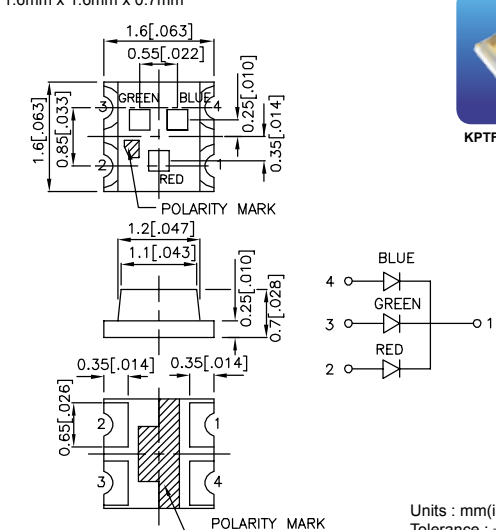
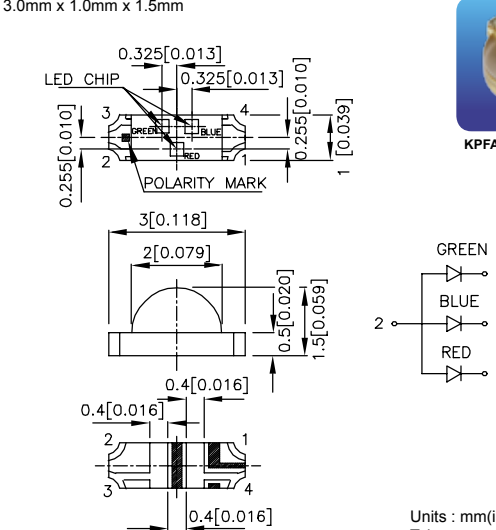
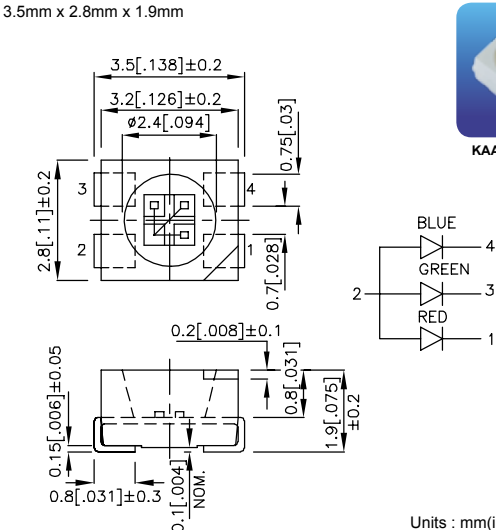


RGB SMD LED

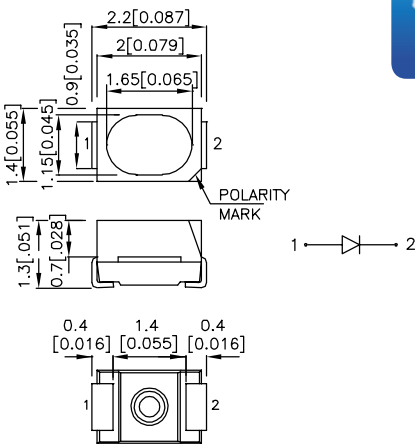
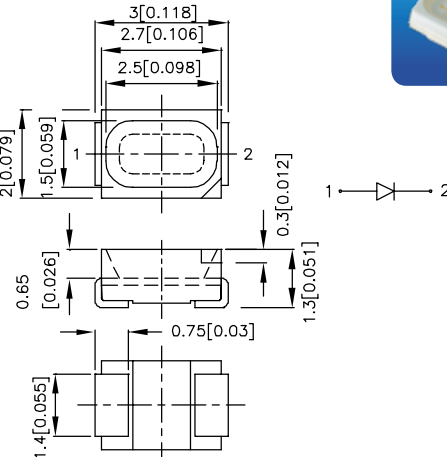
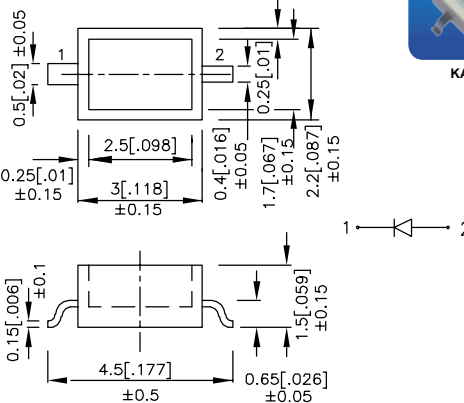
Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
KPTF-1616RGC-13	AlGaInP	625	water clear	200	360	120°	1.6mm x 1.6mm x 0.7mm  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	InGaIn	525		500	750		
	InGaIn	470		80	140		
KPFA-3010RGC-11	AlGaInP	621	water clear	80	140	120°	3.0mm x 1.0mm x 1.5mm  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	InGaIn	525		200	300		
	InGaIn	465		40	70		
KAA-3528RGS-11	AlGaInP	621	Water Clear	120	220	120°	3.5mm x 2.8mm x 1.9mm  Units : mm(inch) Tolerance : $\pm 0.25(0.01)$
	InGaIn	525		400	500		
	InGaIn	465		55	100		

RGB SMD LED

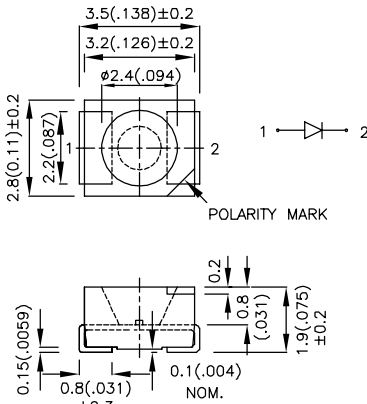
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				Min.	Typ.		
KAAF-3529RGBS-11-C3	AlGaInP	621	Water Clear	80	180	120°	3.5mm x 2.8mm x 1.8mm Units : mm(inch) Tolerance : ±0.2(0.008)
	InGaN	525		400	580		
	InGaN	465		80	130		

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @30mA *50mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
KAAF-5050RGBS-13	AlGaInP	625	water clear	*1000	*1400	120°	5.0mm x 5.0mm x 1.5mm Units : mm(inch) Tolerance : ±0.2(0.008)
	InGaN	525		1000	1400		
	InGaN	470		300	420		

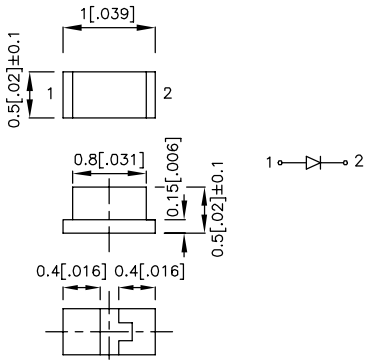
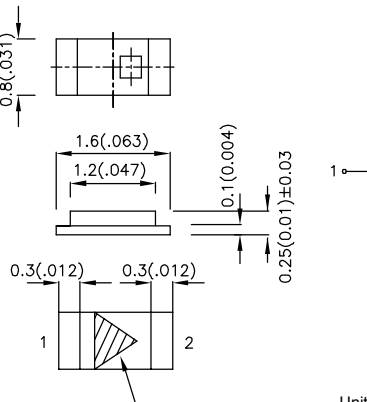
TOP-EMITTING PLCC SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ /2	Dimension
				Min.	Typ.		
KA-2214SURSK	AlGaInP	630	water clear	55	100	120°	2.2mm x 1.4mm x 1.3mm  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
KA-2214SESK	AlGaInP	601	water clear	80	180	120°	
KA-2214SYSK	AlGaInP	590	Water Clear	120	250	120°	
KA-2214CGSK	AlGaInP	570	water clear	40	70	120°	
KA-2214ZGS	InGaN	525	water clear	400	700	120°	
KA-2214QBS-D	InGaN	465	water clear	80	150	120°	
KA-2214VBS-D	InGaN	470	water clear	120	280	120°	
KA-3021ES	GaAsP/GaP	617	water clear	8	18	125°	3.0mm x 2.0 mm x 1.3mm  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
KA-3021SURSK	AlGaInP	630	water clear	40	90	125°	
KA-3021SESK	AlGaInP	601	water clear	120	300	125°	
KA-3021YS	GaAsP/GaP	588	water clear	8	15	125°	
KA-3021SYSK	AlGaInP	590	water clear	120	200	125°	
KA-3021SGS	GaP	568	water clear	12	20	125°	
KA-3021CGSK	AlGaInP	570	water clear	40	80	125°	
KA-3021ZGS	InGaN	525	water clear	400	800	125°	3.0mm x 2.2mm x 1.5mm  Units : mm(inch) Tolerance : $\pm 0.25(0.01)$
KA-3022SURSK-4.5SF	AlGaInP	630	water clear	40	80	120°	
KA-3022SESK-4.5SF	AlGaInP	601	water clear	80	150	120°	
KA-3022SYSK-4.5SF	AlGaInP	590	water clear	120	200	120°	
KA-3022CGSK-4.5SF	AlGaInP	570	water clear	40	80	120°	
KA-3022ZGS-4.5SF	InGaN	525	water clear	400	600	120°	
KA-3022QBS-D-4.5SF	InGaN	465	water clear	80	120	120°	
KA-3022VBS-D-4.5SF	InGaN	470	water clear	200	450	120°	

