



SMD LED

Low Current LED	05
Top-Emitting Chip SMD LED	07
Right Angle SMD LED	11
Multi-Color SMD LED	13
Reverse Mount SMD LED	17
Top-Emitting PLCC SMD LED	17
Subminiature SMD LED	18
SOT-23 SMD LED	19

Description

Kingbright offers an extensive selection of various Surface-Mount LEDs. The selection is an extension to the industry popular standard footprints of chip type, PLCC, and subminiatures packages to fulfill various surface mount requirements. With Kingbright's advanced production process, products are manufactured in excellent quality with great reliability and delivery with competitive lead time.

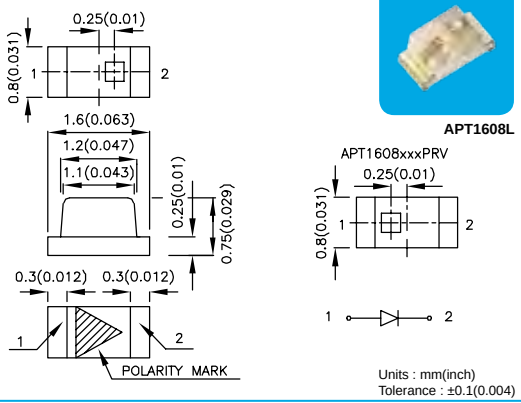
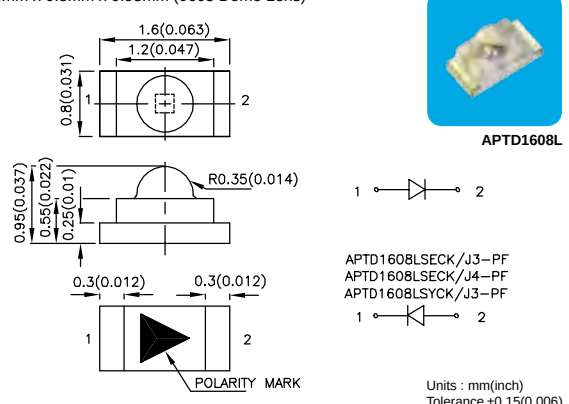
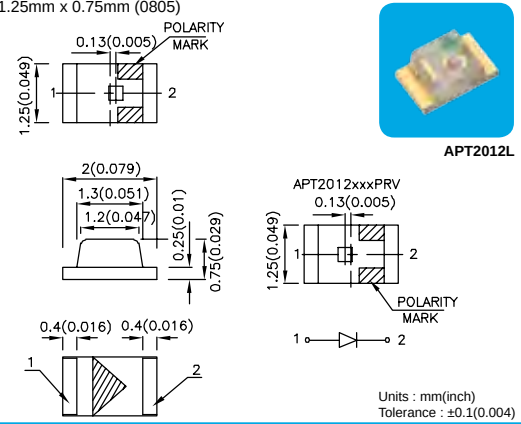
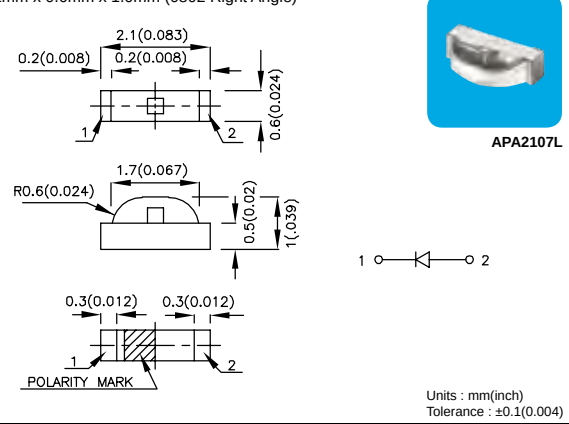
Kingbright SMD LEDs are featured with different options in size, shape, viewing angle, driving condition, color combination and mounting type. All Kingbright SMD LEDs are packaged in automation-friendly tape and reel to increase productivity and reduce assembly cost.

Features and Benefits

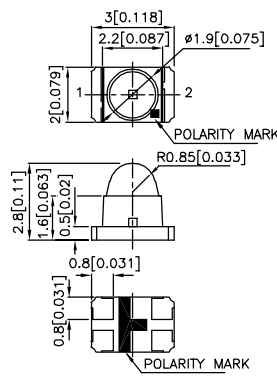
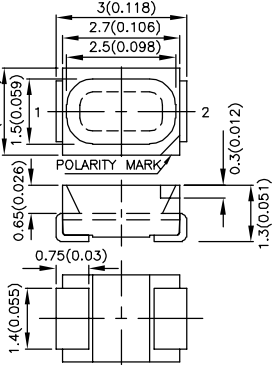
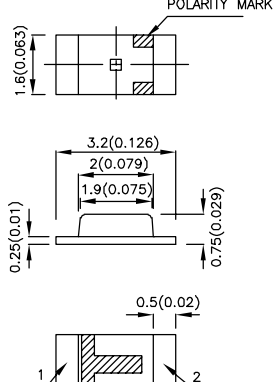
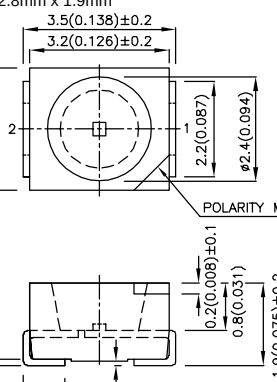
- Chip type, PLCC and Subminiature options
- Compact sizes including industry standard footprints: 0402, 0603, 0805, 1206 and many other options
- Packages with different viewing angle options from 15 degree to 130 degree for different design needs
- Available in various color selection: blue, green, yellow, orange, red, bi-color and RGB selection
- Mounting options include top-mount, right angle mount, and reversed-mount
- Capable of single-color, bi-color and tri-color combinations
- Robust and high reliability with competitive lead time



LOW CURRENT LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @2mA		Viewing Angle	Dimensions
				Min.	Typ.		
APT1608LSECK/J3-PRV	AlGaInP	625	Water Clear	20	40	120°	1.6mm x 0.8mm x 0.75mm (0603)  APT1608L Units: mm(inch) Tolerance: $\pm 0.1(0.004)$
APT1608LSECK/J4-PRV	AlGaInP	605	Water Clear	30	50	120°	
APT1608LSYCK/J3-PRV	AlGaInP	590	Water Clear	15	25	120°	
APT1608LZGCK	InGaIn	525	Water Clear	20	50	120°	
APT1608LVBC/D	InGaIn	470	Water Clear	15	24	120°	
APTD1608LSECK/J3-PF	AlGaInP	625	Water Clear	20	50	60°	1.6mm x 0.8mm x 0.95mm (0603 Dome Lens)  APTD1608L Units: mm(inch) Tolerance: $\pm 0.15(0.006)$
APTD1608LSECK/J4-PF	AlGaInP	605	Water Clear	80	150	60°	
APTD1608LSYCK/J3-PF	AlGaInP	590	Water Clear	30	55	60°	
APTD1608LZGCK	InGaIn	525	Water Clear	50	90	60°	
APTD1608LVBC/D	InGaIn	470	Water Clear	30	65	40°	
APT2012LSECK/J3-PRV	AlGaInP	625	Water Clear	20	40	120°	2.0mm x 1.25mm x 0.75mm (0805)  APT2012L Units: mm(inch) Tolerance: $\pm 0.1(0.004)$
APT2012LSECK/J4-PRV	AlGaInP	605	Water Clear	30	50	120°	
APT2012LSYCK/J3-PRV	AlGaInP	590	Water Clear	15	25	120°	
APT2012LZGCK	InGaIn	525	Water Clear	20	50	120°	
APT2012LVBC/D	InGaIn	470	Water Clear	15	24	120°	
APA2107LSECK/J3-PRV	AlGaInP	625	Water Clear	15	30	120°	2.1mm x 0.6mm x 1.0mm (0802 Right Angle)  APA2107L Units: mm(inch) Tolerance: $\pm 0.1(0.004)$
APA2107LSECK/J4-PRV	AlGaInP	605	Water Clear	20	40	120°	
APA2107LSYCK/J3-PRV	AlGaInP	590	Water Clear	15	30	120°	
APA2107LZGCK	InGaIn	525	Water Clear	20	40	120°	
APA2107LVBC/D	InGaIn	470	Water Clear	10	20	120°	

LOW CURRENT LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @2mA		Viewing Angle 2 θ 1/2	Dimensions
				Min.	Typ.		
APDA3020LSECK/J3-PF	AlGaInP	625	Water Clear	250	500	10°	3.0mm x 2.0mm x 2.8mm (1108 Right Angle)   APDA3020L APDA3020LSECK/J3-PF APDA3020LSECK/J4-PF APDA3020LSYCK/J3-PF Units: mm(inch) Tolerance: $\pm 0.2(0.008)$
APDA3020LSECK/J4-PF	AlGaInP	605	Water Clear	550	1000	10°	
APDA3020LSYCK/J3-PF	AlGaInP	590	Water Clear	180	500	10°	
APDA3020LZGCK	InGaN	525	Water Clear	250	600	10°	
APDA3020LVBC/D	InGaN	470	Water Clear	80	150	10°	
AA3021LSESK/J3-TR	AlGaInP	625	Water Clear	20	45	125°	3.0mm x 2.0mm x 1.3mm   AA3021L AA3021LSESK/J3-TR AA3021LSESK/J4-TR AA3021LSYSK/J3-TR Units: mm(inch) Tolerance: $\pm 0.2(0.008)$
AA3021LSESK/J4-TR	AlGaInP	605	Water Clear	30	60	125°	
AA3021LSYSK/J3-TR	AlGaInP	590	Water Clear	20	45	125°	
AA3021LZGSK	InGaN	525	Water Clear	80	180	125°	
AA3021LVBS/D	InGaN	470	Water Clear	20	50	125°	
APT3216LSECK/J3-PRV	AlGaInP	625	Water Clear	20	40	120°	3.2mm x 1.6mm x 0.75mm (1206)   APT3216L Units: mm(inch) Tolerance: $\pm 0.2(0.008)$
APT3216LSECK/J4-PRV	AlGaInP	605	Water Clear	30	50	120°	
APT3216LSYCK/J3-PRV	AlGaInP	590	Water Clear	15	25	120°	
APT3216LZGCK	InGaN	525	Water Clear	20	50	120°	
APT3216LVBC/D	InGaN	470	Water Clear	15	24	120°	
AA3528LSESK/J3	AlGaInP	625	Water Clear	30	50	120°	3.5mm x 2.8mm x 1.9mm   AA3528L AA3528LSESK/J3 AA3528LSESK/J4 AA3528LSYSK/J3 Units: mm(inch) Tolerance: $\pm 0.25(0.01)$
AA3528LSESK/J4	AlGaInP	605	Water Clear	30	60	120°	
AA3528LSYSK/J3	AlGaInP	590	Water Clear	20	30	120°	
AA3528LZGSK	InGaN	525	Water Clear	50	90	120°	
AA3528LVBS/D	InGaN	470	Water Clear	30	45	120°	

