	

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KPTF-1616RGBC-11	AlGaInP	621	water clear	55	110	130°	1.6mm x 1.6mm x 0.7mm      KPTF-1616
	InGaN	525		120	280	130°	
	InGaN	465		40	70	130°	

## NOTES:

1. KP series custom-made is available upon request.
2. Luminous intensity value is traceable to CIE127-2007 standards.

## RGB SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KPFA-2507BRGC-11	InGaN	465	water clear	40	65	130°	2.5mm x 1.0mm x 0.7mm      KPFA-2507 Units : mm(inch) Tolerance : $\pm 0.15(0.006)$
	AlGaInP	621		80	110	130°	
	InGaN	525		200	400	130°	
KPFA-3010RGBC-11	AlGaInP	621	water clear	80	140	150°	3.0mm x 1.5mm x 1.0mm      KPFA-3010 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	InGaN	525		300	500	150°	
	InGaN	465		40	70	150°	
KPFA-3011BZ1RGZ1C-132/F	InGaN	470	water clear	55	110	150°	3.0mm x 1.5mm x 1.0mm      KPFA-3011 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	AlGaInP	624		400	660	150°	
	InGaN	525		500	780	150°	

## NOTES:

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## RGB SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KAA-3528RGBS-K11-C8-CC	AlGaInP	625	water clear	400	500	120°	3.5mm x 2.8mm x 1.9mm     Units : mm(inch) Tolerance : $\pm 0.25(0.01)$
	InGaIn	525		1000	1600	120°	
	InGaIn	470		200	330	120°	
KAAF-3529BGRS-132	InGaIn	470	water clear	200	300	130°	3.5mm x 2.8mm x 1.8mm     Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	InGaIn	525		1000	1600	130°	
	AlGaInP	624		700	950	130°	
Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @30mA *50mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KAAF-5050RGBS-13	AlGaInP	625	water clear	*1000	*1400	120°	5.0mm x 5.0mm x 1.5mm     Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	InGaIn	525		1000	1400	120°	
	InGaIn	470		300	420	120°	

NOTE:

1. Luminous intensity value is traceable to CIE127-2007 standards.



## TOP-EMITTING CHIP SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA*10mA**5mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KPG-0603SURC-TT	AlGaInP	631	water clear	*10	*35	140°	0.65mm x 0.35mm x 0.2mm   KPG-0603 Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPG-0603SEC-E-TT	AlGaInP	624	water clear	*15	*40	140°	
KPG-0603SEC-TT	AlGaInP	605	water clear	*20	*50	140°	
KPG-0603SYC-TT	AlGaInP	589	water clear	*10	*30	140°	
KPG-0603CGC-TT	AlGaInP	571	water clear	*6	*15	140°	
KPG-0603VGC-TT-5MAV	InGaN	527	water clear	**30	**80	140°	
KPG-0603PBC-TT-5MAV	InGaN	467	water clear	**15	**25	140°	
KPG-1005SURC-TT	AlGaInP	631	water clear	20	65	120°	1.0mm x 0.5mm x 0.2mm   KPG-1005 Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPG-1005SEC-E-TT	AlGaInP	624	water clear	20	75	120°	
KPG-1005SEC-TT	AlGaInP	605	water clear	40	90	120°	
KPG-1005SYC-TT	AlGaInP	589	water clear	55	100	120°	
KPG-1005CGC-TT	AlGaInP	571	water clear	12	35	120°	
KPG-1005VGC-TT-5MAV	InGaN	527	water clear	**30	**70	140°	
KPG-1005PBC-TT-5MAV	InGaN	467	water clear	**20	**28	140°	
KPHHS-1005SURCK	AlGaInP	630	water clear	40	70	120°	1.0mm x 0.5mm x 0.5mm (0402)   KPHHS-1005 Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPHHS-1005SECK	AlGaInP	601	water clear	80	150	120°	
KPHHS-1005SYCK	AlGaInP	590	water clear	80	150	120°	
KPHHS-1005CGCK	AlGaInP	570	water clear	20	50	120°	
KPHHS-1005ZGC-V	InGaN	525	water clear	200	450	140°	
KPHHS-1005QBC-D-V	InGaN	465	water clear	40	60	140°	

## NOTES:

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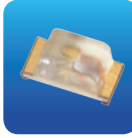
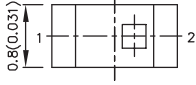
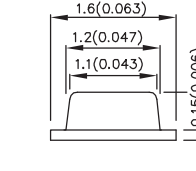
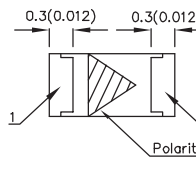
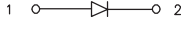
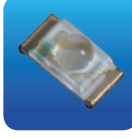
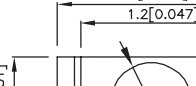
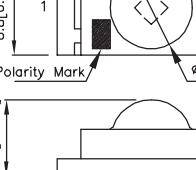
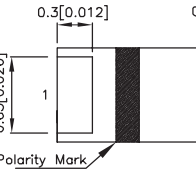
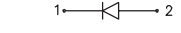

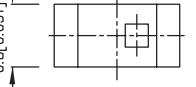
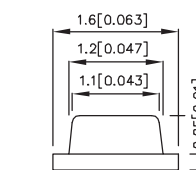
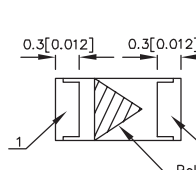
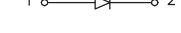
## TOP-EMITTING CHIP SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA*5mA		Viewing Angle 2 $\theta$ /2	Dimensions
				Min.	Typ.		
KPG1-1608SURC-TT	AlGaInP	631	water clear	20	65	120°	<p>1.6mm x 0.8mm x 0.2mm</p>  <p>Units : mm(inch) Tolerance : <math>\pm 0.1(0.004)</math></p>
KPG1-1608SEC-E-TT	AlGaInP	624	water clear	20	75	120°	
KPG1-1608SEC-TT	AlGaInP	605	water clear	40	90	120°	
KPG1-1608SYC-TT	AlGaInP	589	water clear	55	100	120°	
KPG1-1608CGC-TT	AlGaInP	571	water clear	12	35	120°	
KPG1-1608VGC-TT-5MAV	InGaN	527	water clear	*30	*70	120°	
KPG1-1608PBC-TT-5MAV	InGaN	467	water clear	*8	*20	120°	
KPG-1608SURKC-T	AlGaInP	630	water clear	55	110	120°	<p>1.6mm x 0.8mm x 0.25mm (0603)</p>  <p>Units : mm(inch) Tolerance : <math>\pm 0.1(0.004)</math></p>
KPG-1608SEKC-T	AlGaInP	601	water clear	55	100	120°	
KPG-1608SYKC-T	AlGaInP	590	water clear	55	120	120°	
KPG-1608CGKC-T	AlGaInP	570	water clear	20	50	120°	
KPG-1608ZGC	InGaN	525	water clear	300	450	130°	
KPG-1608QBC-D	InGaN	465	water clear	40	100	130°	
KPG-1608VBC-D	InGaN	470	water clear	120	200	130°	
KPHM-1608EC-T	GaAsP/GaP	617	water clear	3	8	150°	<p>1.6mm x 0.8mm x 0.4mm</p>  <p>Units : mm(inch) Tolerance : <math>\pm 0.1(0.004)</math></p>
KPHM-1608SURCK	AlGaInP	630	water clear	40	80	120°	
KPHM-1608SECK	AlGaInP	601	water clear	80	180	120°	
KPHM-1608YC-T	GaAsP/GaP	588	water clear	5	8	150°	
KPHM-1608SYCK	AlGaInP	590	water clear	80	150	120°	
KPHM-1608SGC-T	GaP	568	water clear	5	12	150°	
KPHM-1608CGCK	AlGaInP	570	water clear	20	50	120°	
KPHM-1608QBC-D	InGaN	465	water clear	40	100	130°	
KPHM-1608VBC-D	InGaN	470	water clear	120	180	130°	

## NOTES:

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2. Luminous intensity value is traceable to CIE127-2007 standards.