TOP-EMITTING PLCC SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
KA-3528SURCKT	AlGaInP	630	water clear	55	100	120°	3.5mm x 2.8mm x 1.9mm  Units : mm(inch) Tolerance : ±0.25(0.01)
KA-3528SECKT	AlGaInP	601	water clear	120	230	120°	
KA-3528SYCKT	AlGaInP	590	water clear	80	200	120°	
KA-3528CGCKT	AlGaInP	570	water clear	40	100	120°	
KA-3528ZGCT	InGaN	525	water clear	400	600	120°	
KA-3528QBS-D	InGaN	465	water clear	80	150	120°	
KA-3528VBS-D	InGaN	470	water clear	300	450	120°	

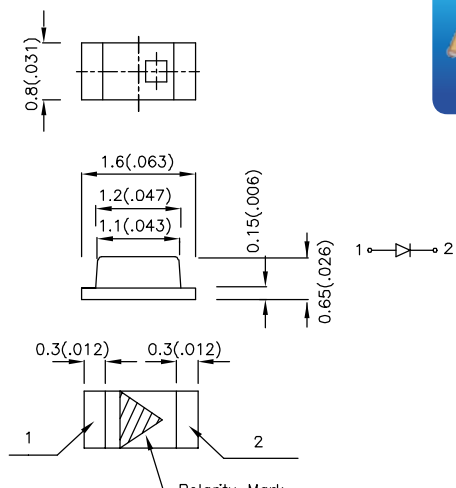
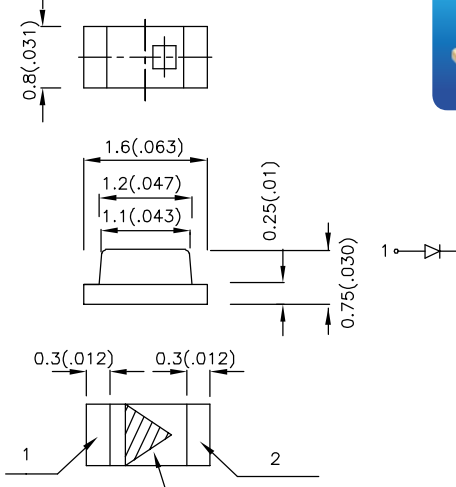
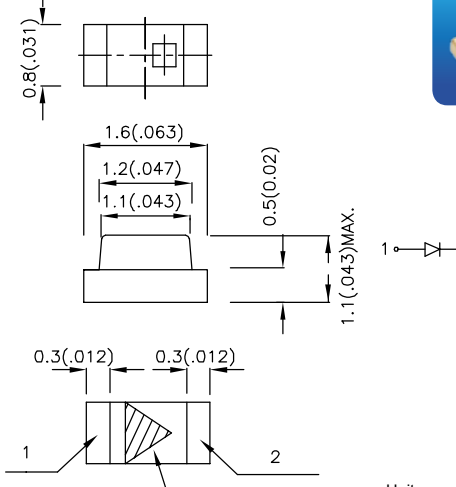
TOP-EMITTING CHIP SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
KPHHS-1005SURCK	AlGaInP	630	water clear	40	70	120°	1.0mm x 0.5mm x 0.5mm (0402)  Units : mm(inch) Tolerance : ±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	120°	
KPHHS-1005QBC-D-V	InGaN	465	water clear	40	60	120°	
KPG-1608SURKC-T	AlGaInP	630	water clear	55	110	120°	1.6mm x 0.8mm x 0.25mm (0603)  Units : mm(inch) Tolerance : ±0.1(0.004)
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	200	400	120°	
KPG-1608QBC-D	InGaN	465	water clear	40	100	120°	
KPG-1608VBC-D	InGaN	470	water clear	120	200	120°	

NOTE:

1.KP series custom-made is available upon request.

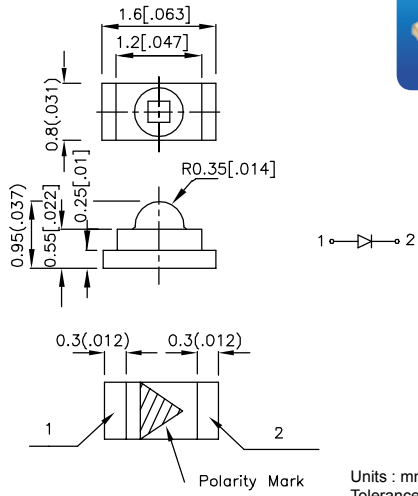
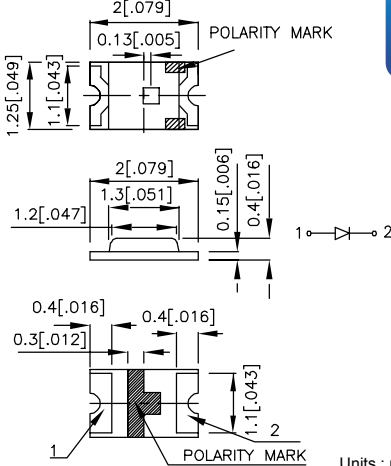
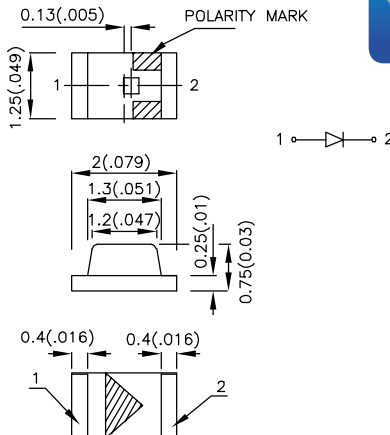
TOP-EMITTING CHIP SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
KPH-1608EC	GaAsP/GaP	617	water clear	3	8	120°	1.6mm x 0.8mm x 0.65mm (0603)  Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPH-1608SURCK	AlGaInP	630	water clear	40	80	120°	
KPH-1608SECK	AlGaInP	601	water clear	80	180	120°	
KPH-1608YC	GaAsP/GaP	588	water clear	3	8	120°	
KPH-1608SYCK	AlGaInP	590	water clear	80	150	120°	
KPH-1608SGC	GaP	568	water clear	5	12	120°	
KPH-1608CGCK	AlGaInP	570	water clear	20	50	120°	
KPH-1608ZGC	InGaN	525	water clear	200	400	120°	
KPH-1608QBC-D	InGaN	465	water clear	40	100	120°	
KPH-1608VBC-D	InGaN	470	water clear	120	180	120°	
KPT-1608EC	GaAsP/GaP	617	water clear	3	8	120°	1.6mm x 0.8mm x 0.75mm (0603)  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	120°	
KPT-1608SYCK	AlGaInP	590	water clear	80	150	120°	
KPT-1608SGC	GaP	568	water clear	5	12	120°	
KPT-1608CGCK	AlGaInP	570	water clear	20	50	120°	
KPT-1608ZGC	InGaN	525	water clear	200	400	120°	
KPT-1608QBC-D	InGaN	465	water clear	40	100	120°	
KPT-1608VBC-D	InGaN	470	water clear	120	180	120°	
KP-1608EC	GaAsP/GaP	617	water clear	3	8	120°	1.6mm x 0.8mm x 1.1mm (0603)  Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
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	120°	
KP-1608SYCK	AlGaInP	590	water clear	80	150	120°	
KP-1608SGC	GaP	568	water clear	5	12	120°	
KP-1608CGCK	AlGaInP	570	water clear	20	50	120°	
KP-1608ZGC	InGaN	525	water clear	200	400	120°	
KP-1608QBC-D	InGaN	465	water clear	40	100	120°	
KP-1608VBC-D	InGaN	470	water clear	120	180	120°	

NOTE:

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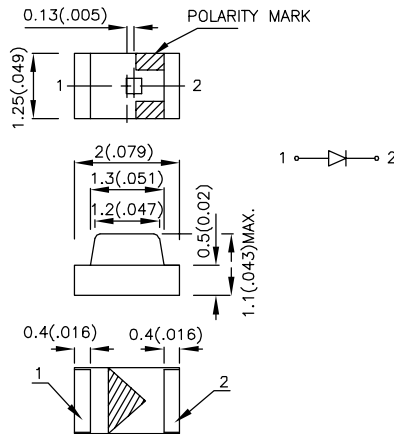
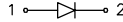
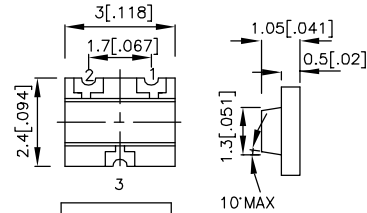
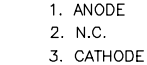
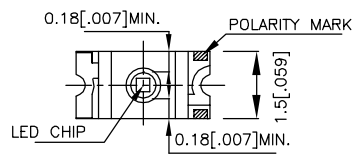
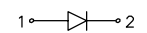
TOP-EMITTING CHIP SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
KPTD-1608SURCK	AlGaInP	630	water clear	80	250	60°	1.6mm x 0.8mm x 0.95mm (Dome Lens)  Units : mm(inch) Tolerance : $\pm 0.15(0.006)$
KPTD-1608SECK	AlGaInP	601	water clear	200	500	60°	
KPTD-1608SYCK	AlGaInP	590	water clear	200	450	60°	
KPTD-1608CGCK	AlGaInP	570	water clear	80	190	60°	
KPTD-1608ZGC	InGaN	525	water clear	500	1000	60°	
KPTD-1608ZGC-G	InGaN	525	water clear	700	1300	60°	
KPTD-1608QBC-D	InGaN	465	water clear	80	200	40°	
KPTD-1608QBC-G	InGaN	465	water clear	200	350	40°	
KPHCM-2012SURCK	AlGaInP	630	water clear	40	80	110°	2.0mm x 1.25mm x 0.4mm (0805)  Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPHCM-2012SECK	AlGaInP	601	water clear	80	180	110°	
KPHCM-2012SYCK	AlGaInP	590	water clear	80	150	110°	
KPHCM-2012CGCK	AlGaInP	570	water clear	20	50	110°	
KPHCM-2012ZGC	InGaN	525	water clear	200	400	110°	
KPHCM-2012QBC-D	InGaN	465	water clear	40	100	110°	
KPHCM-2012VBC-D	InGaN	470	water clear	120	180	110°	
KPT-2012EC	GaAsP/GaP	617	water clear	3	8	120°	2.0mm x 1.25mm x 0.75mm (0805)  Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPT-2012SURCK	AlGaInP	630	water clear	40	80	120°	
KPT-2012SECK	AlGaInP	601	water clear	80	180	120°	
KPT-2012YC	GaAsP/GaP	588	water clear	3	8	120°	
KPT-2012SYCK	AlGaInP	590	water clear	80	150	120°	
KPT-2012SGC	GaP	568	water clear	5	12	120°	
KPT-2012CGCK	AlGaInP	570	water clear	20	50	120°	
KPT-2012ZGC	InGaN	525	water clear	200	400	120°	
KPT-2012QBC-D	InGaN	465	water clear	40	100	120°	
KPT-2012VBC-D	InGaN	470	water clear	120	180	120°	

NOTE:

1.KP series custom-made is available upon request.

TOP-EMITTING CHIP SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
KP-2012EC	GaAsP/GaP	617	water clear	3	8	120°	2.0mm x 1.25mm x 1.1mm (0805)   Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KP-2012SURCK	AlGaInP	630	water clear	40	80	120°	
KP-2012SECK	AlGaInP	601	water clear	80	180	120°	
KP-2012YC	GaAsP/GaP	588	water clear	3	8	120°	
KP-2012SYCK	AlGaInP	590	water clear	80	150	120°	
KP-2012SGC	GaP	568	water clear	5	12	120°	
KP-2012CGCK	AlGaInP	570	water clear	20	50	120°	
KP-2012ZGC	InGaN	525	water clear	200	400	120°	
KP-2012QBC-D	InGaN	465	water clear	40	100	120°	
KP-2012VBC-D	InGaN	470	water clear	120	180	120°	
KP-23SURCK-F	AlGaInP	630	water clear	40	70	120°	3.0mm x 2.4mm x 1.05mm   Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
KP-23SECK-F	AlGaInP	601	water clear	120	230	120°	
KP-23SYCK-F	AlGaInP	590	water clear	80	150	120°	
KP-23CGCK-F	AlGaInP	570	water clear	20	50	120°	
KP-23ZGC-F	InGaN	525	water clear	200	400	120°	
KP-23QBC-D-F	InGaN	465	water clear	55	100	120°	
KP-23VBC-D-F	InGaN	470	water clear	120	180	120°	3.0mm x 1.5mm x 1.4mm (1106)   Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
KPL-3015EC	GaAsP/GaP	617	water clear	5	12	70°	
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	70°	
KPL-3015SGC	GaP	568	water clear	8	18	70°	
KPL-3015CGCK	AlGaInP	570	water clear	55	120	70°	
KPL-3015ZGC	InGaN	525	water clear	500	800	70°	
KPL-3015QBC-D	InGaN	465	water clear	120	200	70°	
KPL-3015VBC-D	InGaN	470	water clear	300	400	70°	

NOTE:

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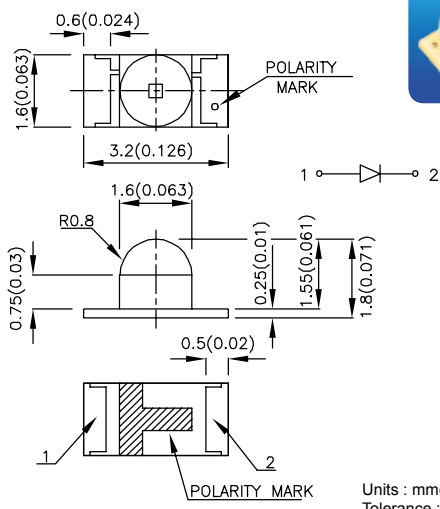
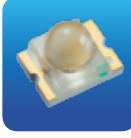
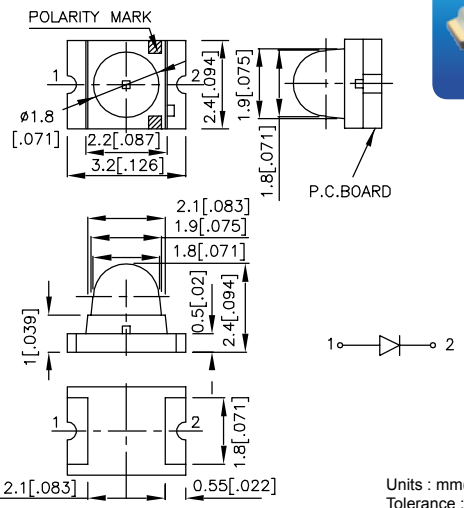
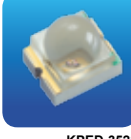
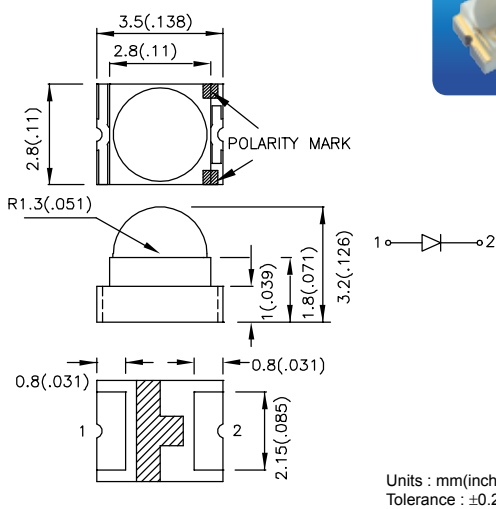
TOP-EMITTING CHIP SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.		
KPT-3216EC	GaAsP/GaP	617	water clear	3	8	120°	3.2mm x 1.6mm x 0.75mm (1206) KPT-3216 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
KPT-3216SURCK	AlGaInP	630	water clear	40	80	120°	
KPT-3216SECK	AlGaInP	601	water clear	80	180	120°	
KPT-3216YC	GaAsP/GaP	588	water clear	3	8	120°	
KPT-3216SYCK	AlGaInP	590	water clear	80	150	120°	
KPT-3216SGC	GaP	568	water clear	5	12	120°	
KPT-3216CGCK	AlGaInP	570	water clear	20	50	120°	
KPT-3216ZGC	InGaIn	525	water clear	200	400	120°	
KPT-3216QBC-D	InGaIn	465	water clear	40	100	120°	
KPT-3216VBC-D	InGaIn	470	water clear	120	180	120°	
KP-3216EC	GaAsP/GaP	617	water clear	3	8	120°	3.2mm x 1.6mm x 1.1mm (1206) KP-3216 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
KP-3216SURCK	AlGaInP	630	water clear	40	80	120°	
KP-3216SECK	AlGaInP	601	water clear	80	180	120°	
KP-3216YC	GaAsP/GaP	588	water clear	3	8	120°	
KP-3216SYCK	AlGaInP	590	water clear	80	150	120°	
KP-3216SGC	GaP	568	water clear	5	12	120°	
KP-3216CGCK	AlGaInP	570	water clear	20	50	120°	
KP-3216ZGC	InGaIn	525	water clear	200	400	120°	
KP-3216QBC-D	InGaIn	465	water clear	40	100	120°	
KP-3216VBC-D	InGaIn	470	water clear	120	180	120°	
KPTL-3216SURCK	AlGaInP	630	water clear	120	230	70°	3.2mm x 1.6mm x 1.1mm (1206) KPTL-3216 Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPTL-3216SECK	AlGaInP	601	water clear	200	350	70°	
KPTL-3216SYCK	AlGaInP	590	water clear	200	350	70°	
KPTL-3216CGCK	AlGaInP	570	water clear	55	100	70°	
KPTL-3216ZGC	InGaIn	525	water clear	500	1100	70°	
KPTL-3216ZGC-G	InGaIn	525	water clear	700	1500	70°	
KPTL-3216QBC-D	InGaIn	465	water clear	80	250	70°	
KPTL-3216VBC-D	InGaIn	470	water clear	400	600	70°	