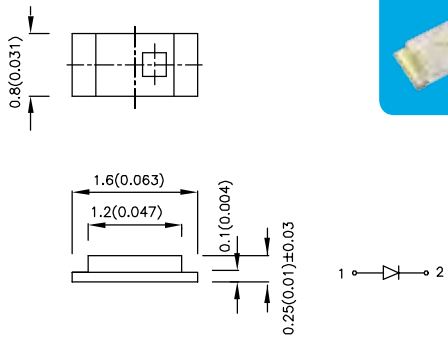
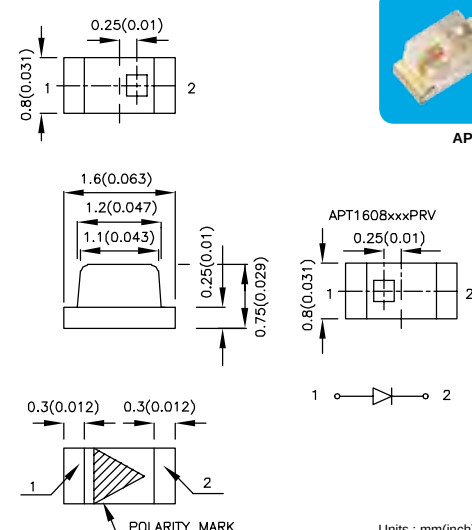
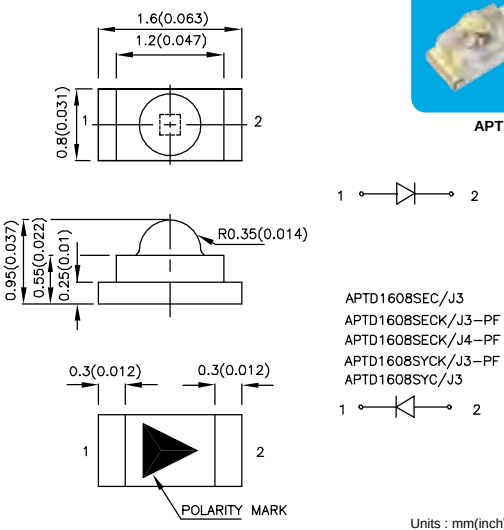
LOW CURRENT LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @5mA		Viewing Angle 2 θ 1/2	Dimensions
				Min.	Typ.		
APG1005VGC-T-5MAV	InGaN	527	Water Clear	30	70	145°	1.0mm x 0.5mm x 0.2mm (0402) APG1005-5MAV Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
APG1005PBC-T-5MAV	InGaN	467	Water Clear	20	28	145°	Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
APGA1602QBC/KA-5MAV	InGaN	463	Water Clear	8	20	130°(H) 150°(V)	1.6mm x 0.2mm x 0.9mm (Right Angle) APGA1602-5MAV Units : mm(inch) Tolerance : $\pm 0.1(0.004)$

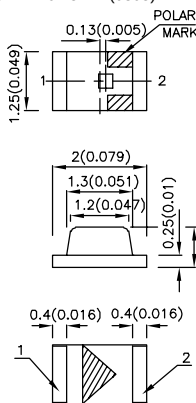
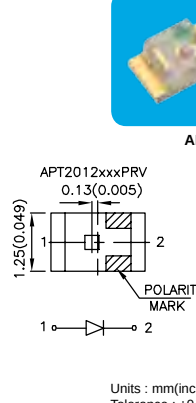
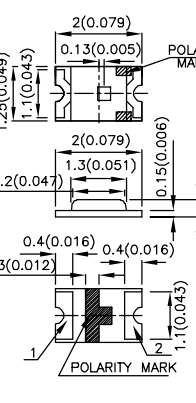
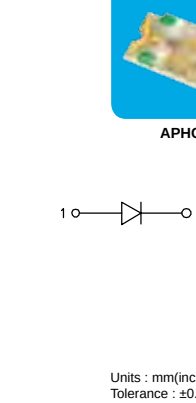
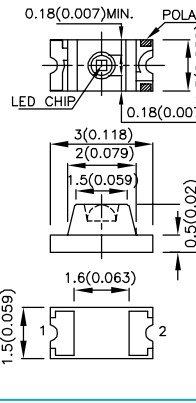
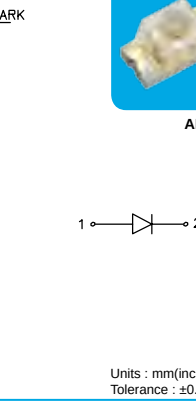
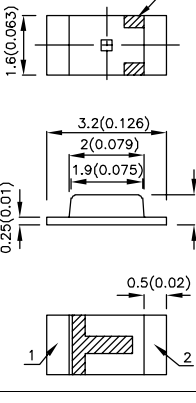
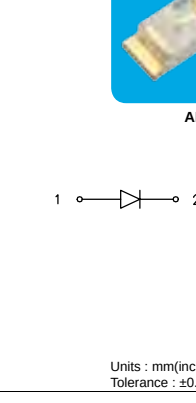
TOP-EMITTING CHIP SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimensions
				Min.	Typ.		
APHHS1005SURCK	AlGaInP	630	Water Clear	40	70	120°	1.0mm x 0.5mm x 0.5mm (0402) APHHS1005 APHHS1005ZGCK APHHS1005QBC/D Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
APHHS1005SECK	AlGaInP	601	Water Clear	80	150	120°	
APHHS1005SYCK	AlGaInP	590	Water Clear	80	150	120°	
APHHS1005CGCK	AlGaInP	570	Water Clear	20	50	120°	
APHHS1005ZGCK	InGaN	525	Water Clear	200	400	120°	
APHHS1005QBC/D	InGaN	465	Water Clear	40	60	120°	
APG1005SEC/E-T	AlGaInP	624	Water Clear	20	75	120°	1.0mm x 0.5mm x 0.2mm (0402) APG1005 Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
APG1005SEC-T	AlGaInP	605	Water Clear	40	90	120°	
APG1005SYC-T	AlGaInP	589	Water Clear	55	100	120°	
APG1005CGC-T	AlGaInP	571	Water Clear	12	35	120°	