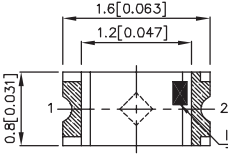
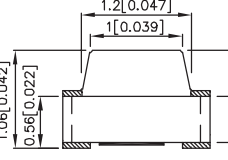
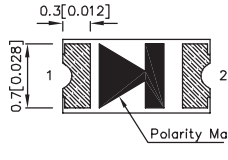
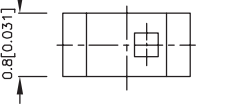
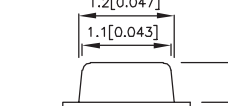
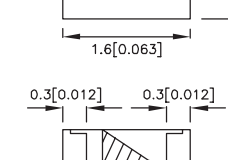
## TOP-EMITTING CHIP SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KPH-1608SURCK	AlGaInP	630	water clear	40	80	120°	1.6mm x 0.8mm x 0.65mm (0603)  <b>KPH-1608</b>     Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPH-1608SECK	AlGaInP	601	water clear	80	180	120°	
KPH-1608YC	GaAsP/GaP	588	water clear	3	8	150°	
KPH-1608SYCK	AlGaInP	590	water clear	80	150	120°	
KPH-1608SGC	GaP	568	water clear	5	12	150°	
KPH-1608CGCK	AlGaInP	570	water clear	20	50	120°	
KPH-1608QBC-D	InGaN	465	water clear	40	100	130°	
KPHD-1608SURCK	AlGaInP	630	water clear	40	170	120°	1.6mm x 0.8mm x 0.65mm  <b>KPHD-1608</b>     Units : mm(inch) Tolerance : $\pm 0.15(0.006)$
KPHD-1608SECK-J3-PRV	AlGaInP	625	water clear	300	600	120°	
KPHD-1608SECK-J4-PRV	AlGaInP	605	water clear	400	820	120°	
KPHD-1608SECK	AlGaInP	601	water clear	80	210	120°	
KPHD-1608SYCK	AlGaInP	590	water clear	80	210	120°	
KPHD-1608SYCK-J3-PRV	AlGaInP	590	water clear	300	600	120°	
KPHD-1608CGCK	AlGaInP	570	water clear	20	80	120°	
KPHD-1608ZGCK	InGaN	525	water clear	400	940	90°	
KPHD-1608QBC-D	InGaN	465	water clear	40	140	90°	
KPHD-1608VBC-D	InGaN	470	water clear	120	260	90°	
KPT-1608EC	GaAsP/GaP	617	water clear	3	8	150°	1.6mm x 0.8mm x 0.75mm (0603)  <b>KPT-1608</b>     Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPT-1608SURCK	AlGaInP	630	water clear	40	80	120°	
KPT-1608SECK	AlGaInP	601	water clear	80	180	120°	
KPT-1608YC	GaAsP/GaP	588	water clear	3	8	150°	
KPT-1608SYCK	AlGaInP	590	water clear	80	150	120°	
KPT-1608SGC	GaP	568	water clear	5	12	150°	
KPT-1608CGCK	AlGaInP	570	water clear	20	50	120°	
KPT-1608ZGC	InGaN	525	water clear	200	400	130°	
KPT-1608QBC-D	InGaN	465	water clear	40	100	130°	
KPT-1608VBC-D	InGaN	470	water clear	120	180	130°	

## NOTES:

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2. Luminous intensity value is traceable to CIE127-2007 standards.

## TOP-EMITTING CHIP SMD LED

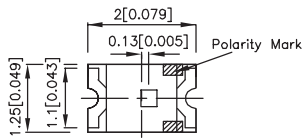
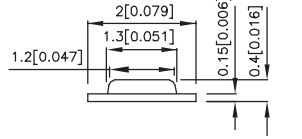
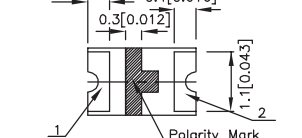
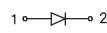
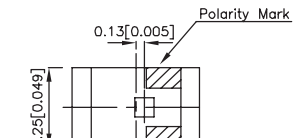
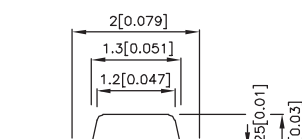
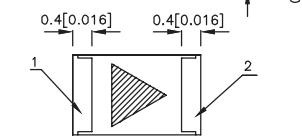
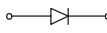
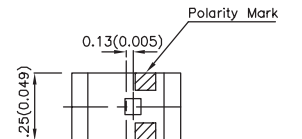
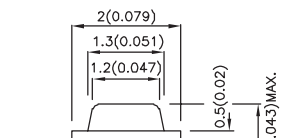
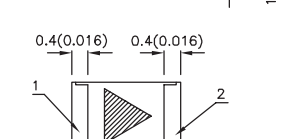
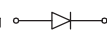
Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimensions
				Min.	Typ.		
KPC-1608SEC-E	AlGaInP	621	water clear	55	100	150°	<p>1.6mm x 0.8mm x 1.06mm</p>  <p>Index &amp; Polarity Mark Temperature Measurement</p> <p>KPC-1608SECK-J4-PRV KPC-1608SYCK-J3-PRV</p>  <p>Index &amp; Polarity Mark Temperature Measurement</p>  <p>Units : mm(inch) Tolerance : <math>\pm 0.1(0.004)</math></p>
KPC-1608SECK-J4-PRV	AlGaInP	605	water clear	300	550	150°	
KPC-1608SYCK	AlGaInP	590	water clear	80	150	150°	
KPC-1608SYCK-J3-PRV	AlGaInP	590	water clear	200	320	150°	
KPC-1608FGCK	AlGaInP	568	water clear	20	50	150°	
KP-1608EC	GaAsP/GaP	617	water clear	3	8	150°	<p>1.6mm x 0.8mm x 1.1mm (0603)</p>  <p>Index &amp; Polarity Mark Temperature Measurement</p>  <p>Index &amp; Polarity Mark Temperature Measurement</p>  <p>Units : mm(inch) Tolerance : <math>\pm 0.1(0.004)</math></p>
KP-1608SURCK	AlGaInP	630	water clear	40	80	120°	
KP-1608SECK	AlGaInP	601	water clear	80	180	120°	
KP-1608YC	GaAsP/GaP	588	water clear	3	8	150°	
KP-1608SYCK	AlGaInP	590	water clear	80	150	120°	
KP-1608SGC	GaP	568	water clear	5	12	150°	
KP-1608CGCK	AlGaInP	570	water clear	20	50	120°	
KP-1608ZGC	InGaN	525	water clear	200	400	130°	
KP-1608QBC-D	InGaN	465	water clear	40	100	130°	