NOTE:

1.KP series custom-made is available upon request.

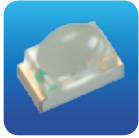
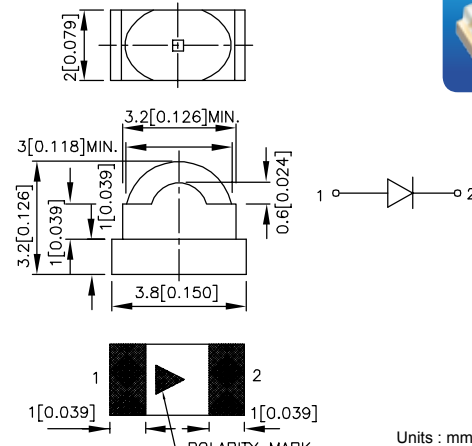
TOP-EMITTING CHIP SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
KPTD-3216SURCK	AlGaInP	630	water clear	300	800	35°	3.2mm x 1.6mm x 1.8mm (1206 Dome Lens)  KPTD-3216  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
KPTD-3216SECK	AlGaInP	601	water clear	500	1000	35°	
KPTD-3216SYCK	AlGaInP	590	water clear	700	800	35°	
KPTD-3216CGCK	AlGaInP	570	water clear	120	300	35°	
KPTD-3216ZGC	InGaN	525	water clear	1300	2300	35°	
KPTD-3216ZGC-G	InGaN	525	water clear	3100	4200	35°	
KPTD-3216QBC-D	InGaN	465	water clear	300	700	35°	
KPTD-3216VBC-D	InGaN	470	water clear	700	1200	35°	
KPD-3224SURCK	AlGaInP	630	water clear	700	1500	20°	3.2mm x 2.4mm x 2.4mm (Dome Lens)  KPD-3224  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	1900	3000	20°	
KPD-3224ZGC-G	InGaN	525	water clear	3600	6000	20°	
KPD-3224QBC-D	InGaN	465	water clear	400	800	20°	
KPD-3224QBC-G	InGaN	465	water clear	700	1400	20°	
KPD-3224VBC-D	InGaN	470	water clear	1600	2000	20°	
KPED-3528SURCK	AlGaInP	630	water clear	120	250	40°	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	40°	
KPED-3528SYCK	AlGaInP	590	water clear	300	500	40°	
KPED-3528CGCK	AlGaInP	570	water clear	80	200	40°	
KPED-3528ZGC	InGaN	525	water clear	1000	1600	40°	
KPED-3528ZGC-G	InGaN	525	water clear	1900	3200	40°	
KPED-3528QBC-D	InGaN	465	water clear	300	400	40°	
KPED-3528QBC-G	InGaN	465	water clear	500	800	40°	
KPED-3528VBC-D	InGaN	470	water clear	500	750	40°	

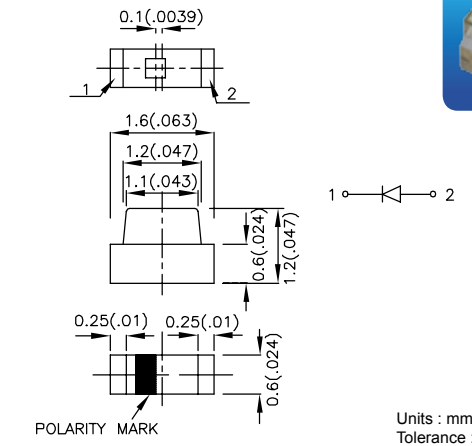
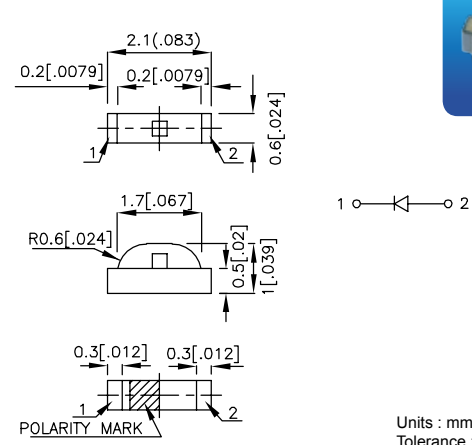
NOTE:

1.KP series custom-made is available upon request.

TOP-EMITTING CHIP SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
KPED-3820SURCK	AlGaInP	630	water clear	120	350	60°(H) 35°(V)	3.8mm x 2.0mm x 3.2mm (Dome Lens)  KPED-3820  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
KPED-3820SECK	AlGaInP	601	water clear	300	600	60°(H) 35°(V)	
KPED-3820SYCK	AlGaInP	590	water clear	200	400	60°(H) 35°(V)	
KPED-3820CGCK	AlGaInP	570	water clear	80	150	60°(H) 35°(V)	
KPED-3820ZGC	InGaN	525	water clear	700	1300	60°(H) 35°(V)	
KPED-3820ZGC-G	InGaN	525	water clear	1900	2700	60°(H) 35°(V)	
KPED-3820QBC-D	InGaN	465	water clear	120	250	60°(H) 35°(V)	
KPED-3820QBC-G	InGaN	465	water clear	400	600	60°(H) 35°(V)	
KPED-3820VBC-D	InGaN	470	water clear	500	750	60°(H) 35°(V)	

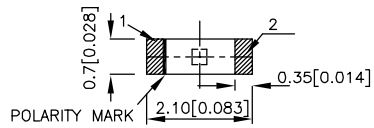
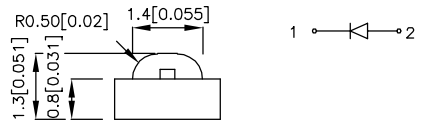
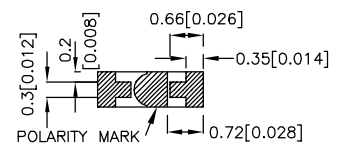
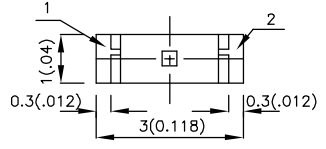
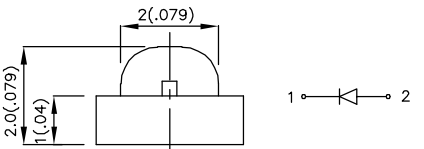
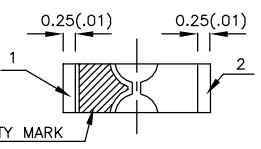
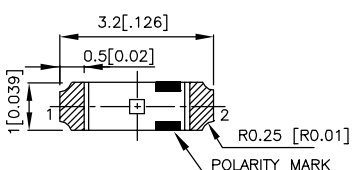
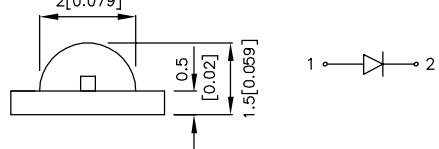
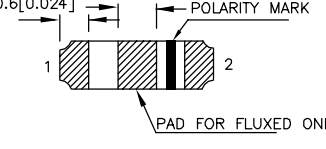
RIGHT ANGLE SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
KPA-1606EC	GaAsP/GaP	617	water clear	3	6	110°	1.6mm x 0.6mm x 1.2mm (0602 Right Angle)  KPA-1606  Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPA-1606SURCK	AlGaInP	630	water clear	40	80	110°	
KPA-1606SECK	AlGaInP	601	water clear	80	180	110°	
KPA-1606YC	GaAsP/GaP	588	water clear	3	6	110°	
KPA-1606SYCK	AlGaInP	590	water clear	80	150	110°	
KPA-1606SGC	GaP	568	water clear	5	12	110°	
KPA-1606CGCK	AlGaInP	570	water clear	20	50	110°	
KPA-1606ZGC	InGaN	525	water clear	200	400	110°	
KPA-1606ZGC-G	InGaN	525	water clear	400	650	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-2106SURCK	AlGaInP	630	water clear	40	80	120°	2.1mm x 0.6mm x 1.0mm (0802 Right Angle)  KPA-2106  Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPA-2106SECK	AlGaInP	601	water clear	80	180	120°	
KPA-2106SYCK	AlGaInP	590	water clear	80	150	120°	
KPA-2106CGCK	AlGaInP	570	water clear	20	50	120°	
KPA-2106ZGC	InGaN	525	water clear	200	400	120°	
KPA-2106ZGC-G	InGaN	525	water clear	400	650	120°	
KPA-2106QBC-D	InGaN	465	water clear	40	80	120°	
KPA-2106QBC-G	InGaN	465	water clear	80	150	120°	
KPA-2106VBC-D	InGaN	470	water clear	120	200	120°	