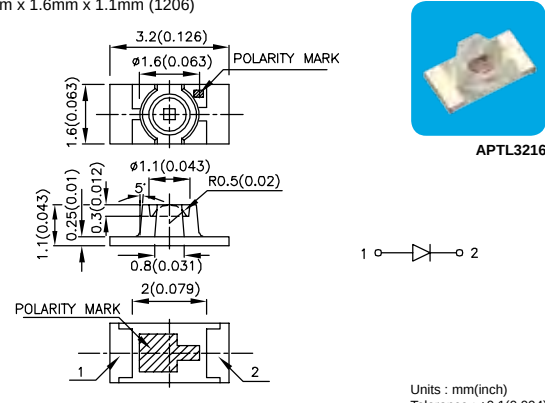
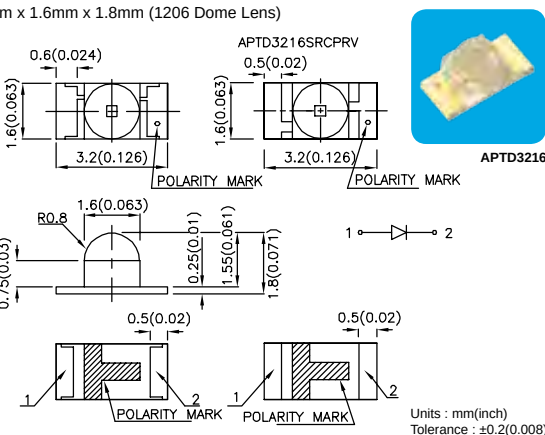
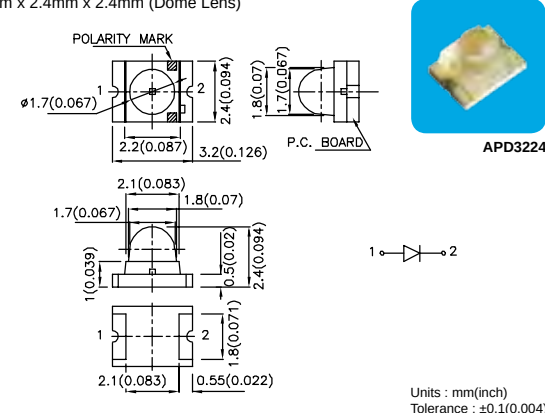
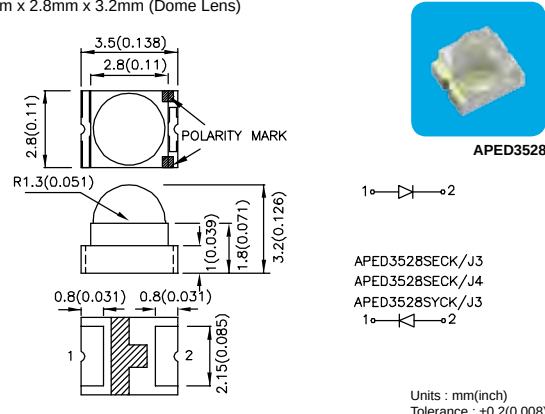
TOP-EMITTING CHIP SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimensions
				Min.	Typ.		
APG1608SURKC/T	AlGaInP	630	Water Clear	55	110	120°	1.6mm x 0.8mm x 0.25mm (0603)  APG1608 Units : mm(inch) Tolerance : ±0.1(0.004)
APG1608SEKC/T	AlGaInP	601	Water Clear	55	100	120°	
APG1608SYKC/T	AlGaInP	590	Water Clear	55	120	120°	
APG1608CGKC/T	AlGaInP	570	Water Clear	20	50	120°	
APG1608ZGCK	InGaN	525	Water Clear	200	350	120°	
APG1608QBC/D	InGaN	465	Water Clear	40	100	120°	
APT1608EC	GaAsP/GaP	617	Water Clear	3	8	120°	1.6mm x 0.8mm x 0.75mm (0603)  APT1608 Units : mm(inch) Tolerance : ±0.1(0.004)
APT1608SRCPRV	GaAlAs	640	Water Clear	12	30	120°	
APT1608SURCK	AlGaInP	630	Water Clear	40	80	120°	
APT1608SECK/J3-PRV	AlGaInP	625	Water Clear	200	350	120°	
APT1608SECK/J4-PRV	AlGaInP	605	Water Clear	300	550	120°	
APT1608SECK	AlGaInP	601	Water Clear	80	180	120°	
APT1608YC	GaAsP/GaP	588	Water Clear	3	8	120°	
APT1608SYCK	AlGaInP	590	Water Clear	80	150	120°	
APT1608SYCK/J3-PRV	AlGaInP	590	Water Clear	200	320	120°	
APT1608SGC	GaP	568	Water Clear	5	12	120°	
APT1608CGCK	AlGaInP	570	Water Clear	20	50	120°	
APT1608ZGCK	InGaN	525	Water Clear	200	350	120°	
APT1608QBC/D	InGaN	465	Water Clear	40	100	120°	
APT1608VBC/D	InGaN	470	Water Clear	120	180	120°	
APTD1608SURCK	AlGaInP	630	Water Clear	80	250	60°	1.6mm x 0.8mm x 0.95mm (0603 Dome Lens)  APTD1608 Units : mm(inch) Tolerance : ±0.15(0.006)
APTD1608SEC/J3	AlGaInP	625	Water Clear	500	900	60°	
APTD1608SECK/J3-PF	AlGaInP	625	Water Clear	500	800	60°	
APTD1608SECK/J4-PF	AlGaInP	605	Water Clear	1000	1600	60°	
APTD1608SECK	AlGaInP	601	Water Clear	200	500	60°	
APTD1608SYCK	AlGaInP	590	Water Clear	200	450	60°	
APTD1608SYCK/J3-PF	AlGaInP	590	Water Clear	400	800	60°	
APTD1608SYC/J3	AlGaInP	590	Water Clear	500	900	60°	
APTD1608CGCK	AlGaInP	570	Water Clear	80	190	60°	
APTD1608ZGCK	InGaN	525	Water Clear	500	900	60°	
APTD1608QBC/D	InGaN	465	Water Clear	80	200	40°	
APTD1608VBC/D	InGaN	470	Water Clear	200	350	40°	

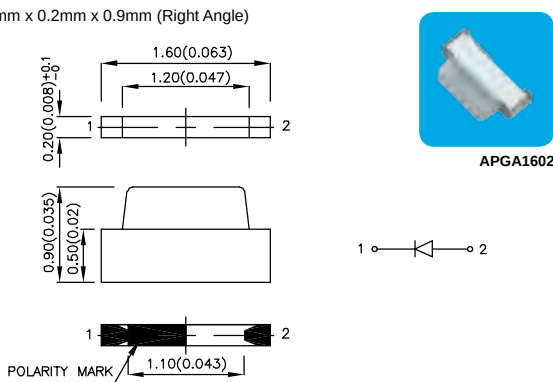
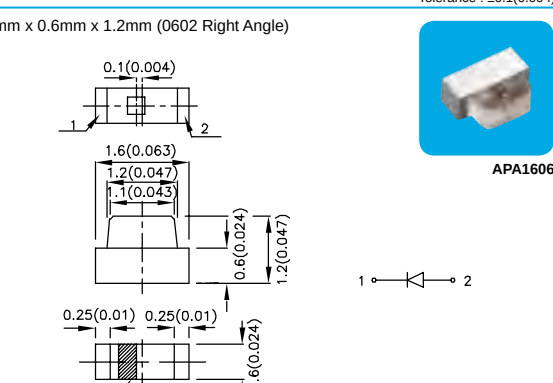
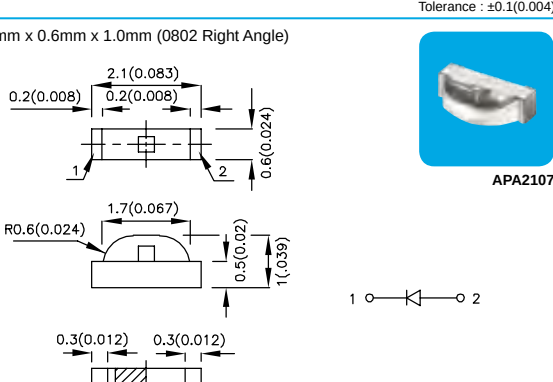
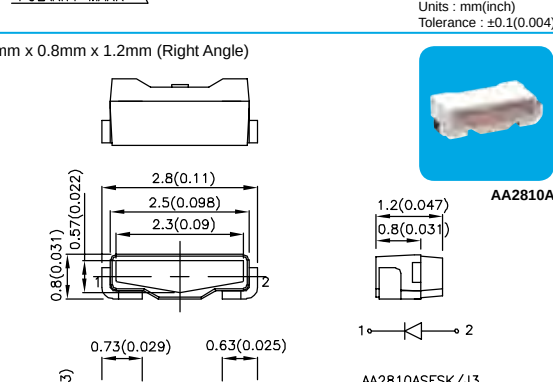
TOP-EMITTING CHIP SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimensions
				Min.	Typ.		
APT2012EC	GaAsP/GaP	617	Water Clear	3	8	120°	2.0mm x 1.25mm x 0.75mm (0805)  APT2012  APT2012xxxPRV Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
APT2012SRCPRV	GaAlAs	640	Water Clear	12	30	120°	
APT2012SURCK	AlGaInP	630	Water Clear	40	80	120°	
APT2012SECK/J3-PRV	AlGaInP	625	Water Clear	200	350	120°	
APT2012SECK/J4-PRV	AlGaInP	605	Water Clear	300	550	120°	
APT2012SECK	AlGaInP	601	Water Clear	80	180	120°	
APT2012YC	GaAsP/GaP	588	Water Clear	3	8	120°	
APT2012SYCK	AlGaInP	590	Water Clear	80	150	120°	
APT2012SYCK/J3-PRV	AlGaInP	590	Water Clear	200	320	120°	
APT2012SGC	GaP	568	Water Clear	5	12	120°	
APT2012CGCK	AlGaInP	570	Water Clear	20	50	120°	
APT2012ZGCK	InGaN	525	Water Clear	200	350	120°	
APT2012QBC/D	InGaN	465	Water Clear	40	100	120°	
APT2012VBC/D	InGaN	470	Water Clear	120	180	120°	
APHCM2012SURCK-F01	AlGaInP	630	Water Clear	40	80	110°	2.0mm x 1.25mm x 0.4mm (0805)  APHCM2012  APHCM2012xxxPRV Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
APHCM2012SECK-F01	AlGaInP	601	Water Clear	80	180	110°	
APHCM2012SYCK-F01	AlGaInP	590	Water Clear	80	150	110°	
APHCM2012CGCK-F01	AlGaInP	570	Water Clear	20	50	110°	
APHCM2012ZGCK-F01	InGaN	525	Water Clear	200	350	110°	
APHCM2012QBC/D-F01	InGaN	465	Water Clear	40	100	110°	
APL3015EC-F01	GaAsP/GaP	617	Water Clear	5	12	70°	3.0mm x 1.5mm x 1.4mm (1106)  APL3015  APL3015xxxPRV Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
APL3015SRCPRV-F01	GaAlAs	640	Water Clear	20	50	70°	
APL3015SURCK-F01	AlGaInP	630	Water Clear	120	180	70°	
APL3015SECK-F01	AlGaInP	601	Water Clear	120	350	70°	
APL3015SYCK-F01	AlGaInP	590	Water Clear	200	350	70°	
APL3015SGC-F01	GaP	568	Water Clear	8	18	70°	
APL3015CGCK-F01	AlGaInP	570	Water Clear	55	120	70°	
APL3015ZGCK-F01	InGaN	525	Water Clear	500	700	70°	
APL3015QBC/D-F01	InGaN	465	Water Clear	120	200	70°	
APT3216EC	GaAsP/GaP	617	Water Clear	3	8	120°	3.2mm x 1.6mm x 0.75mm (1206)  APT3216  APT3216xxxPRV Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
APT3216SRCPRV	GaAlAs	640	Water Clear	12	30	120°	
APT3216SURCK	AlGaInP	630	Water Clear	40	80	120°	
APT3216SECK/J3-PRV	AlGaInP	625	Water Clear	200	350	120°	
APT3216SECK/J4-PRV	AlGaInP	605	Water Clear	300	550	120°	
APT3216SECK	AlGaInP	601	Water Clear	80	180	120°	
APT3216YC	GaAsP/GaP	588	Water Clear	3	8	120°	
APT3216SYCK	AlGaInP	590	Water Clear	80	150	120°	
APT3216SYCK/J3-PRV	AlGaInP	590	Water Clear	200	320	120°	
APT3216SGC	GaP	568	Water Clear	5	12	120°	
APT3216CGCK	AlGaInP	570	Water Clear	20	50	120°	
APT3216ZGCK	InGaN	525	Water Clear	200	350	120°	
APT3216QBC/D	InGaN	465	Water Clear	40	100	120°	
APT3216VBC/D	InGaN	470	Water Clear	120	180	120°	