## NOTES:

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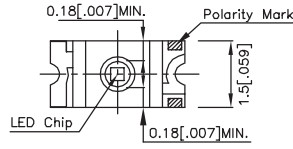
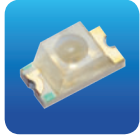
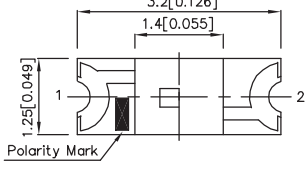

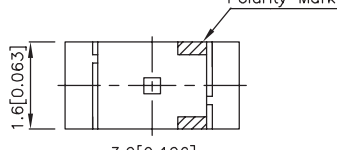

## TOP-EMITTING CHIP SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KPHCM-2012SURCK	AlGaInP	630	water clear	40	80	140°	2.0mm x 1.25mm x 0.4mm (0805)    
KPHCM-2012SECK	AlGaInP	601	water clear	80	180	140°	
KPHCM-2012SYCK	AlGaInP	590	water clear	80	150	140°	
KPHCM-2012CGCK	AlGaInP	570	water clear	20	50	140°	
KPHCM-2012ZGC	InGaN	525	water clear	200	400	140°	
KPHCM-2012QBC-D	InGaN	465	water clear	40	100	140°	
KPT-2012EC	GaAsP/GaP	617	water clear	3	8	160°	2.0mm x 1.25mm x 0.75mm (0805)    
KPT-2012SURCK	AlGaInP	630	water clear	40	80	140°	
KPT-2012SECK	AlGaInP	601	water clear	80	180	140°	
KPT-2012YC	GaAsP/GaP	588	water clear	3	8	160°	
KPT-2012SYCK	AlGaInP	590	water clear	80	150	140°	
KPT-2012SGC	GaP	568	water clear	5	12	160°	
KPT-2012CGCK	AlGaInP	570	water clear	20	50	140°	
KPT-2012ZGC	InGaN	525	water clear	200	400	140°	
KPT-2012QBC-D	InGaN	465	water clear	40	100	140°	
KPT-2012VBC-D	InGaN	470	water clear	120	180	140°	
KP-2012EC	GaAsP/GaP	617	water clear	3	8	160°	2.0mm x 1.25mm x 1.1mm (0805)    
KP-2012SURCK	AlGaInP	630	water clear	40	80	140°	
KP-2012SECK	AlGaInP	601	water clear	80	180	140°	
KP-2012YC	GaAsP/GaP	588	water clear	3	8	160°	
KP-2012SYCK	AlGaInP	590	water clear	80	150	140°	
KP-2012SGC	GaP	568	water clear	5	12	160°	
KP-2012CGCK	AlGaInP	570	water clear	20	50	140°	
KP-2012ZGC	InGaN	525	water clear	200	400	140°	
KP-2012QBC-D	InGaN	465	water clear	40	100	140°	

## NOTES:

1. KP series custom-made is available upon request.
2. Luminous intensity value is traceable to CIE127-2007 standards.

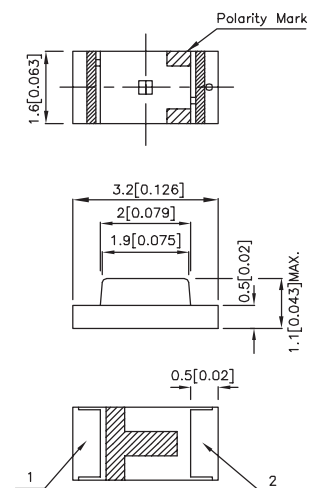
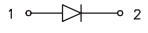
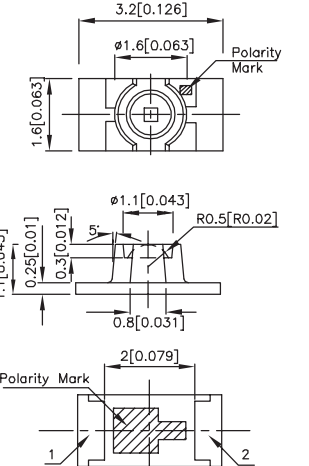
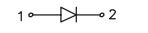
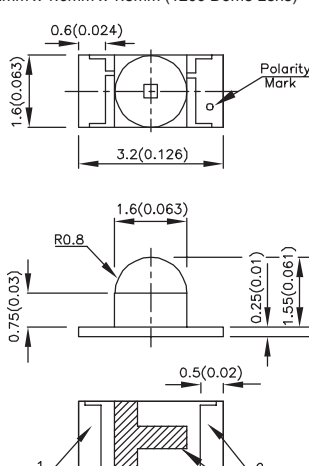
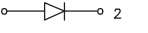
## TOP-EMITTING CHIP SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ /2	Dimensions
				Min.	Typ.		
KPL-3015EC	GaAsP/GaP	617	water clear	5	12	100°	<p>3.0mm x 1.5mm x 1.4mm (1106)</p>   <p>KPL-3015</p>
KPL-3015SURCK	AlGaInP	630	water clear	120	180	70°	
KPL-3015SECK	AlGaInP	601	water clear	120	350	70°	
KPL-3015SYCK	AlGaInP	590	water clear	200	350	70°	
KPL-3015YC	GaAsP/GaP	588	water clear	8	14	100°	
KPL-3015SGC	GaP	568	water clear	8	18	100°	
KPL-3015CGCK	AlGaInP	570	water clear	55	120	70°	
KPL-3015ZGC	InGaN	525	water clear	500	800	50°	
KPL-3015QBC-D	InGaN	465	water clear	120	200	50°	
KPTC-3212SURCK-01	AlGaInP	630	water clear	40	80	140°	<p>3.2mm x 1.25mm x 1.1mm</p>   <p>KPTC-3212</p>
KPTC-3212SECK-01	AlGaInP	601	water clear	80	180	140°	
KPTC-3212SYCK-01	AlGaInP	590	water clear	80	180	140°	
KPTC-3212CGCK-01	AlGaInP	570	water clear	20	50	140°	
KPTC-3212QBC-D-01	InGaN	465	water clear	40	80	140°	
KPT-3216EC	GaAsP/GaP	617	water clear	3	8	160°	<p>3.2mm x 1.6mm x 0.75mm (1206)</p>   <p>KPT-3216</p>
KPT-3216SURCK	AlGaInP	630	water clear	40	80	140°	
KPT-3216SECK	AlGaInP	601	water clear	80	180	140°	
KPT-3216YC	GaAsP/GaP	588	water clear	3	8	160°	
KPT-3216SYCK	AlGaInP	590	water clear	80	150	140°	
KPT-3216SGC	GaP	568	water clear	5	12	160°	
KPT-3216CGCK	AlGaInP	570	water clear	20	50	140°	
KPT-3216ZGC	InGaN	525	water clear	200	400	150°	
KPT-3216QBC-D	InGaN	465	water clear	40	100	150°	