NOTE:

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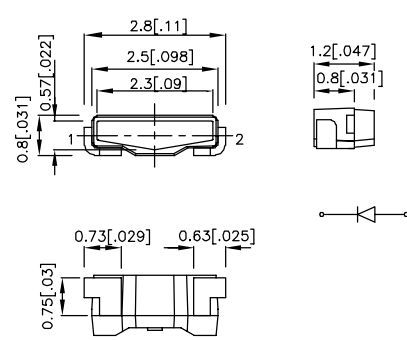
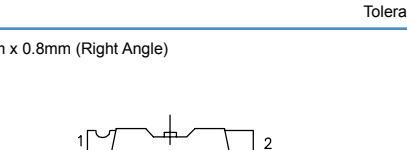
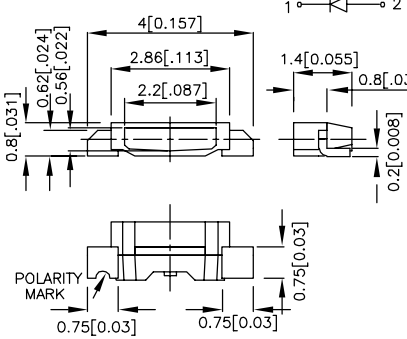
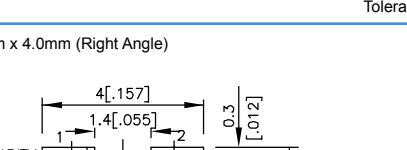
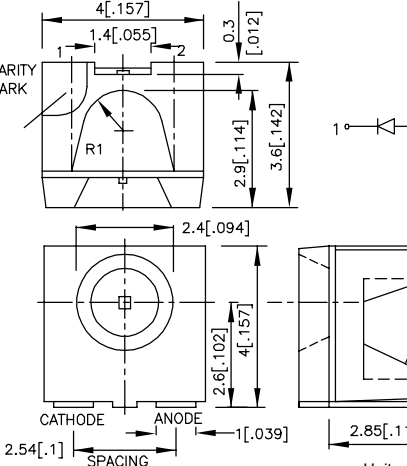
RIGHT ANGLE SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.		
KPJA-2107SURCK	AlGaInP	630	water clear	40	80	120°	2.1mm x 0.7mm x 1.3mm (0802 Right Angle)  KPJA-2107    Units : mm(inch) Tolerance : $\pm 0.15(0.006)$
KPJA-2107SECK	AlGaInP	601	water clear	80	180	120°	
KPJA-2107SYCK	AlGaInP	590	water clear	80	150	120°	
KPJA-2107CGCK	AlGaInP	570	water clear	20	50	120°	
KPJA-2107ZGC	InGaN	525	water clear	200	400	120°	
KPJA-2107ZGC-G	InGaN	525	water clear	400	650	120°	
KPJA-2107QBC-D	InGaN	465	water clear	40	80	120°	
KPJA-2107QBC-G	InGaN	465	water clear	80	150	120°	
KPJA-2107VBC-D	InGaN	470	water clear	120	200	120°	
KPA-3010EC	GaAsP/GaP	617	water clear	3	6	120°	3.0mm x 1.0mm x 2.0mm (1104 Right Angle)  KPA-3010    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-3010ZGC-G	InGaN	525	water clear	400	650	120°	
KPA-3010QBC-D	InGaN	465	water clear	40	80	120°	
KPA-3010QBC-G	InGaN	465	water clear	80	150	120°	
KPA-3010VBC-D	InGaN	470	water clear	120	200	120°	
KPA-3210SURCK	AlGaInP	630	water clear	40	80	120°	3.2mm x 1.0mm x 1.5mm (1304 Right Angle)  KPA-3210    Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KPA-3210SECK	AlGaInP	601	water clear	80	180	120°	
KPA-3210SYCK	AlGaInP	590	water clear	80	150	120°	
KPA-3210CGCK	AlGaInP	570	water clear	20	50	120°	
KPA-3210ZGC	InGaN	525	water clear	200	400	120°	
KPA-3210ZGC-G	InGaN	525	water clear	400	650	120°	
KPA-3210QBC-D	InGaN	465	water clear	40	80	120°	
KPA-3210QBC-G	InGaN	465	water clear	80	150	120°	
KPA-3210VBC-D	InGaN	470	water clear	120	200	120°	

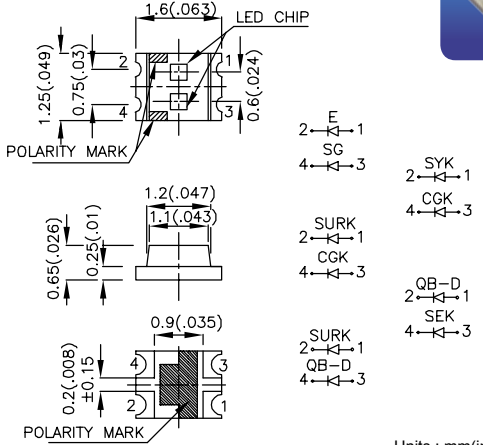
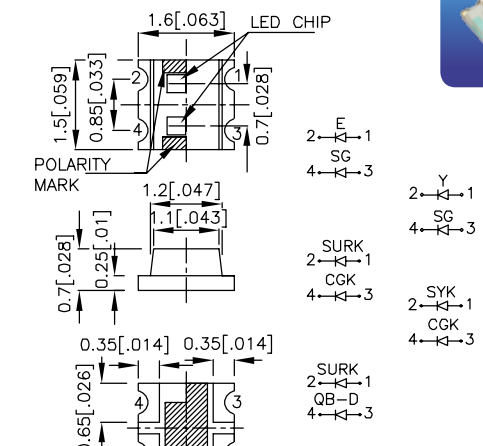
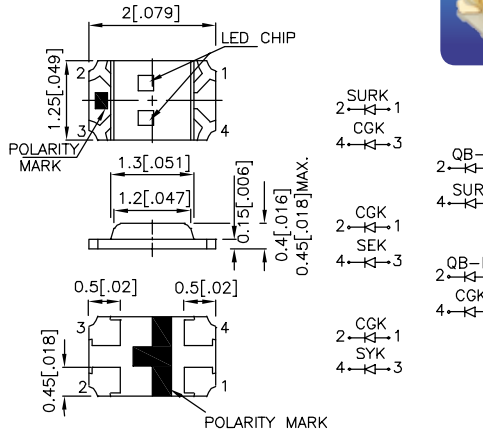
NOTE:

1.KP series custom-made is available upon request.