TOP-EMITTING CHIP SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimensions
				Min.	Typ.		
APTL3216SURCK	AlGaInP	630	Water Clear	120	230	70°	3.2mm x 1.6mm x 1.1mm (1206)  Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
APTL3216SECK	AlGaInP	601	Water Clear	200	350	70°	
APTL3216SYCK	AlGaInP	590	Water Clear	200	350	70°	
APTL3216CGCK	AlGaInP	570	Water Clear	55	100	70°	
APTL3216ZGCK	InGaN	525	Water Clear	500	1000	70°	
APTL3216QBC/D	InGaN	465	Water Clear	80	250	70°	
APTD3216EC	GaAsP/GaP	617	Water Clear	20	50	35°	3.2mm x 1.6mm x 1.8mm (1206 Dome Lens)  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
APTD3216SRCPRV	GaAlAs	640	Water Clear	80	150	35°	
APTD3216SURCK	AlGaInP	630	Water Clear	300	800	35°	
APTD3216SECK	AlGaInP	601	Water Clear	500	1000	35°	
APTD3216YC	GaAsP/GaP	588	Water Clear	20	40	35°	
APTD3216SYCK	AlGaInP	590	Water Clear	700	800	35°	
APTD3216SGC	GaP	568	Water Clear	20	50	35°	3.2mm x 2.4mm x 2.4mm (Dome Lens)  Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
APD3224EC-F01	GaAsP/GaP	617	Water Clear	40	60	20°	
APD3224SURCK-F01	AlGaInP	630	Water Clear	700	1500	20°	
APD3224SECK-F01	AlGaInP	601	Water Clear	1000	1600	20°	
APD3224YC-F01	GaAsP/GaP	588	Water Clear	20	50	20°	
APD3224SYCK-F01	AlGaInP	590	Water Clear	1000	1300	20°	
APD3224SGC-F01	GaP	568	Water Clear	55	100	20°	3.5mm x 2.8mm x 3.2mm (Dome Lens)  Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
APD3224CGCK-F01	AlGaInP	570	Water Clear	400	600	20°	
APD3224ZGCK-F01	InGaN	525	Water Clear	1900	2900	20°	
APD3224QBC/D-F01	InGaN	465	Water Clear	400	800	20°	
APED3528SURCK-F01	AlGaInP	630	Water Clear	120	250	40°	
APED3528SECK/J3	AlGaInP	625	Water Clear	1000	1800	40°	
APED3528SECK/J4	AlGaInP	605	Water Clear	1000	1700	40°	APED3528SECK/J3 APED3528SECK/J4 APED3528SYCK/J3 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
APED3528SYCK-F01	AlGaInP	590	Water Clear	300	500	40°	
APED3528SYCK/J3	AlGaInP	590	Water Clear	700	1300	40°	
APED3528CGCK-F01	AlGaInP	570	Water Clear	80	200	40°	
APED3528ZGCK-F01	InGaN	525	Water Clear	1000	1500	40°	
APED3528QBC/D-F01	InGaN	465	Water Clear	300	400	40°	
APED3528VBC/D	InGaN	470	Water Clear	400	550	40°	

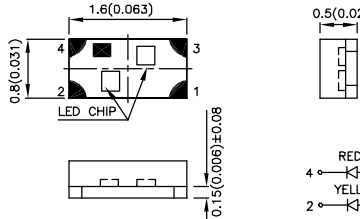
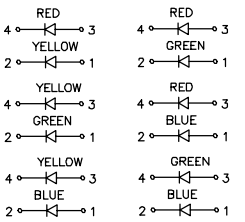
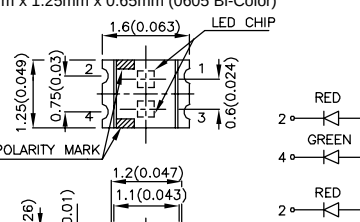
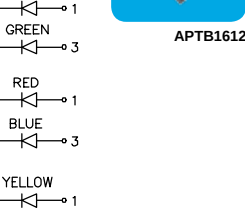
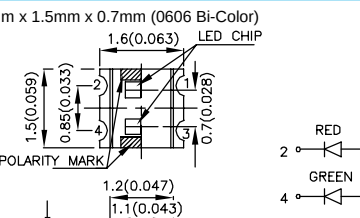
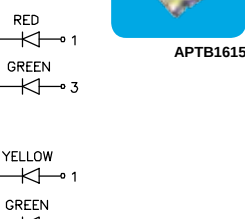
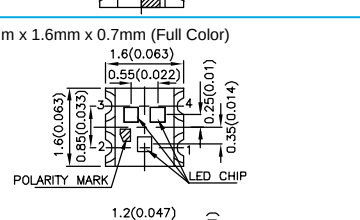
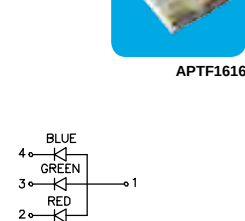
RIGHT ANGLE SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimensions
				Min.	Typ.		
APGA1602SEC/E/KA	AlGaInP	624	Water Clear	55	120	150°(H) 120°(V)	1.6mm x 0.2mm x 0.9mm (Right Angle)  Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
APGA1602SYC/KA	AlGaInP	589	Water Clear	40	75	160°(H) 120°(V)	
APGA1602CGC/KA	AlGaInP	571	Water Clear	12	30	160°(H) 145°(V)	
APA1606SURCK	AlGaInP	630	Water Clear	40	80	110°	1.6mm x 0.6mm x 1.2mm (0602 Right Angle)  Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
APA1606SECK	AlGaInP	601	Water Clear	80	180	110°	
APA1606SYCK	AlGaInP	590	Water Clear	80	150	110°	
APA1606SGC	GaP	568	Water Clear	5	12	110°	
APA1606CGCK	AlGaInP	570	Water Clear	20	50	110°	
APA1606ZGCK	InGaIn	525	Water Clear	200	300	110°	
APA1606QBC/D	InGaIn	465	Water Clear	40	80	110°	
APA2107SRCPRV	GaAlAs	640	Water Clear	12	30	120°	2.1mm x 0.6mm x 1.0mm (0802 Right Angle)  Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
APA2107SURCK	AlGaInP	630	Water Clear	40	80	120°	
APA2107SECK/J3-PRV	AlGaInP	625	Water Clear	200	380	120°	
APA2107SECK/J4-PRV	AlGaInP	605	Water Clear	400	550	120°	
APA2107SECK	AlGaInP	601	Water Clear	80	180	120°	
APA2107SYCK	AlGaInP	590	Water Clear	80	150	120°	
APA2107SYCK/J3-PRV	AlGaInP	590	Water Clear	200	350	120°	
APA2107CGCK	AlGaInP	570	Water Clear	20	50	120°	
APA2107ZGCK	InGaIn	525	Water Clear	200	300	120°	
APA2107QBC/D	InGaIn	465	Water Clear	40	80	120°	
APA2107VBC/D	InGaIn	470	Water Clear	120	200	120°	
AA2810ASURSK	AlGaInP	630	Water Clear	40	100	110°	2.8mm x 0.8mm x 1.2mm (Right Angle)  Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
AA2810ASESK/J3	AlGaInP	625	Water Clear	300	500	110°	
AA2810ASESK	AlGaInP	601	Water Clear	120	250	110°	
AA2810ASYSK/J3	AlGaInP	590	Water Clear	300	550	110°	
AA2810ACGSK	AlGaInP	570	Water Clear	20	60	110°	
AA2810AZGSK	InGaIn	525	Water Clear	400	600	110°	
AA2810AQBS/D	InGaIn	465	Water Clear	80	150	110°	