## NOTES:

1. KP series custom-made is available upon request.
2. Luminous intensity value is traceable to CIE127-2007 standards.

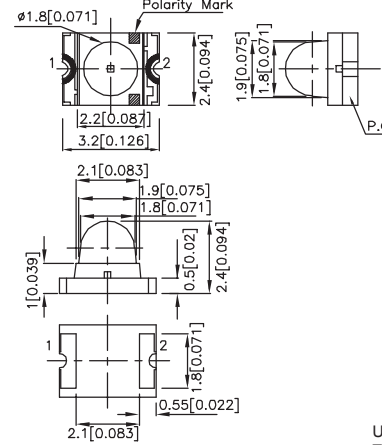
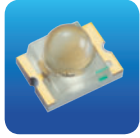

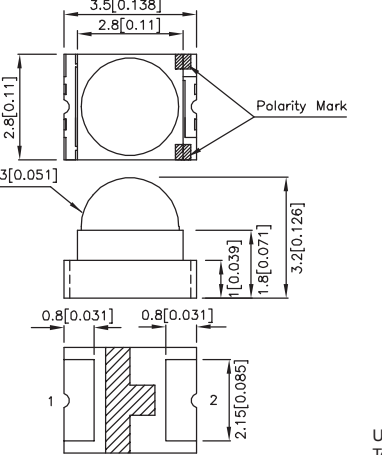
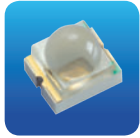
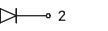
## TOP-EMITTING CHIP SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KP-3216EC	GaAsP/GaP	617	water clear	3	8	160°	3.2mm x 1.6mm x 1.1mm (1206)   Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
KP-3216SURCK	AlGaInP	630	water clear	40	80	140°	
KP-3216SECK	AlGaInP	601	water clear	80	180	140°	
KP-3216YC	GaAsP/GaP	588	water clear	3	8	160°	
KP-3216SYCK	AlGaInP	590	water clear	80	150	140°	
KP-3216SGC	GaP	568	water clear	5	12	160°	
KP-3216CGCK	AlGaInP	570	water clear	20	50	140°	
KP-3216ZGC	InGaN	525	water clear	200	400	150°	
KP-3216QBC-D	InGaN	465	water clear	40	100	150°	
KPTL-3216SURCK	AlGaInP	630	water clear	120	230	80°	3.2mm x 1.6mm x 1.1mm (1206)   Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPTL-3216SECK	AlGaInP	601	water clear	200	350	80°	
KPTL-3216SYCK	AlGaInP	590	water clear	200	350	80°	
KPTL-3216CGCK	AlGaInP	570	water clear	55	100	80°	
KPTL-3216ZGC	InGaN	525	water clear	700	1100	80°	
KPTL-3216QBC-D	InGaN	465	water clear	120	250	80°	
KPTD-3216SURCK	AlGaInP	630	water clear	300	800	40°	3.2mm x 1.6mm x 1.8mm (1206 Dome Lens)   Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
KPTD-3216SECK	AlGaInP	601	water clear	500	1000	40°	
KPTD-3216SYCK	AlGaInP	590	water clear	700	800	40°	
KPTD-3216CGCK	AlGaInP	570	water clear	120	300	40°	
KPTD-3216ZGC	InGaN	525	water clear	1900	3500	30°	
KPTD-3216ZGC-G	InGaN	525	water clear	3100	4200	30°	
KPTD-3216QBC-D	InGaN	465	water clear	300	700	30°	

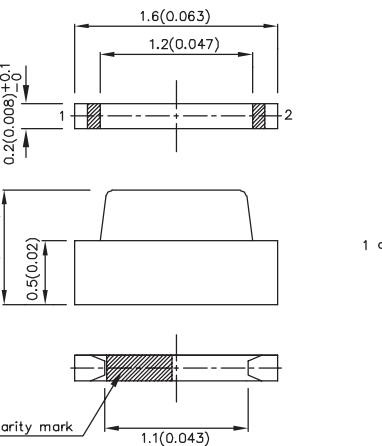
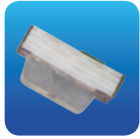
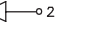
## NOTES:

1. KP series custom-made is available upon request.
2. Luminous intensity value is traceable to CIE127-2007 standards.

## TOP-EMITTING CHIP SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KPD-3224SURCK	AlGaInP	630	water clear	700	1500	20°	3.2mm x 2.4mm x 2.4mm (Dome Lens)   KPD-3224 P.C.Board  Units : mm (inch) Tolerance : $\pm 0.1(0.004)$
KPD-3224SECK	AlGaInP	601	water clear	1000	1600	20°	
KPD-3224SYCK	AlGaInP	590	water clear	1000	1300	20°	
KPD-3224CGCK	AlGaInP	570	water clear	400	600	20°	
KPD-3224ZGC	InGaN	525	water clear	3100	6000	20°	
KPD-3224QBC-D	InGaN	465	water clear	500	900	20°	
KPED-3528SURCK	AlGaInP	630	water clear	120	250	70°	3.5mm x 2.8mm x 3.2mm (Dome Lens)   KPED-3528  Units : mm (inch) Tolerance : $\pm 0.2(0.008)$
KPED-3528SECK	AlGaInP	601	water clear	400	700	70°	
KPED-3528SYCK	AlGaInP	590	water clear	300	500	70°	
KPED-3528CGCK	AlGaInP	570	water clear	80	200	70°	

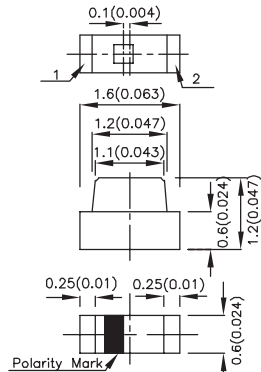
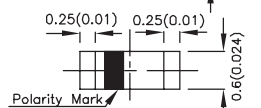
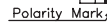
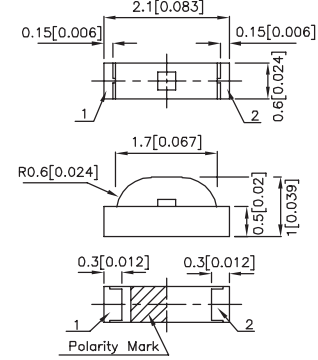
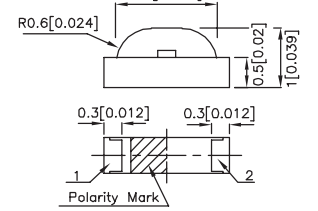

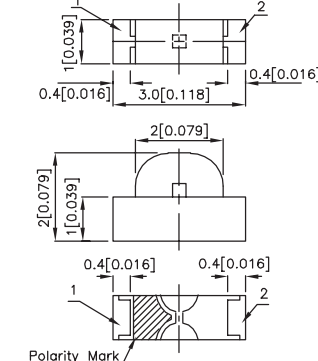
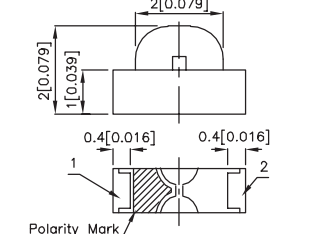