RIGHT ANGLE SMD LED

Part Number	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.		
KA-2810ASURSK	AlGaInP	630	water clear	40	100	110°	2.8mm x 0.8mm (Right Angle)  KA-2810A   Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KA-2810ASESK	AlGaInP	601	water clear	120	250	110°	
KA-2810ASYSK	AlGaInP	590	water clear	120	200	110°	
KA-2810ACGSK	AlGaInP	570	water clear	20	60	110°	
KA-2810AZGS	InGaN	525	water clear	400	700	110°	
KA-2810AZGS-G	InGaN	525	water clear	700	1200	110°	
KA-2810AQBS-D	InGaN	465	water clear	80	150	110°	
KA-2810AQBS-G	InGaN	465	water clear	200	300	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)  KA-4008   Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
KA-4008SESK	AlGaInP	601	water clear	80	160	120°	
KA-4008SYSK	AlGaInP	590	water clear	80	200	120°	
KA-4008ZGS	InGaN	525	water clear	400	600	120°	
KA-4008ZGS-G	InGaN	525	water clear	700	1200	120°	
KA-4008QBS-D	InGaN	465	water clear	55	120	120°	
KA-4008QBS-G	InGaN	465	water clear	200	300	120°	
KA-4008VBS-D	InGaN	470	water clear	300	450	120°	
KA-4040SURSK	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-4040SESK	AlGaInP	601	water clear	80	220	120°	
KA-4040SYSK	AlGaInP	590	water clear	120	250	120°	
KA-4040CGSK	AlGaInP	570	water clear	40	90	120°	
KA-4040ZGS	InGaN	525	water clear	400	800	120°	
KA-4040ZGS-G	InGaN	525	water clear	700	1200	120°	
KA-4040QBS-D	InGaN	465	water clear	80	220	120°	
KA-4040QBS-G	InGaN	465	water clear	200	350	120°	
KA-4040VBS-D	InGaN	470	water clear	300	500	120°	

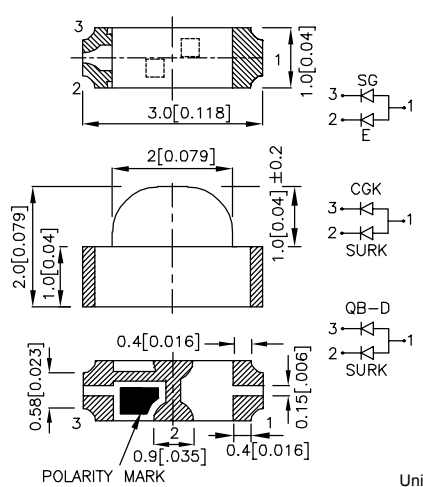
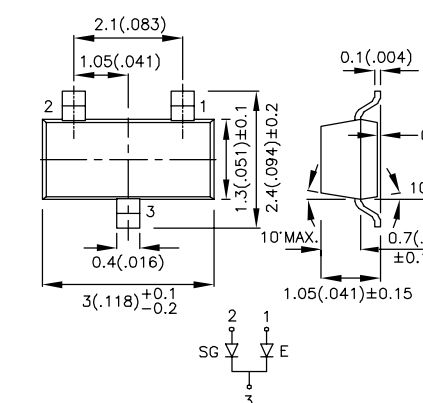
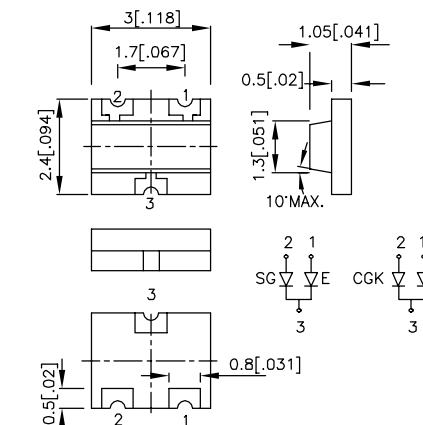
MULTI-COLOR SMD LED

Part Number	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.		
KPTB-1612ESGC	GaAsP/GaP	617	water clear	3	7	120°	1.6mm x 1.25mm x 0.65mm (0605 Bi-Color)  KPTB-1612  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	GaP	568		5	12		
KPTB-1612SURKCGKC	AlGaInP	630	water clear	40	80	120°	
	AlGaInP	570		20	50		
KPTB-1612SURKQBDC	AlGaInP	630	water clear	40	80	120°	
	InGaIn	465		40	80		
KPTB-1612SYKCGKC	AlGaInP	590	water clear	80	120	120°	
	AlGaInP	570		20	50		
KPTB-1612QBDBSEKC	InGaIn	465	water clear	40	80	120°	
	AlGaInP	601		80	150		
KPTB-1615ESGC	GaAsP/GaP	617	water clear	3	7	120°	1.6mm x 1.5mm x 0.7mm (0606 Bi-Color)  KPTB-1615  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	GaP	568		5	12		
KPTB-1615SURKCGKC	AlGaInP	630	water clear	40	80	120°	
	AlGaInP	570		20	50		
KPTB-1615SURKQBDC	AlGaInP	630	water clear	40	80	120°	
	InGaIn	465		40	80		
KPTB-1615YSGC	GaAsP/GaP	588	water clear	3	8	120°	
	GaP	568		5	12		
KPTB-1615SYKCGKC	AlGaInP	590	water clear	80	120	120°	
	AlGaInP	570		20	50		
KPHBM-2012SURKCGKC	AlGaInP	630	water clear	40	80	120°	2.0mm x 1.25mm x 0.45mm (Bi-Color)  KPHBM-2012  Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
	AlGaInP	570		20	50		
KPHBM-2012CGKSEKC	AlGaInP	570	water clear	20	50	120°	
	AlGaInP	601		80	180		
KPHBM-2012CGKSYKC	AlGaInP	570	water clear	20	50	120°	
	AlGaInP	590		80	120		
KPHBM-2012QBDSURKC	InGaIn	465	water clear	40	80	120°	
	AlGaInP	630		40	80		
KPHBM-2012QBDCGKC	InGaIn	465	water clear	40	80	120°	
	AlGaInP	570		20	50		

NOTE:

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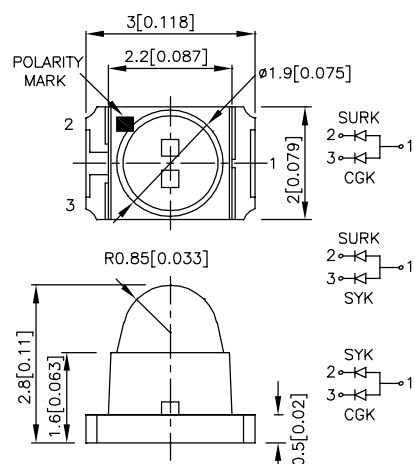
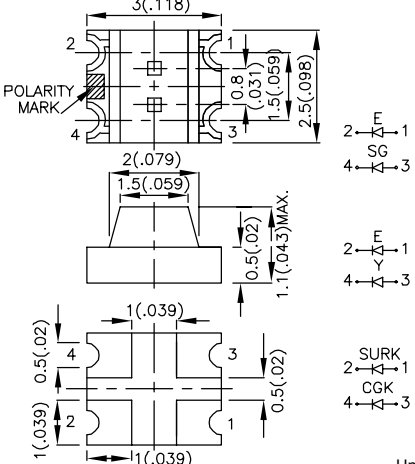
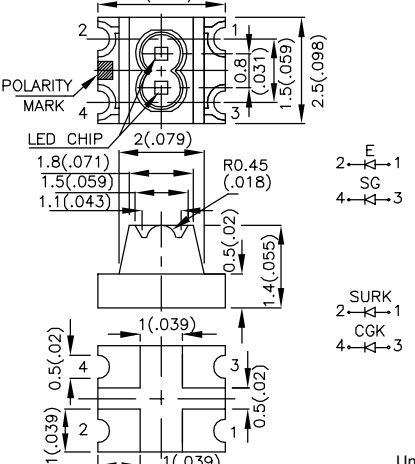
MULTI-COLOR SMD LED

Part Number	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.		
KPBA-3010ESGC	GaAsP/GaP	617	water clear	3	8	140°	3.0mm x 1.0mm x 2.0mm (1104 Right Angle, Bi-Color)  KPBA-3010  Units : mm(inch) Tolerance : $\pm 0.15(0.006)$
	GaP	568		5	15		
KPBA-3010SURKCGKC	AlGaInP	630	water clear	40	80	140°	
	AlGaInP	570		40	70		
KPBA-3010SURKQBDC	AlGaInP	630	water clear	40	80	140°	
	InGaIn	465		40	90		
KPBA-3010SEKCGKC	AlGaInP	601	water clear	80	150	140°	
	AlGaInP	570		40	70		
KPBA-3010SYKCGKC	AlGaInP	590	water clear	80	120	140°	
	AlGaInP	570		40	70		
KM-23ESGC	GaAsP/GaP	617	water clear	3	5	140°	SOT-23 Surface Mount LED Lamp (3mm x 1.3mm)  KM-23ESG  Units : mm(inch) Tolerance : $\pm 0.25(0.01)$
	GaP	568		5	10		
KP-23ESGC	GaAsP/GaP	617	water clear	3	6	120°	3.0mm x 2.4mm x 1.05mm  KP-23xxx  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	GaP	568		5	12		
KP-23SURKCGKC	AlGaInP	630	water clear	40	80	120°	
	AlGaInP	570		40	70		

NOTE:

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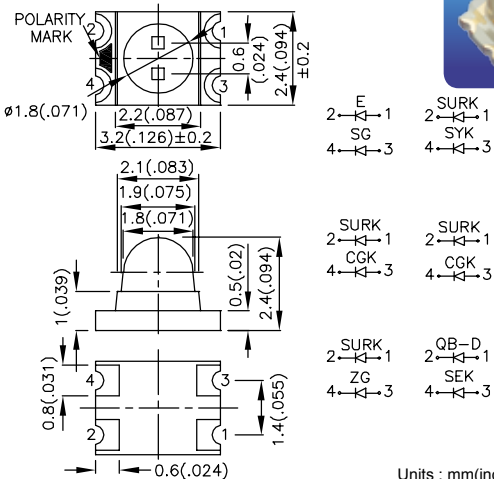
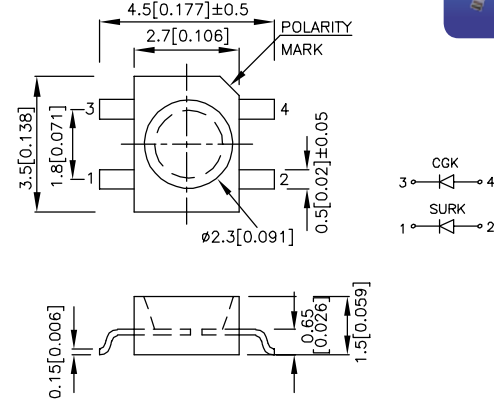
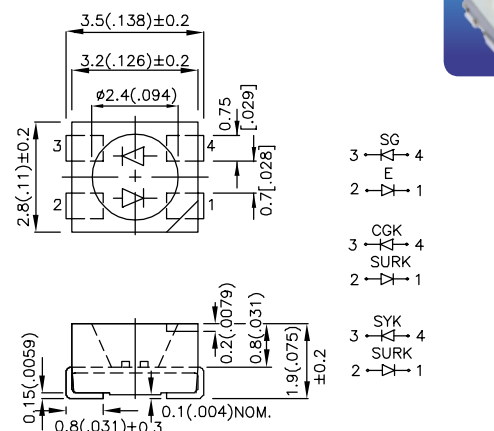
MULTI-COLOR SMD LED

Part Number	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.		
KPBDA-3020SURKCGKC-PF	AlGaInP	630	water clear	120	300	15°	3.0mm x 2.0mm x 2.8mm (Right Angle, Dome Lens)  KPBD A-3020-PF  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	AlGaInP	570		120	300		
KPBDA-3020SURKSYKC-PF	AlGaInP	630	water clear	120	300	15°	
	AlGaInP	590		400	700		
KPBDA-3020SYKCGKC-PF	AlGaInP	590	water clear	500	900	15°	
	AlGaInP	570		120	300		
KPBDA-3020SYKZGC-PF	AlGaInP	590	water clear	500	900	15°	
	InGaN	525		400	800		
KPBDA-3020QBDCGKC-PF	InGaN	465	water clear	120	300	15°	
	AlGaInP	570		120	300		
KPB-3025ESGC	GaAsP/GaP	617	water clear	3	8	120°	3.0mm x 2.5mm x 1.1mm (1109 Bi-Color)  KPB-3025  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	GaP	568		8	15		
KPB-3025EYC	GaAsP/GaP	617	water clear	3	8	120°	
	GaAsP/GaP	588		5	10		
KPB-3025SURKCGKC	AlGaInP	630	water clear	40	70	120°	
	AlGaInP	570		20	60		
KPB-3025SURKZGC	AlGaInP	630	water clear	40	70	120°	
	InGaN	525		200	350		
KPB-3025SYKCGKC	AlGaInP	590	water clear	80	120	120°	
	AlGaInP	570		20	60		
KPB-3025QBDSYKC	InGaN	465	water clear	55	80	120°	
	AlGaInP	590		80	120		
KPBL-3025ESGC	GaAsP/GaP	617	water clear	8	15	100°	3.0mm x 2.5mm x 1.4mm (1109 Bi-Color)  KPBL-3025  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	GaP	568		12	20		
KPBL-3025SURKCGKC	AlGaInP	630	water clear	80	200	100°	
	AlGaInP	570		55	120		
KPBL-3025SURKZGC	AlGaInP	630	water clear	80	200	100°	
	InGaN	525		400	800		
KPBL-3025SYKCGKC	AlGaInP	590	water clear	200	400	100°	
	AlGaInP	570		55	120		
KPBL-3025QBDSYKC	InGaN	465	water clear	120	250	100°	
	AlGaInP	590		200	400		

NOTE:

1.KP series custom-made is available upon request.

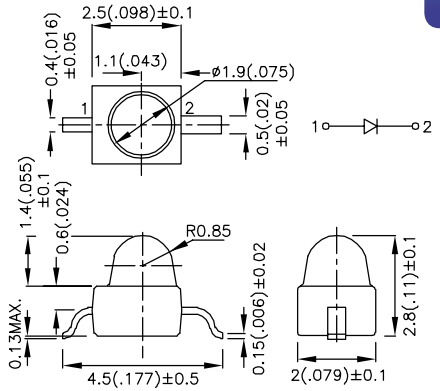
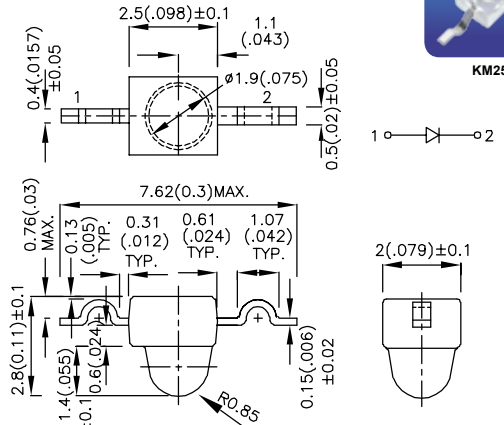
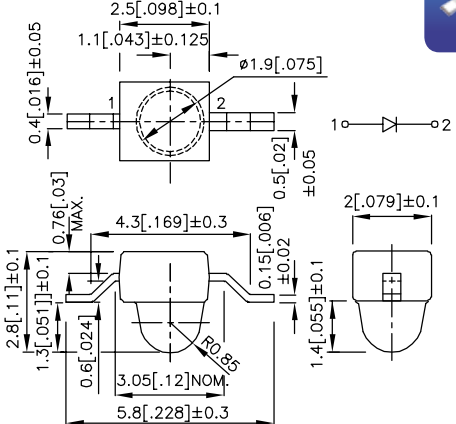
MULTI-COLOR SMD LED

Part Number	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.		
KPBD-3224ESGC	GaAsP/GaP	617	water clear	12	40	20°	3.2mm x 2.4mm x 2.4mm (Dome Lens)  Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
	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°	
	InGaIn	525		500	950		
KPBD-3224SURKSYKC	AlGaInP	630	water clear	120	400	20°	
	AlGaInP	590		300	600		
KPBD-3224SYKCGKC	AlGaInP	590	water clear	400	800	20°	
	AlGaInP	570		80	280		
KPBD-3224QBDSEKC	InGaIn	465	water clear	120	300	20°	
	AlGaInP	601		300	400		
KA-2735SURKCGKS	AlGaInP	630	water clear	55	100	120°	2.7mm x 3.5mm (Bi-Color)  Units : mm(inch) Tolerance : $\pm 0.25(0.01)$
	AlGaInP	570		40	65		
KAA-3528ESGS	GaAsP/GaP	617	water clear	8	15	120°	3.5mm x 2.8mm  Units : mm(inch) Tolerance : $\pm 0.25(0.01)$
	GaP	568		12	30		
KAA-3528SURKCGKS	AlGaInP	630	water clear	55	100	120°	
	AlGaInP	570		40	80		
KAA-3528SURKSYKS	AlGaInP	630	water clear	55	100	120°	
	AlGaInP	590		120	240		

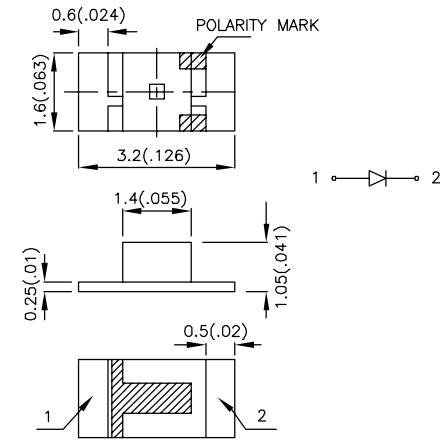
NOTE:

1.KP series custom-made is available upon request.