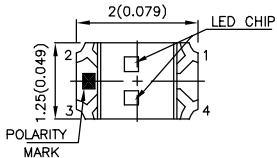
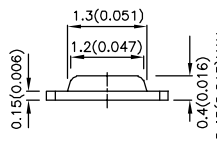
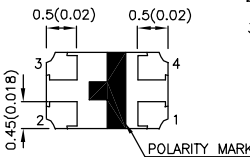
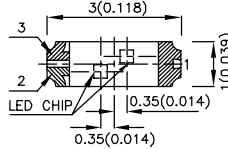
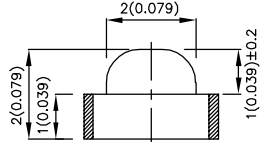
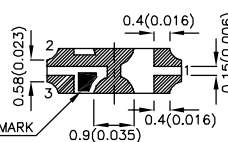
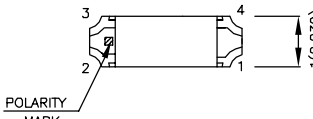
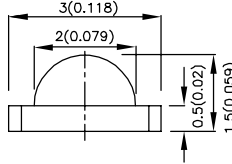
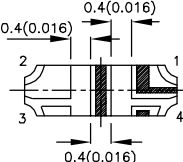
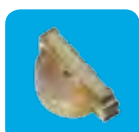
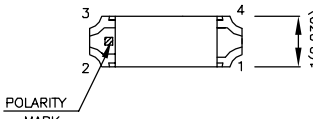
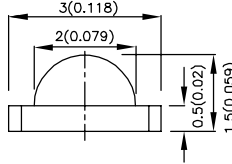
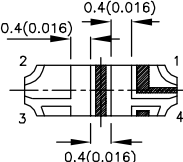
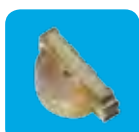
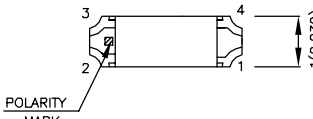
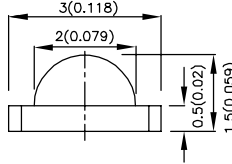
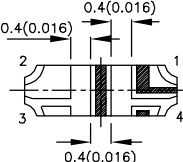
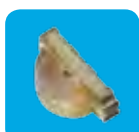
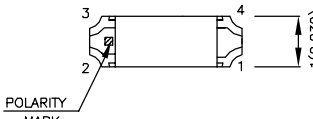
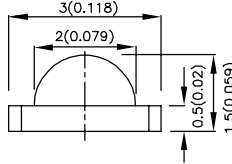
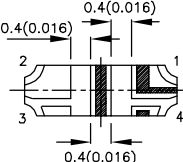
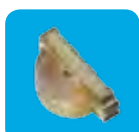
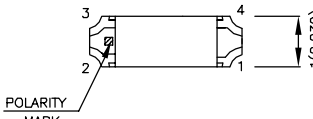
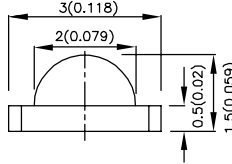
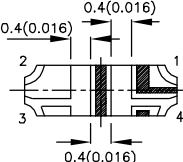
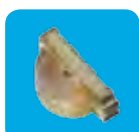
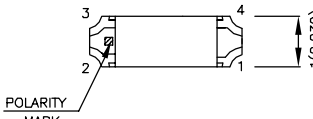
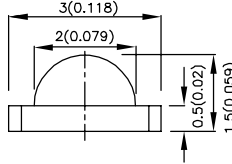
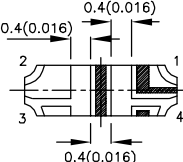
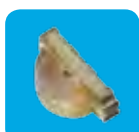
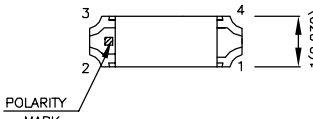
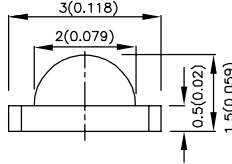
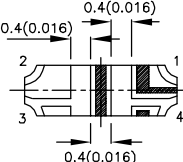
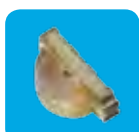
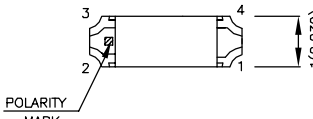
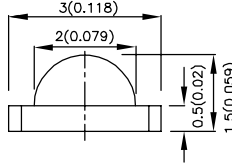
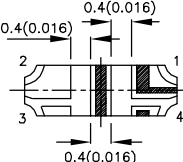
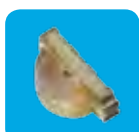
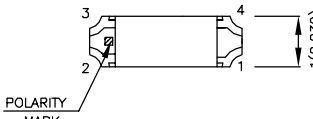
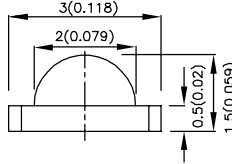
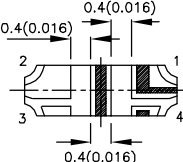
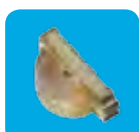
Right Angle SMD LED

Units : mm(inch)
Tolerance : $\pm 0.15(0.006)$

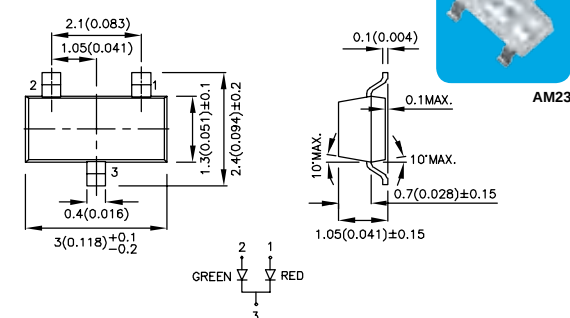
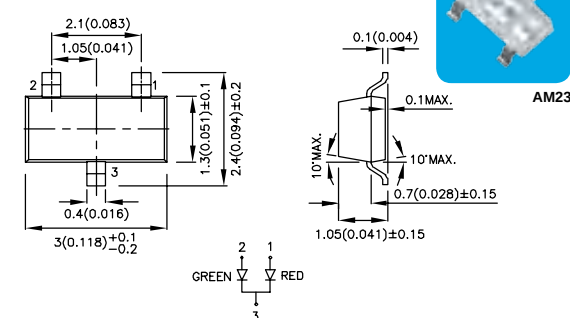
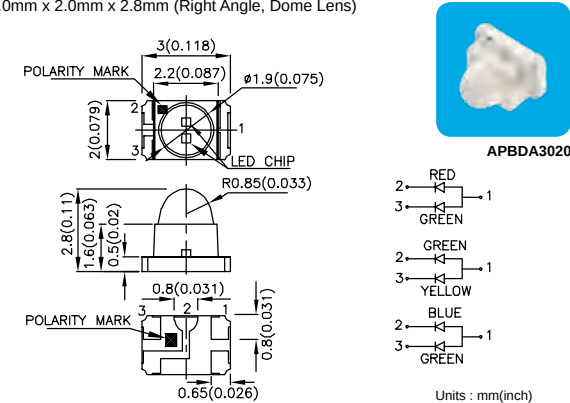
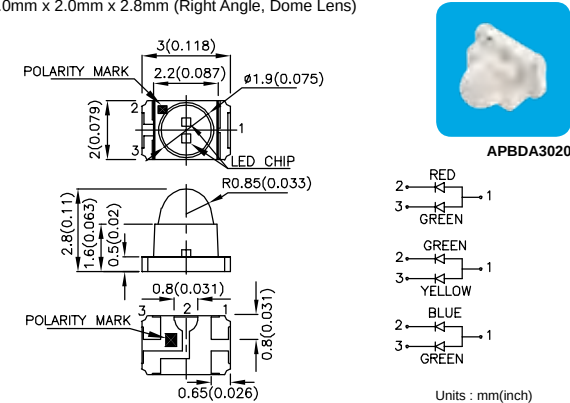
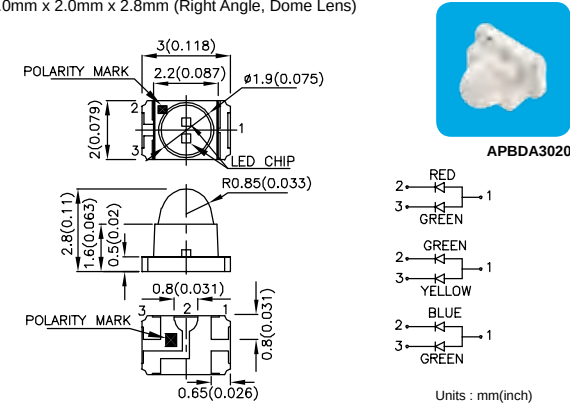
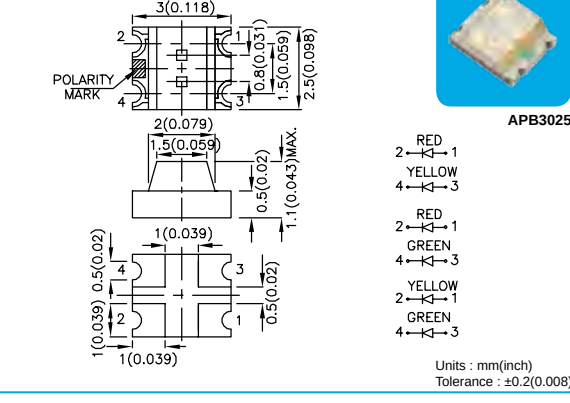
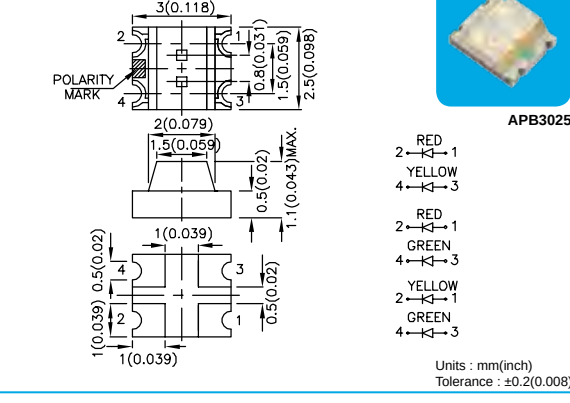
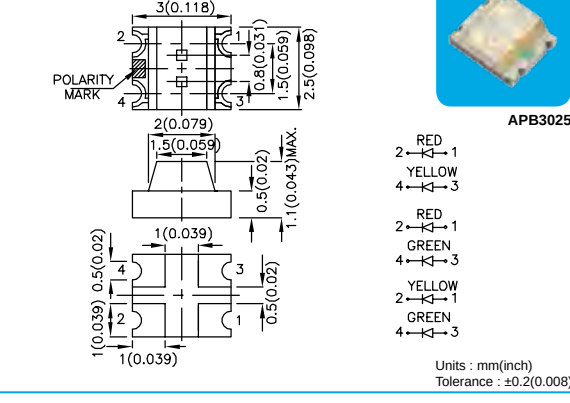
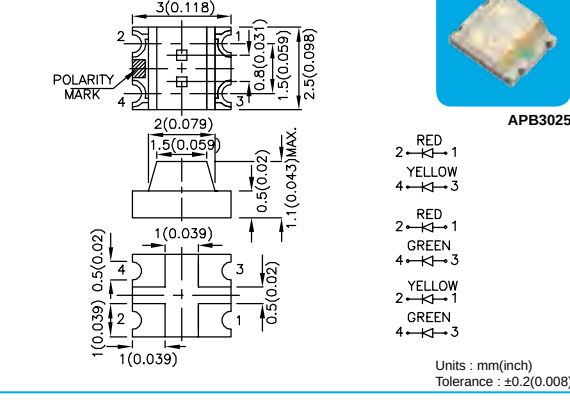
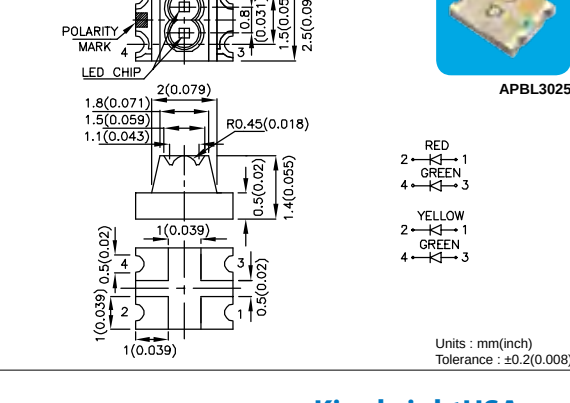
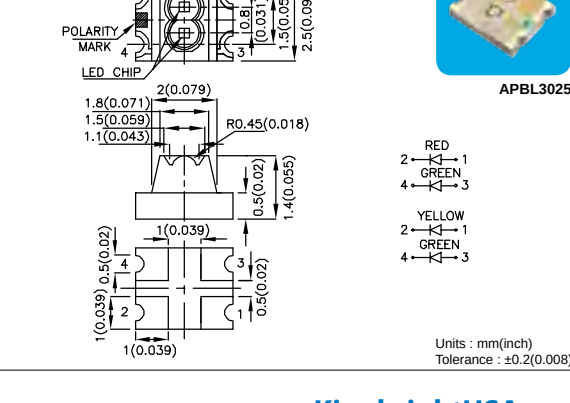
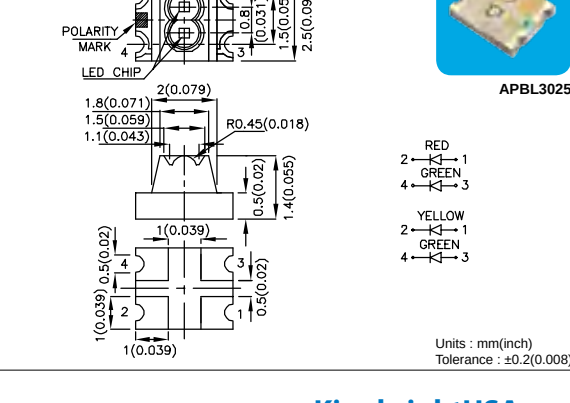
MULTI-COLOR SMD LED