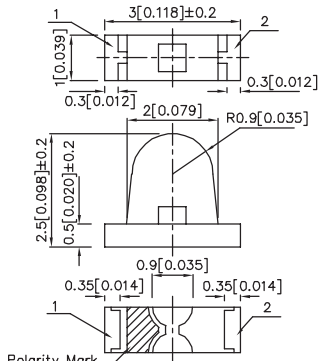
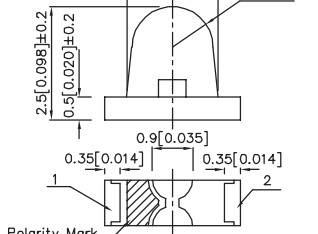

## RIGHT ANGLE SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KPGA-1602SURC-KA	AlGaInP	631	water clear	20	70	150°	1.6mm x 0.9mm x 0.2mm (Right Angle)   KPGA-1602  Units : mm (inch) Tolerance : $\pm 0.1(0.004)$
KPGA-1602SEC-E-KA	AlGaInP	624	water clear	55	120	150°	
KPGA-1602SEC-KA	AlGaInP	605	water clear	20	70	150°	
KPGA-1602SYC-KA	AlGaInP	589	water clear	40	75	150°	
KPGA-1602CGC-KA	AlGaInP	571	water clear	12	30	150°	
KPGA-1602QBC-KA	InGaN	463	water clear	20	60	150°	

## NOTES:

1. KP series custom-made is available upon request.
2. Luminous intensity value is traceable to CIE127-2007 standards.

## RIGHT ANGLE SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimensions
				Min.	Typ.		
KPA-1606SURCK	AlGaInP	630	water clear	40	80	110°	1.6mm x 1.2mm x 0.6mm (0602 Right Angle)    Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPA-1606SECK	AlGaInP	601	water clear	80	180	110°	
KPA-1606SYCK	AlGaInP	590	water clear	80	150	110°	
KPA-1606CGCK	AlGaInP	570	water clear	20	50	110°	
KPA-1606ZGC	InGaN	525	water clear	200	400	110°	
KPA-1606QBC-D	InGaN	465	water clear	40	80	110°	
KPA-1606QBC-G	InGaN	465	water clear	80	150	110°	
KPA-1606VBC-D	InGaN	470	water clear	120	200	110°	
KPA-2107SURCK	AlGaInP	630	water clear	40	80	140°	2.1mm x 1.0mm x 0.6mm (Right Angle)    Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPA-2107SECK	AlGaInP	601	water clear	80	180	140°	
KPA-2107SYCK	AlGaInP	590	water clear	80	150	140°	
KPA-2107CGCK	AlGaInP	570	water clear	20	50	140°	
KPA-2107ZGCK	InGaN	525	water clear	200	300	170°	
KPA-2107ZGC-G	InGaN	525	water clear	400	650	170°	
KPA-2107QBC-D	InGaN	465	water clear	40	80	170°	
KPA-2107VBC-D	InGaN	470	water clear	120	200	170°	
KPA-3010EC	GaAsP/GaP	617	water clear	3	6	120°	3.0mm x 2.0mm x 1.0mm (1104 Right Angle)    Units : mm(inch) Tolerance : $\pm 0.15(0.006)$
KPA-3010SURCK	AlGaInP	630	water clear	40	80	120°	
KPA-3010SECK	AlGaInP	601	water clear	80	180	120°	
KPA-3010YC	GaAsP/GaP	588	water clear	3	6	120°	
KPA-3010SYCK	AlGaInP	590	water clear	80	150	120°	
KPA-3010SGC	GaP	568	water clear	5	12	120°	
KPA-3010CGCK	AlGaInP	570	water clear	20	50	120°	
KPA-3010ZGC	InGaN	525	water clear	200	400	120°	
KPA-3010QBC-D	InGaN	465	water clear	40	80	120°	
KPPA-3010SURCK	AlGaInP	630	water clear	200	300	30°	3.0mm x 2.5mm x 1.0mm (Right Angle)    Units : mm(inch) Tolerance : $\pm 0.15(0.006)$
KPPA-3010SYCK	AlGaInP	590	water clear	300	450	30°	
KPPA-3010CGCK	AlGaInP	570	water clear	80	150	30°	

## NOTES:

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2. Luminous intensity value is traceable to CIE127-2007 standards.



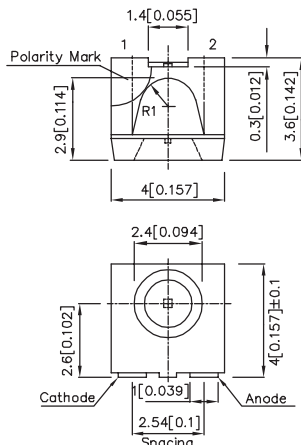

## RIGHT ANGLE SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KPA-3210SYCK	AlGaInP	590	water clear	80	150	120°	3.2mm x 1.5mm x 1.0mm (1304 Right Angle)     <b>KPA-3210</b> Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPA-3210ZGC	InGaN	525	water clear	200	400	150°	
KPA-3210VBC-D	InGaN	470	water clear	120	200	150°	
KA-2810ASURSK	AlGaInP	630	water clear	40	100	110°	2.8mm x 1.2mm x 0.8mm (Right Angle)    <b>KA-2810A</b> Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KA-2810ASYSK	AlGaInP	590	water clear	120	200	110°	
KA-2810ACGSK	AlGaInP	570	water clear	20	60	110°	
KA-2810AZGS	InGaN	525	water clear	500	850	110°	
KA-2810AZGS-G	InGaN	525	water clear	1000	1400	110°	
KA-2810AQBS-D	InGaN	465	water clear	80	150	110°	
KA-2810AVBS-D	InGaN	470	water clear	200	350	110°	
KA-4008SURSK	AlGaInP	630	water clear	55	90	120°	4.0mm x 0.8mm (Right Angle)    <b>KA-4008</b> Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KA-4008ZGS	InGaN	525	water clear	500	800	120°	
KA-4008VBS-D	InGaN	470	water clear	300	450	120°	

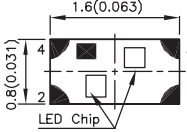
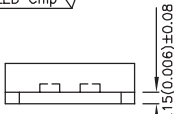

## NOTES:

1. KP series custom-made is available upon request.
2. Luminous intensity value is traceable to CIE127-2007 standards.

## RIGHT ANGLE SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KA-4040SURCKT	AlGaInP	630	water clear	80	150	120°	4.0mm x 4.0mm (Right Angle)   KA-4040 Units : mm(inch) Tolerance : $\pm 0.25(0.01)$
KA-4040SECKT	AlGaInP	601	water clear	80	220	120°	
KA-4040SYCKT	AlGaInP	590	water clear	120	250	120°	
KA-4040CGCKT	AlGaInP	570	water clear	40	90	120°	
KA-4040ZGCT	InGaN	525	water clear	500	850	120°	
KA-4040QBS-D	InGaN	465	water clear	80	220	120°	