SUBMINIATURE SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.		
KM2520EC03	GaAsP/GaP	617	water clear	20	50	20°	Subminiature Solid State Lamps Gull Wing Lead  KM2520xxx03  Units : mm(inch) Tolerance : ±0.25(0.01)
KM2520SURCK03	AlGaInP	630	water clear	500	1000	20°	
KM2520SECK03	AlGaInP	601	water clear	1000	1800	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	InGaN	525	water clear	1900	3000	20°	
KM2520ZGC-G03	InGaN	525	water clear	3600	5000	20°	
KM2520QBC-D03	InGaN	465	water clear	300	900	20°	
KM2520QBC-G03	InGaN	465	water clear	700	1300	20°	
KM2520VBC-D03	InGaN	470	water clear	1000	1600	20°	
KM2520SURCK08	AlGaInP	630	water clear	500	1000	20°	Subminiature Solid State Lamps Yoke Lead  KM2520xxx08  Units : mm(inch) Tolerance : ±0.25(0.01)
KM2520SECK08	AlGaInP	601	water clear	1000	1800	20°	
KM2520SYCK08	AlGaInP	590	water clear	1300	2300	20°	
KM2520CGCK08	AlGaInP	570	water clear	400	800	20°	
KM2520ZGC08	InGaN	525	water clear	1900	3000	20°	
KM2520QBC-D08	InGaN	465	water clear	300	900	20°	
KM2520QBC-G08	InGaN	465	water clear	700	1300	20°	
KM2520VBC-D08	InGaN	470	water clear	1000	1600	20°	Subminiature Solid State Lamps Z-Bend Lead  KM2520xxx09  Units : mm(inch) Tolerance : ±0.25(0.01)
KM2520EC09	GaAsP/GaP	617	water clear	20	50	20°	
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	1900	3000	20°	
KM2520ZGC-G09	InGaN	525	water clear	3600	5000	20°	
KM2520QBC-D09	InGaN	465	water clear	300	900	20°	
KM2520QBC-G09	InGaN	465	water clear	700	1300	20°	
KM2520VBC-D09	InGaN	470	water clear	1000	1600	20°	

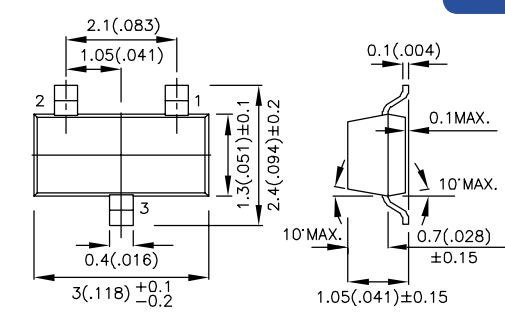
REVERSE MOUNT SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.		
KPTR-3216SURCK	AlGaInP	630	water clear	40	80	120°	3.2mm x 1.6mm x 1.05mm (1206 Reverse Mount)  KPTR-3216  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
KPTR-3216SECK	AlGaInP	601	water clear	80	180	120°	
KPTR-3216SYCK	AlGaInP	590	water clear	80	150	120°	
KPTR-3216CGCK	AlGaInP	570	water clear	20	50	120°	
KPTR-3216ZGC	InGaIn	525	water clear	200	400	120°	
KPTR-3216ZGC-G	InGaIn	525	water clear	400	750	120°	
KPTR-3216QBC-D	InGaIn	465	water clear	40	100	120°	
KPTR-3216QBC-G	InGaIn	465	water clear	80	160	120°	
KPTR-3216VBC-D	InGaIn	470	water clear	120	180	120°	

NOTE:

1.KP series custom-made is available upon request.

SOT-23 SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.		
KM-23EC-F	GaAsP/GaP	617	water clear	3	5	140°	SOT-23 Surface Mount LED Lamp (3mm x 1.3mm)  KM-23-F  Units : mm(inch) Tolerance : $\pm 0.25(0.01)$
KM-23SURCK-F	AlGaInP	630	water clear	40	60	140°	
KM-23YC-F	GaAsP/GaP	588	water clear	3	8	140°	
KM-23SYCK-F	AlGaInP	590	water clear	80	120	140°	
KM-23SGC-F	GaP	568	water clear	5	10	140°	
KM-23CGCK-F	AlGaInP	570	water clear	20	50	140°	
KM-23ZGC-F	InGaIn	525	water clear	200	300	140°	
KM-23ZGC-G-F	InGaIn	525	water clear	400	500	140°	
KM-23QBC-D-F	InGaIn	465	water clear	40	70	140°	
KM-23QBC-G-F	InGaIn	465	water clear	80	150	140°	
KM-23VBC-D-F	InGaIn	470	water clear	120	170	140°	

1. ANODE
2. N.C
3. CATHODE

AMBIENT LIGHT SENSOR

Part Number

KPS-3227SP1C

Electrical And Radiant Characteristics
(T_A =25°C, Unless Otherwise Specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Collector Emitter Breakdown Voltage	BV _{ceo}	60	-	-	V	I _{ceo} =100μA
Emitter Collector Breakdown Voltage	BV _{eco}	4	-	-	V	I _{eco} =100μA
Collector Dark Current	I _D	-	10	100	nA	V _{CE} =5V E _V =0L _x
Angle Of half Sensitivity	2θ1/2	-	120	-	°	-
Light Current(1)	I _{PH1}	-	6	-	μA	V _{CE} =5V, E _V =100 L _x ^[1]
Light Current(2)	I _{PH2}	-	130	-	μA	V _{CE} =5V, E _V =1000 L _x ^[1]
Light Current(3)	I _{PH3}	-	950	-	μA	V _{CE} =5V, E _V =1000 L _x ^[2]
Light Current(4)	I _{PH4}	-	420	-	μA	V _{CE} =5V, E _V =1000 L _x ^[3]
Saturation Output Voltage	V _O	4.5	4.7	-	V	V _{CC} =5V, E _V =1000L _x ^[1] , R _L =75KΩ
Peak Wavelength	λ _P	-	580	-	nm	-
Response Wavelength	λ	390	-	700	nm	>10% Response
Collector Emitter Saturation Voltage	V _{CE(sat)}	-	-	0.4	V	I _C =10 mA

Notes:

- 1.White Fluorescent light (Color Temperature = 6200K) is used as light source.
- 2.Illuminance by CIE standard illuminant-A/2856K, incandescent lamp.
- 3.Sunlight (Color Temperature = 4600K) is used as light source.

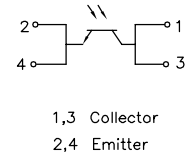
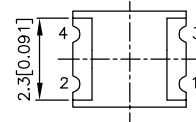
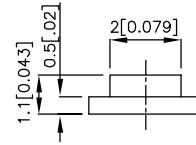
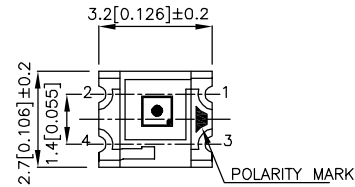
Dimension

KPS-3227SP1C 3.2mm x 2.7mm x 1.1mm

(Ambient Light Sensor)



KPS-3227SP1C



Units : mm(inch)
Tolerance : ±0.1(0.004)

COLOR SENSOR

Part Number

KPS-5130PD7C

Electrical And Radiant Characteristics
(T_A =25°C, Unless Otherwise Specified)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak Sensitivity Wavelength	λ _P	Red	-	620	-	nm
		Green	-	550	-	
		Blue	-	470	-	
Light Current (1)	I _{L1}	100Lux [1] V _R =5V	Red	-	0.039	μA
			Green	-	0.042	
			Blue	-	0.022	
Light Current (2)	I _{L2}	1000Lux [1] V _R =5V	Red	-	0.427	V
			Green	-	0.498	
			Blue	-	0.262	
Diameter of the irradiation sensitive area	D		-	2.0	-	mm
Irradiation sensitive area per element	A		-	0.85	-	mm ²
Photo sensibility of the single color areas	S _{Max}	λ _R =620 nm λ _G =550 nm λ _B =470 nm	-	0.33 0.25 0.18	-	A/W
Reverse Dark Current	I _D	V _R =5V	-	-	10	nA

Note:

- 1.White fluorescent light (Color Temperature = 6500K) is used as light source.

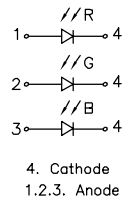
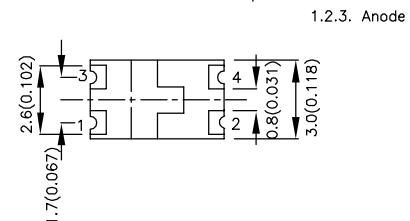
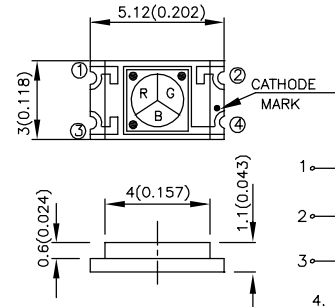
Dimension

KPS-5130PD7C 5.12mm x 3mm x 1.1mm

(RGB Color Sensor)



KPS-5130PD7C



Units : mm(inch)
Tolerance : ±0.1(0.004)