Part Number	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimensions	
				Min.	Typ.			
APHB1608SYKSURKC	AlGaInP	590	Water Clear	80	150	130°	1.6mm x 0.8mm x 0.5mm (0603 Bi-Color)   APHB1608 Units : mm(inch) Tolerance : $\pm 0.15(0.006)$	
APHB1608CGKSURKC	AlGaInP	630		40	90			
APHB1608CGKSYKC	AlGaInP	570	Water Clear	20	50	130°		
	AlGaInP	630		40	90			
APHB1608ZGKSURKC	AlGaInP	570	Water Clear	20	50	130°		
	AlGaInP	590		80	150			
APHB1608ZGKSURKC	InGaIn	525	Water Clear	200	350	130°		
	AlGaInP	630		40	90			
APHB1608ZGKSYKC	InGaIn	525	Water Clear	200	350	130°		
	AlGaInP	590		80	150			
APHB1608QBDSURKC	InGaIn	465	Water Clear	40	70	130°		
	AlGaInP	630		40	90			
APHB1608QBDSYKC	InGaIn	465	Water Clear	40	70	130°		
	AlGaInP	590		80	150			
APHB1608QBDCGKC	InGaIn	465	Water Clear	40	70	130°		
	AlGaInP	570		20	50			
APTB1612ESGC-F01	GaAsP/GaP	617	Water Clear	3	7	120°	1.6mm x 1.25mm x 0.65mm (0605 Bi-Color)   APTB1612 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$	
	GaP	568		5	12			
APTB1612SURKCGKC-F01	AlGaInP	630	Water Clear	40	80	120°		
	AlGaInP	570		20	50			
APTB1612SURKQBDC-F01	AlGaInP	630	Water Clear	40	80	120°		
	InGaIn	465		40	80			
APTB1612YSGC-F01	GaAsP/GaP	588	Water Clear	3	8	120°		
	GaP	568		5	12			
APTB1612SYKCGKC-F01	AlGaInP	590	Water Clear	80	120	120°		
	AlGaInP	570		20	50			
APTB1615ESGC-F01	GaAsP/GaP	617	Water Clear	3	7	120°		1.6mm x 1.5mm x 0.7mm (0606 Bi-Color)   APTB1615 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	GaP	568		5	12			
APTB1615SURKCGKC-F01	AlGaInP	630	Water Clear	40	80	120°		
	AlGaInP	570		20	50			
APTB1615YSGC-F01	GaAsP/GaP	588	Water Clear	3	8	120°		
	GaP	568		5	12			
APTB1615SYKCGKC-F01	AlGaInP	590	Water Clear	80	120	120°		
	AlGaInP	570		20	50			
APTF1616SEEGQBDC	AlGaInP	621	Water Clear	55	110	120°	1.6mm x 1.6mm x 0.7mm (Full Color)   APTF1616 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$	
	InGaIn	525		120	280			
	InGaIn	465		40	70			

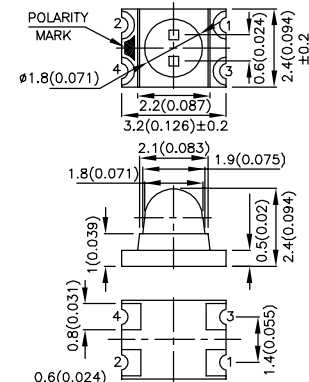
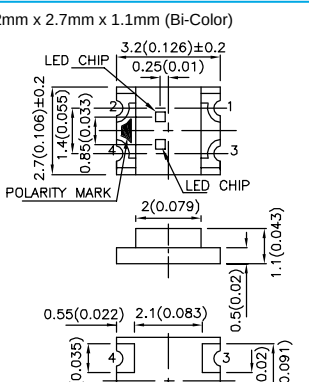
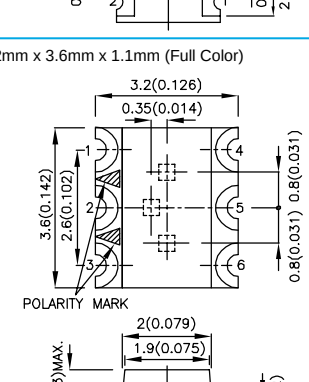
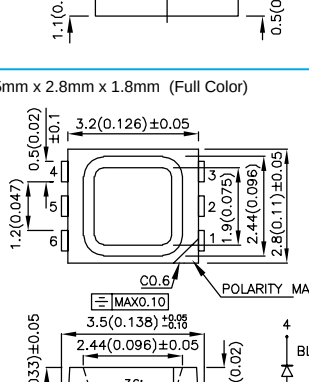
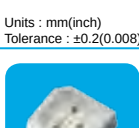
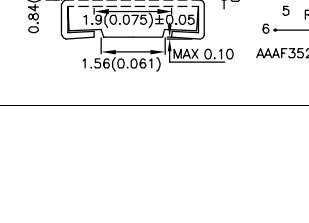
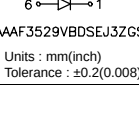
MULTI-COLOR SMD LED