## MULTI-COLOR SMD LED

Part Number	Material	$\lambda$ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimensions																																																
				Min.	Typ.																																																		
KPHB-1608CGKSYKC-GX	AlGaInP	570	water clear	20	50	130°	<div>1.6mm x 0.8mm x 0.5mm (Bi-Color)</div> <div></div> <div></div> <div></div> <div>KPHB-1608</div> <div><table><tr><td>4</td><td>SYK</td><td>3</td><td>4</td><td>Y</td><td>3</td></tr><tr><td>2</td><td>CGK</td><td>1</td><td>2</td><td>SG</td><td>1</td></tr></table><table><tr><td>4</td><td>SURK</td><td>3</td><td>4</td><td>E</td><td>3</td></tr><tr><td>2</td><td>ZG</td><td>1</td><td>2</td><td>SG</td><td>1</td></tr></table><table><tr><td>4</td><td>SURK</td><td>3</td><td>4</td><td>CGK</td><td>3</td></tr><tr><td>2</td><td>CGK</td><td>1</td><td>2</td><td>QB-D</td><td>1</td></tr></table><table><tr><td>4</td><td>SURK</td><td>3</td><td>4</td><td>SYK</td><td>3</td></tr><tr><td>2</td><td>SYK</td><td>1</td><td>2</td><td></td><td>1</td></tr></table></div> <div>Units : mm(inch) Tolerance : ±0.15(0.006)</div>	4	SYK	3	4	Y	3	2	CGK	1	2	SG	1	4	SURK	3	4	E	3	2	ZG	1	2	SG	1	4	SURK	3	4	CGK	3	2	CGK	1	2	QB-D	1	4	SURK	3	4	SYK	3	2	SYK	1	2		1
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2	CGK	1	2	SG	1																																																		
4	SURK	3	4	E	3																																																		
2	ZG	1	2	SG	1																																																		
4	SURK	3	4	CGK	3																																																		
2	CGK	1	2	QB-D	1																																																		
4	SURK	3	4	SYK	3																																																		
2	SYK	1	2		1																																																		
KPHB-1608ZGSURKC-GX	InGaN	525	water clear	200	350	130°																																																	
	AlGaInP	630		40	90																																																		
KPHB-1608CGKSURKC-GX	AlGaInP	570	water clear	20	50	130°																																																	
	AlGaInP	630		40	90																																																		
KPHB-1608SGYC-GX	GaP	568	water clear	5	15	130°																																																	
	GaAsP/GaP	588		3	5																																																		
KPHB-1608SGEC-GX	GaP	568	water clear	5	15	130°																																																	
	GaAsP/GaP	617		5	12																																																		
KPHB-1608QBDCGKC-GX	InGaN	465	water clear	40	70	130°																																																	
	AlGaInP	570		20	50																																																		
KPHB-1608SYKSURKC-GX	AlGaInP	590	water clear	80	150	130°																																																	
	AlGaInP	630		40	90																																																		
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°																																																	
	GaP	568		5	12																																																		
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°																																																	
	AlGaInP	570		20	50																																																		
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°																																																	
	InGaN	465		40	80																																																		
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°																																																	
	AlGaInP	570		20	50																																																		

KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
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KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	150°
AlGaInP	570	20	50			
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	150°
InGaN	465	40	80			
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	150°
AlGaInP	570	20	50			
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	150°
GaP	568	5	12			
KPTB-1612SURKCGKC	<					

## NOTES:

1. KP series custom-made is available upon request.
2. Luminous intensity value is traceable to CIE127-2007 standards.

## MULTI-COLOR SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KPTB-1615ESGC	GaAsP/GaP	617	water clear	3	7	150°	1.6mm x 1.5mm x 0.7mm (0606 Bi-Color)   

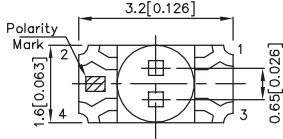
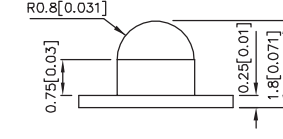
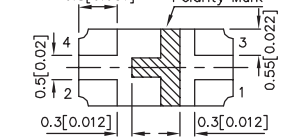
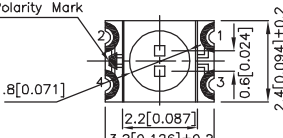
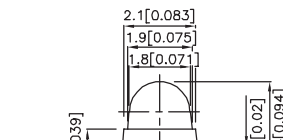
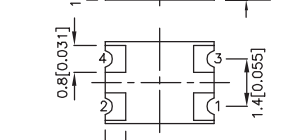
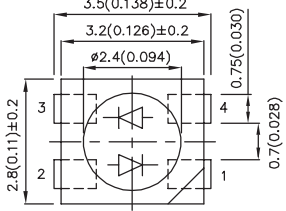
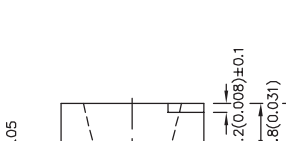
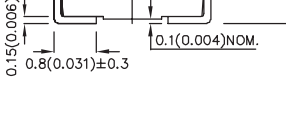
## MULTI-COLOR SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KM-23ESGC	GaAsP/GaP	617	water clear	3	5	160°	SOT-23 Surface Mount LED Lamp (3mm x 1.3mm)   Units : mm(inch) Tolerance : ±0.25(0.01)
	GaP	568		5	10		
KPBDA-3020SURKCGKC-PF	AlGaInP	630	water clear	120	300	15°	3.0mm x 2.8mm x 2.0mm (Right Angle, Dome Lens)   Units : mm(inch) Tolerance : ±0.2(0.008)
	AlGaInP	570		120	300		
KPB-3025ESGC	GaAsP/GaP	617	water clear	3	8	160°	3.0mm x 2.5mm x 1.1mm (1109 Bi-Color)   Units : mm(inch) Tolerance : ±0.2(0.008)
	GaP	568		8	15		
KPB-3025SURKCGKC	AlGaInP	630	water clear	40	70	160°	3.0mm x 2.5mm x 1.1mm (1109 Bi-Color)   Units : mm(inch) Tolerance : ±0.2(0.008)
	AlGaInP	570		20	60		
KPB-3025SURKZGC	AlGaInP	630	water clear	40	70	160°	3.0mm x 2.5mm x 1.1mm (1109 Bi-Color)   Units : mm(inch) Tolerance : ±0.2(0.008)
	InGaIn	525		200	350		
KPB-3025SURKSYKC	AlGaInP	630	water clear	40	70	160°	3.0mm x 2.5mm x 1.1mm (1109 Bi-Color)   Units : mm(inch) Tolerance : ±0.2(0.008)
	AlGaInP	590		80	120		
KPB-3025ESGC	GaAsP/GaP	617	water clear	8	15	70°	3.0mm x 2.5mm x 1.4mm (1109 Bi-Color)   Units : mm(inch) Tolerance : ±0.2(0.008)
	GaP	568		12	20		
KPB-3025SURKCGKC	AlGaInP	630	water clear	120	300	50°	3.0mm x 2.5mm x 1.4mm (1109 Bi-Color)   Units : mm(inch) Tolerance : ±0.2(0.008)
	AlGaInP	570		80	150		
KPB-3025SURKZGC	AlGaInP	630	water clear	120	300	50°	3.0mm x 2.5mm x 1.4mm (1109 Bi-Color)   Units : mm(inch) Tolerance : ±0.2(0.008)
	InGaIn	525		400	800		
KPB-3025SYKCGKC	AlGaInP	590	water clear	200	400	50°	3.0mm x 2.5mm x 1.4mm (1109 Bi-Color)   Units : mm(inch) Tolerance : ±0.2(0.008)
	AlGaInP	570		80	150		