Part Number	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimensions							
				Min.	Typ.									
APHBM2012SURKCGKC	AlGaInP	630	Water Clear	40	80	120°	2.0mm x 1.25mm x 0.45mm (0805 Super Thin, Bi-Color)     APHBM2012 Units : mm(inch) Tolerance : $\pm 0.1(0.004)$							
	AlGaInP	570		20	50			2	1	3	4			
APHBM2012CGKSEKC	AlGaInP	570	Water Clear	20	50	120°		3.0mm x 1.0mm x 2.0mm (1104 Right Angle, Bi-Color)     APBA3010 Units : mm(inch) Tolerance : $\pm 0.15(0.006)$						
	AlGaInP	601		80	180				2	1	3	4		
APHBM2012CGKSYKC	AlGaInP	570	Water Clear	20	50	120°			3.0mm x 1.0mm x 1.5mm (1104 Right Angle, Full Color)     APFA3010 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$					
	AlGaInP	590		80	120					2	1	3	4	
APHBM2012QBDSURKC	InGaIn	465	Water Clear	40	80	120°				3.0mm x 1.0mm x 1.5mm (1104 Right Angle, Full Color)     APFA3010 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$				
	AlGaInP	630		40	80						2	1	3	4
APHBM2012QBDCGKC	InGaIn	465	Water Clear	40	80	120°					3.0mm x 1.0mm x 1.5mm (1104 Right Angle, Full Color)     APFA3010 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$			
	AlGaInP	570		20	50							2	1	3
APBA3010EYC-GX	GaAsP/GaP	617	Water Clear	3	8	140°	3.0mm x 1.0mm x 1.5mm (1104 Right Angle, Full Color)     APFA3010 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$							
	GaAsP/GaP	588		5	8							2	1	3
APBA3010ESGC-GX	GaAsP/GaP	617	Water Clear	3	8	140°		3.0mm x 1.0mm x 1.5mm (1104 Right Angle, Full Color)     APFA3010 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$						
	GaP	568		5	15							2	1	3
APBA3010YSGC-GX	GaAsP/GaP	588	Water Clear	5	8	140°			3.0mm x 1.0mm x 1.5mm (1104 Right Angle, Full Color)     APFA3010 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$					
	GaP	568		5	15							2	1	3
APBA3010SURKCGKC-GX	AlGaInP	630	Water Clear	40	80	140°				3.0mm x 1.0mm x 1.5mm (1104 Right Angle, Full Color)     APFA3010 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$				
	AlGaInP	570		40	70							2	1	3
APBA3010SYKCGKC-GX	AlGaInP	590	Water Clear	80	120	140°					3.0mm x 1.0mm x 1.5mm (1104 Right Angle, Full Color)     APFA3010 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$			
	AlGaInP	570		40	70							2	1	3
APFA3010SEEZQBDC	AlGaInP	621	Water Clear	80	140	120°	3.0mm x 1.0mm x 1.5mm (1104 Right Angle, Full Color)     APFA3010 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$							
	InGaIn	525		200	300							2	1	3
	InGaIn	465		40	70			2				1	3	4

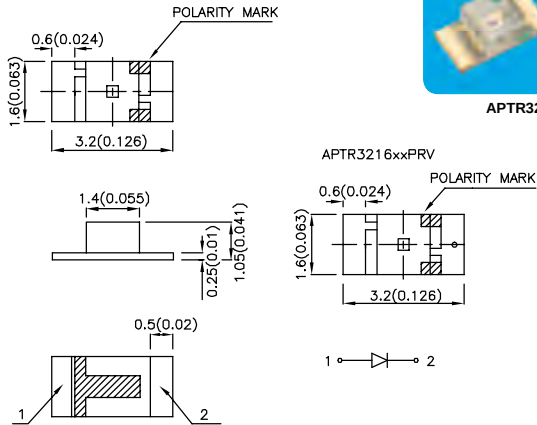
MULTI-COLOR SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimensions
				Min.	Typ.		
AM23ESGC	GaAsP/GaP	617	Water Clear	3	5	140°	SOT-23 Surface Mount LED Lamp (3mm x 1.3mm) 
	GaP	568		5	10		
AM23ESGW	GaAsP/GaP	617	White Diffused	3	5	140°	SOT-23 Surface Mount LED Lamp (3mm x 1.3mm) 
	GaP	568		5	9		
APBDA3020SURKCGKC-GX	AlGaInP	630	Water Clear	120	300	15°	3.0mm x 2.0mm x 2.8mm (Right Angle, Dome Lens) 
	AlGaInP	570		120	300		
APBDA3020CGKSYKC-GX	AlGaInP	570	Water Clear	120	280	15°	3.0mm x 2.0mm x 2.8mm (Right Angle, Dome Lens) 
	AlGaInP	590		400	700		
APBDA3020QBDCGKC-GX	InGaIn	465	Water Clear	120	300	15°	3.0mm x 2.0mm x 2.8mm (Right Angle, Dome Lens) 
	AlGaInP	570		120	300		
APB3025EYC-F01	GaAsP/GaP	617	Water Clear	3	8	120°	3.0mm x 2.5mm x 1.1mm (1109 Bi-Color) 
	GaAsP/GaP	588		5	10		
APB3025ESGC-F01	GaAsP/GaP	617	Water Clear	3	8	120°	3.0mm x 2.5mm x 1.1mm (1109 Bi-Color) 
	GaP	568		8	15		
APB3025SURKCGKC-F01	AlGaInP	630	Water Clear	40	70	120°	3.0mm x 2.5mm x 1.1mm (1109 Bi-Color) 
	AlGaInP	570		20	60		
APB3025YSGC-F01	GaAsP/GaP	588	Water Clear	5	10	120°	3.0mm x 2.5mm x 1.1mm (1109 Bi-Color) 
	GaP	568		8	15		
APBL3025ESGC-F01	GaAsP/GaP	617	Water Clear	8	15	100°	3.0mm x 2.5mm x 1.4mm (1109 Bi-Color) 
	GaP	568		12	20		
APBL3025SURKCGK-F01	AlGaInP	630	Water Clear	80	200	100°	3.0mm x 2.5mm x 1.4mm (1109 Bi-Color) 
	AlGaInP	570		55	120		
APBL3025YSGC-F01	GaAsP/GaP	588	Water Clear	5	15	100°	3.0mm x 2.5mm x 1.4mm (1109 Bi-Color) 
	GaP	568		12	20		

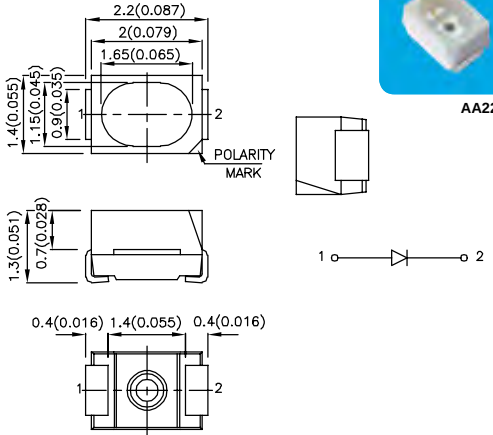
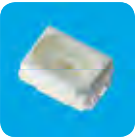
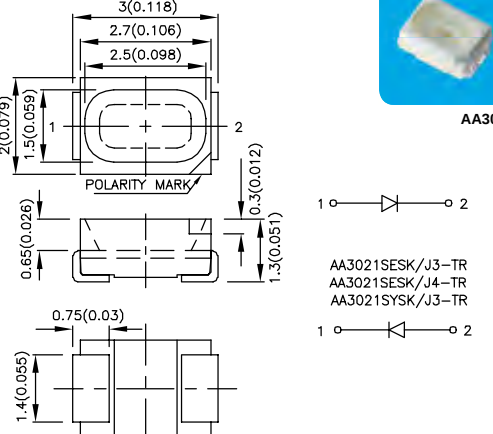
MULTI-COLOR SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 201/2	Dimensions
				Min.	Typ.		
APBD3224ESGC-F01	GaAsP/GaP	617	Water Clear	12	40	20°	3.2mm x 2.4mm x 2.4mm (Dome Lens)   APBD3224 Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
	GaP	568		20	55		
APBD3224SURKCGKC-F01	AlGaInP	630	Water Clear	120	400	20°	  APBD3227 Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
	AlGaInP	570		80	280		
APBD3224SYKCGKC-F01	AlGaInP	590	Water Clear	400	800	20°	  APBD3229 Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
	AlGaInP	570		80	280		
APB3227SEKCGKC	AlGaInP	601	Water Clear	80	180	100°	  APB3227 Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
	AlGaInP	570		20	55		
APB3227SURKCGKC	AlGaInP	630	Water Clear	40	80	100°	  APB3227 Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
	AlGaInP	570		20	55		
APB3227SURKZGKC	AlGaInP	630	Water Clear	40	80	100°	 APB3227 Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
	InGaIn	525		200	350		
APB3227SYKCGKC	AlGaInP	590	Water Clear	80	150	100°	 APB3227 Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
	AlGaInP	570		20	55		
APB3227ZGKQBDC	InGaIn	525	Water Clear	200	350	100°	 APB3227 Units : mm(inch) Tolerance : $\pm 0.1(0.004)$
	InGaIn	465		55	100		
APF3236SEEZGQBDC	AlGaInP	621	Water Clear	80	140	120°	3.2mm x 3.6mm x 1.1mm (Full Color) APF3236 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	InGaIn	525		200	330		
	InGaIn	465		40	70		
AAAF3529SEEZGQBDS	AlGaInP	621	Water Clear	80	180	120°	3.5mm x 2.8mm x 1.8mm (Full Color) AAAF3529 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	InGaIn	525		400	580		
	InGaIn	465		80	130		
AAAF3529VBDSEJ3ZGS	InGaIn	470	Water Clear	200	300	120°	 AAAF3529 Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
	AlGaInP	625		400	560		
	InGaIn	525		400	580		

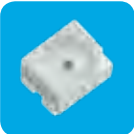
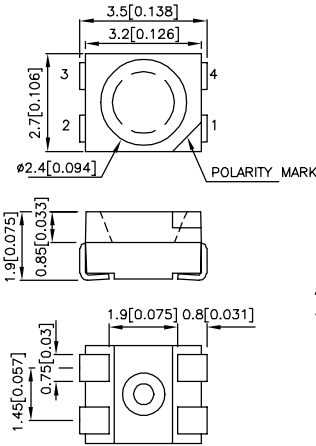
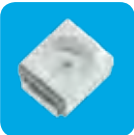
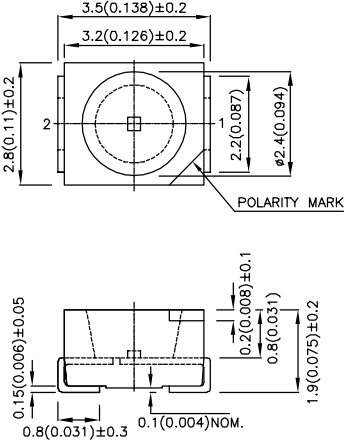
REVERSE MOUNT SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimensions
				Min.	Typ.		
APTR3216EC	GaAsP/GaP	617	Water Clear	3	8	120°	3.2mm x 1.6mm x 1.05mm (1206 Reverse Mount)   Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
APTR3216SRCPRV	GaAlAs	640	Water Clear	12	30	120°	
APTR3216SURCK	AlGaInP	630	Water Clear	40	80	120°	
APTR3216SECK	AlGaInP	601	Water Clear	80	180	120°	
APTR3216YC	GaAsP/GaP	588	Water Clear	3	8	120°	
APTR3216SYCK	AlGaInP	590	Water Clear	80	150	120°	
APTR3216SGC	GaP	568	Water Clear	5	12	120°	
APTR3216CGCK	AlGaInP	570	Water Clear	20	50	120°	
APTR3216ZGCK	InGaN	525	Water Clear	200	350	120°	
APTR3216QBC/D	InGaN	465	Water Clear	40	100	120°	