## NOTES:

1. KP series custom-made is available upon request.
2. Luminous intensity value is traceable to CIE127-2007 standards.

## MULTI-COLOR SMD LED

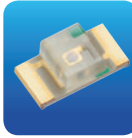
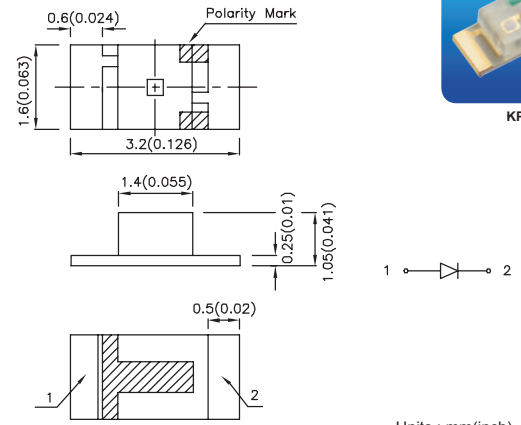
Part Number	Material	$\lambda$ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimensions	
				Min.	Typ.			
KPTBD-3216ESGC	GaAsP/GaP	617	water clear	3	8	30°	<div>3.2mm x 1.6mm x 1.8mm ( Bi-Color)</div> <div></div> <div></div> <div></div> <div><div><div><div>↔</div><div>E</div><div>↔</div><div>1</div></div><div><div>↔</div><div>SG</div><div>↔</div><div>3</div></div><div><div>↔</div><div>4</div><div>↔</div><div>2</div></div></div><div><div><div>↔</div><div>SURK</div><div>↔</div><div>1</div></div><div><div>↔</div><div>ZG</div><div>↔</div><div>3</div></div><div><div>↔</div><div>4</div><div>↔</div><div>2</div></div></div><div><div><div>↔</div><div>SURK</div><div>↔</div><div>1</div></div><div><div>↔</div><div>CGK</div><div>↔</div><div>3</div></div><div><div>↔</div><div>4</div><div>↔</div><div>2</div></div></div><div><div><div>↔</div><div>SE-J3</div><div>↔</div><div>1</div></div><div><div>↔</div><div>ZG-G</div><div>↔</div><div>3</div></div><div><div>↔</div><div>4</div><div>↔</div><div>2</div></div></div></div> <div>Units : mm(inch) Tolerance : ±0.2(0.008)</div>	
	GaP	568		20	40			
KPTBD-3216SURKCGKC	AlGaInP	630	water clear	300	600	30°		
	AlGaInP	570		120	250			
KPTBD-3216SURKZGC	AlGaInP	630	water clear	300	600	30°		
	InGaN	525		500	1000			
KPTBD-3216SEJ3ZGGC	AlGaInP	625	water clear	1000	1500	30°		
	InGaN	525		700	1300			
KPTBD-3216SYKCGKC	AlGaInP	590	water clear	300	600	30°		
	AlGaInP	570		120	250			
KPBD-3224ESGC	GaAsP/GaP	617	water clear	12	40	20°	<div>3.2mm x 2.4mm x 2.4mm (Dome Lens)</div> <div></div> <div></div> <div></div> <div><div><div><div>↔</div><div>E</div><div>↔</div><div>1</div></div><div><div>↔</div><div>SG</div><div>↔</div><div>3</div></div><div><div>↔</div><div>4</div><div>↔</div><div>2</div></div></div><div><div><div>↔</div><div>SURK</div><div>↔</div><div>1</div></div><div><div>↔</div><div>ZG</div><div>↔</div><div>3</div></div><div><div>↔</div><div>4</div><div>↔</div><div>2</div></div></div><div><div><div>↔</div><div>SURK</div><div>↔</div><div>1</div></div><div><div>↔</div><div>CGK</div><div>↔</div><div>3</div></div><div><div>↔</div><div>4</div><div>↔</div><div>2</div></div></div><div><div><div>↔</div><div>SE-J3</div><div>↔</div><div>1</div></div><div><div>↔</div><div>ZG-G</div><div>↔</div><div>3</div></div><div><div>↔</div><div>4</div><div>↔</div><div>2</div></div></div></div> <div>Units : mm(inch) Tolerance : ±0.1(0.004)</div>	
	GaP	568		20	55			
KPBD-3224SURKCGKC	AlGaInP	630	water clear	120	400	20°		
	AlGaInP	570		80	280			
KPBD-3224SURKZGC	AlGaInP	630	water clear	120	400	20°		
	InGaN	525		500	950			
KPBD-3224SYKCGKC	AlGaInP	590	water clear	400	800	20°		
	AlGaInP	570		80	280			
KAA-3528ESGCT	GaAsP/GaP	617	water clear	8	15	120°		<div>3.5mm x 2.8mm</div> <div></div> <div></div> <div></div> <div><div><div><div>↔</div><div>SG</div><div>↔</div><div>4</div></div><div><div>↔</div><div>E</div><div>↔</div><div>1</div></div><div><div>↔</div><div>3</div><div>↔</div><div>2</div></div></div><div><div><div>↔</div><div>CGK</div><div>↔</div><div>4</div></div><div><div>↔</div><div>SURK</div><div>↔</div><div>1</div></div><div><div>↔</div><div>3</div><div>↔</div><div>2</div></div></div><div><div><div>↔</div><div>SYK</div><div>↔</div><div>4</div></div><div><div>↔</div><div>SURK</div><div>↔</div><div>1</div></div><div><div>↔</div><div>3</div><div>↔</div><div>2</div></div></div></div> <div>Units : mm(inch) Tolerance : ±0.25(0.01)</div>
	GaP	568		12	30			
KAA-3528SURKCGKCT	AlGaInP	630	water clear	55	100	120°		
	AlGaInP	570		40	80			
KAA-3528SURKSYKCT	AlGaInP	630	water clear	55	100	120°		
	AlGaInP	590		120	240			

## NOTES:


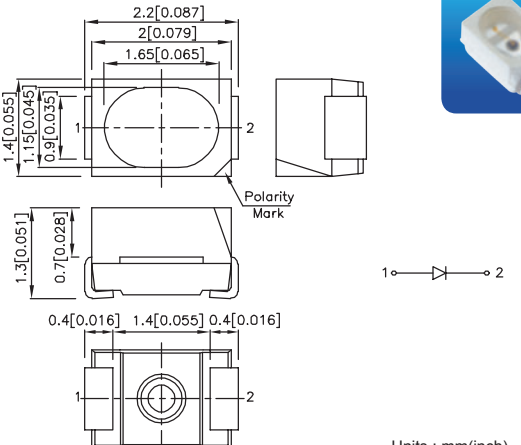

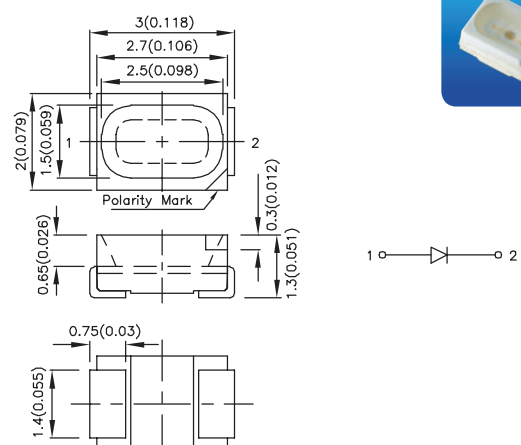
1. KP series custom-made is available upon request.
2. Luminous intensity value is traceable to CIE127-2007 standards.



## REVERSE MOUNT SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KPTR-3216SURCK	AlGaInP	630	water clear	40	80	140°	3.2mm x 1.6mm x 1.05mm (1206 Reverse Mount)  <b>KPTR-3216</b>  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
KPTR-3216SECK	AlGaInP	601	water clear	80	180	140°	
KPTR-3216SYCK	AlGaInP	590	water clear	80	150	140°	
KPTR-3216CGCK	AlGaInP	570	water clear	20	50	140°	
KPTR-3216ZGC	InGaN	525	water clear	200	400	140°	
KPTR-3216QBC-D	InGaN	465	water clear	40	100	140°	

## TOP-EMITTING PLCC SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KA-2214SURSK	AlGaInP	630	water clear	55	100	120°	2.2mm x 1.4mm x 1.3mm  <b>KA-2214</b>  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
KA-2214ZGS	InGaN	525	water clear	400	700	120°	
KA-2214QBS-D	InGaN	465	water clear	80	150	120°	
KA-3021SURSK	AlGaInP	630	water clear	40	90	120°	3.0mm x 2.0mm x 1.3mm  <b>KA-3021</b>  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
KA-3021YS	GaAsP/GaP	588	water clear	8	15	120°	
KA-3021SYSK	AlGaInP	590	water clear	120	200	120°	
KA-3021SGS	GaP	568	water clear	12	20	120°	
KA-3021CGSK	AlGaInP	570	water clear	40	80	120°	
KA-3021ZGS	InGaN	525	water clear	400	800	120°	
KA-3021QBS-D	InGaN	465	water clear	80	120	120°	

## NOTES:

1. KP series custom-made is available upon request.
2. Luminous intensity value is traceable to CIE127-2007 standards.

## TOP-EMITTING PLCC SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KA-3022CGSK-4.5SF	AlGaInP	570	water clear	40	80	120°	<p>3.0mm x 2.2mm x 1.5mm</p> <p>Units : mm(inch) Tolerance : <math>\pm 0.25(0.01)</math></p>
KA-3528SURCKT	AlGaInP	630	water clear	55	100	120°	<p>3.5mm x 2.8mm x 1.9mm</p> <p>Units : mm(inch) Tolerance : <math>\pm 0.25(0.01)</math></p>
KA-3528SECKT	AlGaInP	601	water clear	120	230	120°	
KA-3528SYCKT	AlGaInP	590	water clear	120	250	120°	
KA-3528CGCKT	AlGaInP	570	water clear	40	100	120°	
KA-3528ZGCKT	InGaIn	525	water clear	300	500	120°	
KA-3528QBS-D	InGaIn	465	water clear	80	150	120°	
KA-3528VBS-D	InGaIn	470	water clear	300	450	120°	

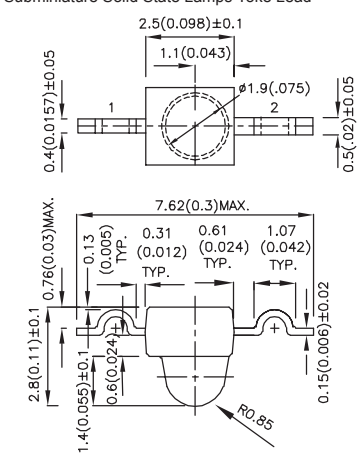

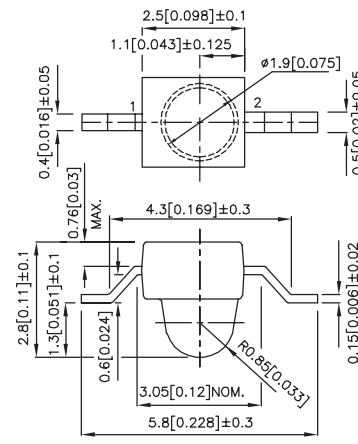

## SUBMINIATURE SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KM2520EC03	GaAsP/GaP	617	water clear	20	50	20°	<p>Subminiature Solid State Lamps Gull Wing Lead</p> <p>Units : mm(inch) Tolerance : <math>\pm 0.25(0.01)</math></p>
KM2520SURCK03	AlGaInP	630	water clear	500	1000	20°	
KM2520YC03	GaAsP/GaP	588	water clear	20	50	20°	
KM2520SYCK03	AlGaInP	590	water clear	1300	2300	20°	
KM2520SGC03	GaP	568	water clear	40	90	20°	
KM2520CGCK03	AlGaInP	570	water clear	400	800	20°	
KM2520ZGC03	InGaIn	525	water clear	2700	6000	20°	
KM2520QBC-D03	InGaIn	465	water clear	300	900	20°	

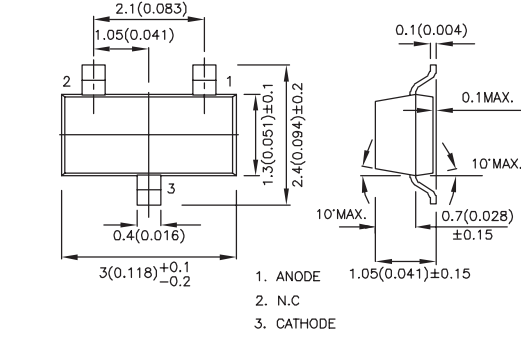

NOTE:

1. Luminous intensity value is traceable to CIE127-2007 standards.

## SUBMINIATURE SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KM2520QBC-D08	InGaN	465	water clear	300	900	20°	<p>Subminiature Solid State Lamps Yoke Lead</p>   <p>KM2520xxx08</p> <p>Units : mm(inch) Tolerance : <math>\pm 0.25(0.01)</math></p>
KM2520EC09	GaAsP/GaP	617	water clear	20	50	20°	<p>Subminiature Solid State Lamps Z-Bend Lead</p>   <p>KM2520xxx09</p> <p>Units : mm(inch) Tolerance : <math>\pm 0.25(0.01)</math></p>
KM2520SURCK09	AlGaInP	630	water clear	500	1000	20°	
KM2520SECK09	AlGaInP	601	water clear	1000	1800	20°	
KM2520YC09	GaAsP/GaP	588	water clear	20	50	20°	
KM2520SYCK09	AlGaInP	590	water clear	1300	2300	20°	
KM2520SGC09	GaP	568	water clear	40	90	20°	
KM2520CGCK09	AlGaInP	570	water clear	400	800	20°	
KM2520ZGC09	InGaN	525	water clear	2700	6000	20°	
KM2520QBC-D09	InGaN	465	water clear	300	900	20°	

## SOT-23 SMD LED

Part Number	Material	$\lambda_D$ (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 $\theta$ 1/2	Dimensions
				Min.	Typ.		
KM-23EC-F	GaAsP/GaP	617	water clear	3	5	170°	<p>SOT-23 Surface Mount LED Lamp (3mm x 1.3mm)</p>   <p>KM-23-F</p> <p>Units : mm(inch) Tolerance : <math>\pm 0.25(0.01)</math></p>
KM-23YC-F	GaAsP/GaP	588	water clear	3	8	170°	
KM-23SGC-F	GaP	568	water clear	5	10	170°	

NOTE:

1. Luminous intensity value is traceable to CIE127-2007 standards.