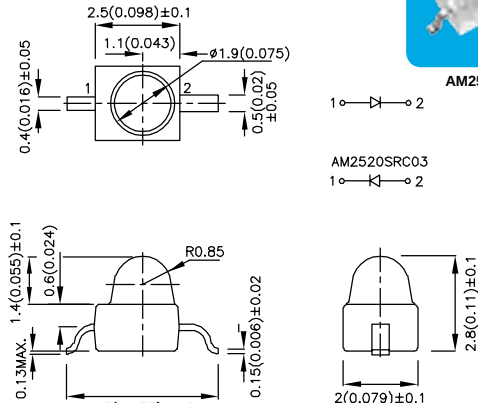
TOP-EMITTING PLCC SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimensions
				Min.	Typ.		
AA2214SURSK	AlGaInP	630	Water Clear	55	100	120°	2.2mm x 1.4mm x 1.3mm   Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
AA2214SESK	AlGaInP	601	Water Clear	80	180	120°	
AA2214SYSK	AlGaInP	590	Water Clear	120	250	120°	
AA2214CGSK	AlGaInP	570	Water Clear	40	70	120°	
AA2214ZGSK	InGaN	525	Water Clear	400	650	120°	
AA2214QBS/D	InGaN	465	Water Clear	80	150	120°	
AA3021ES	GaAsP/GaP	617	Water Clear	8	18	125°	3.0mm x 2.0mm x 1.3mm   Units : mm(inch) Tolerance : $\pm 0.2(0.008)$
AA3021SURSK	AlGaInP	630	Water Clear	40	90	125°	
AA3021SESK/J3-TR	AlGaInP	625	Water Clear	300	450	125°	
AA3021SESK/J4-TR	AlGaInP	605	Water Clear	400	700	125°	
AA3021SESK	AlGaInP	601	Water Clear	120	300	125°	
AA3021YS	GaAsP/GaP	588	Water Clear	8	15	125°	
AA3021SYSK	AlGaInP	590	Water Clear	120	200	125°	
AA3021SYSK/J3-TR	AlGaInP	590	Water Clear	300	500	125°	
AA3021SGS	GaP	568	Water Clear	12	20	125°	
AA3021CGSK	AlGaInP	570	Water Clear	40	80	125°	
AA3021ZGSK	InGaN	525	Water Clear	400	700	125°	
AA3021QBS/D	InGaN	465	Water Clear	80	120	125°	
AA3021VBS/D	InGaN	470	Water Clear	200	450	125°	

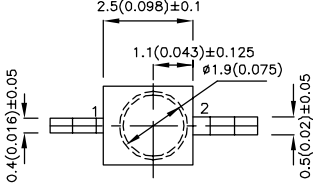
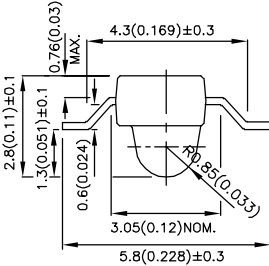
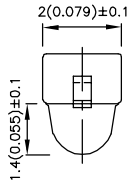
TOP-EMITTING PLCC SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA*30mA**50mA		Viewing Angle 201/2	Dimensions
				Min.	Typ.		
AA3527ASURS-50MAV	AlGaInP	630	Water Clear	**120	**280	120°	3.5mm x 2.7mm x 1.9mm  AA3527A  POLARITY MARK 2  1,3,4 AA3527ASESK/J3-50MAV AA3527ASYSK/J3-50MAV 2  1,3,4 Units : mm(inch) Tolerance : $\pm 0.25(0.01)$
AA3527ASESK/J3-50MAV	AlGaInP	625	Water Clear	**1000	**1500	120°	
AA3527ASESK-50MAV	AlGaInP	601	Water Clear	**200	**400	120°	
AA3527ASYSK/J3-50MAV	AlGaInP	590	Water Clear	**1000	**1500	120°	
AA3527AZGSK-30MAV	InGaN	525	Water Clear	*500	*700	120°	
AA3527AVBS/D-30MAV	InGaN	470	Water Clear	*300	*600	120°	
AA3528EC	GaAsP/GaP	617	Water Clear	8	12	120°	3.5mm x 2.8mm x 1.9mm  AA3528  POLARITY MARK 2  1 AA3528SESK/J3 AA3528SESK/J4 AA3528SYSK/J3 2  1 Units : mm(inch) Tolerance : $\pm 0.25(0.01)$
AA3528SURCK	AlGaInP	630	Water Clear	55	100	120°	
AA3528SESK/J3	AlGaInP	625	Water Clear	300	450	120°	
AA3528SESK/J4	AlGaInP	605	Water Clear	500	800	120°	
AA3528SECK	AlGaInP	601	Water Clear	120	230	120°	
AA3528YC	GaAsP/GaP	588	Water Clear	8	15	120°	
AA3528SYCK	AlGaInP	590	Water Clear	80	200	120°	
AA3528SYSK/J3	AlGaInP	590	Water Clear	200	450	120°	
AA3528SGC	GaP	568	Water Clear	12	25	120°	
AA3528CGCK	AlGaInP	570	Water Clear	40	100	120°	
AA3528ZGCK	InGaN	525	Water Clear	300	500	120°	
AA3528QBS/D	InGaN	465	Water Clear	80	150	120°	
AA3528VBS/D	InGaN	470	Water Clear	300	450	120°	

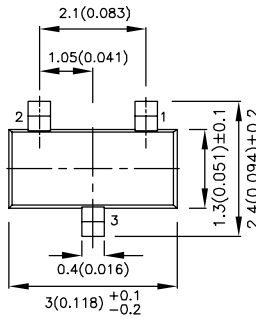
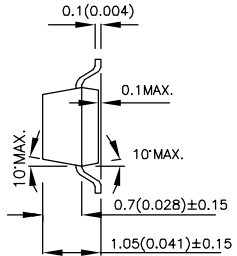
SUBMINIATURE SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 201/2	Dimensions
				Min.	Typ.		
AM2520EC03	GaAsP/GaP	617	Water Clear	20	50	20°	Subminiature Solid State Lamps Gull Wing Lead  AM2520xxx03  1  2 AM2520SRC03 1  2 Units : mm(inch) Tolerance : $\pm 0.25(0.01)$
AM2520SRC03	GaAlAs	640	Water Clear	300	600	20°	
AM2520SURCK03	AlGaInP	630	Water Clear	500	1000	20°	
AM2520SECK03	AlGaInP	601	Water Clear	1000	1800	20°	
AM2520YC03	GaAsP/GaP	588	Water Clear	20	50	20°	
AM2520SYCK03	AlGaInP	590	Water Clear	1300	2300	20°	
AM2520SGC03	GaP	568	Water Clear	40	90	20°	
AM2520CGCK03	AlGaInP	570	Water Clear	400	800	20°	
AM2520ZGCK03	InGaN	525	Water Clear	1600	2700	20°	
AM2520QBC/D03	InGaN	465	Water Clear	300	900	20°	

SUBMINIATURE SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimensions
				Min.	Typ.		
AM2520EC09	GaAsP/GaP	617	Water Clear	20	50	20°	Subminiature Solid State Lamps Z-Bend Lead  AM2520xxx09    1 0 2 AM2520SRC09 1 0 2 Units : mm(inch) Tolerance : ±0.25(0.01)
AM2520SRC09	GaAlAs	640	Water Clear	300	600	20°	
AM2520SURCK09	AlGaInP	630	Water Clear	500	1000	20°	
AM2520SECK09	AlGaInP	601	Water Clear	1000	1800	20°	
AM2520YC09	GaAsP/GaP	588	Water Clear	20	50	20°	
AM2520SYCK09	AlGaInP	590	Water Clear	1300	2300	20°	
AM2520SGC09	GaP	568	Water Clear	40	90	20°	
AM2520CGCK09	AlGaInP	570	Water Clear	400	800	20°	
AM2520ZGCK09	InGaN	525	Water Clear	1600	2700	20°	
AM2520QBC/D09	InGaN	465	Water Clear	300	900	20°	

SOT-23 SMD LED

Part Number	Material	λ_D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimensions
				Min.	Typ.		
AM23EC-F	GaAsP/GaP	617	Water Clear	3	5	140°	SOT-23 Surface Mount LED Lamp (3mm x 1.3mm)  AM23-F   1 ANODE 2 N.C. 3 CATHODE Units : mm(inch) Tolerance : ±0.25(0.01)
AM23ID-F	GaAsP/GaP	617	Red Diffused	3	7	140°	
AM23YC-F	GaAsP/GaP	588	Water Clear	3	8	140°	
AM23YD-F	GaAsP/GaP	588	Yellow Diffused	3	8	140°	
AM23SGC-F	GaP	568	Water Clear	5	10	140°	
AM23SGD3-F	GaP	568	Green Diffused	3	8	140°	