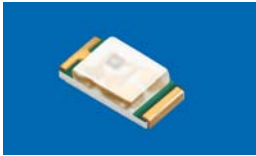


Light Emit Diode Product

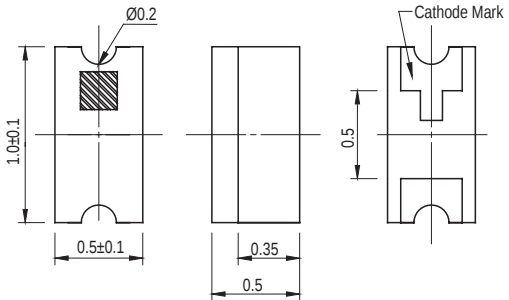
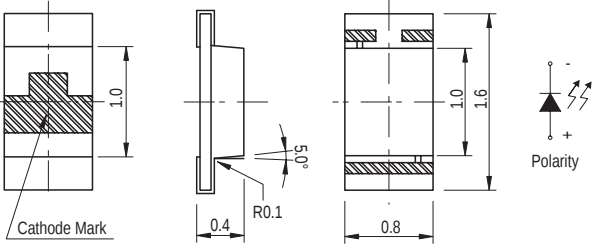
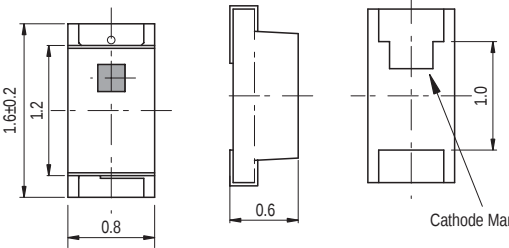
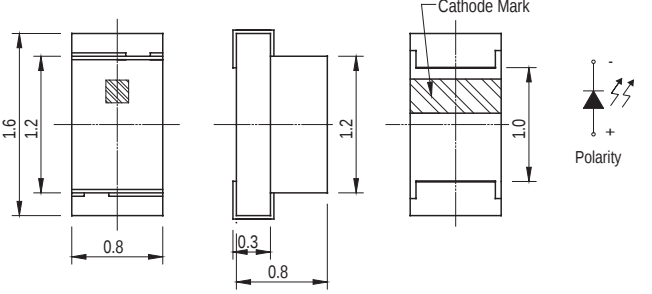




Surface Mount LED Top Emitting Type (Monochrome)

Package Unit : inch / mm (L x W x H)	Product Type	Chromaticity Coordinate			IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)	I _v (mcd)		V _F				
					Min.	Typ.	Typ.	Max.			
• 0402 (1.0 x 0.5 x 0.5)  Fig.1	VS 1WD9	 White	x 0.29 y 0.30	-	180	345	3.0	3.2	120	50	Yellow Diff.
	VS 12D8	 Blue	-	470	28	55	3.5	4.0			10
	VS 15D8	 Yellow Green	-	573	11.2	18	2.0	2.4			
	VS 16D8	 Yellow	-	589	18	39	2.0	2.4			
	VS 17D8	 Red	-	624	14	40	2.0	2.4			
• 0603 (1.6 x 0.8 x 0.4)  Fig.2	VS 2WC9	 White	x 0.29 y 0.30	-	180	360	3.0	3.2	130	50	Yellow Diff.
	VS 22C8	 Blue	-	470	28	55	3.5	4.0	120		Water Clear
	VS 23C8	 True Green	-	525	112	220	3.5	4.0			
	VS 25C8	 Yellow Green	-	573	28	57	2.0	2.4			
	VS 27C8	 Red	-	624	14	25	2.0	2.4			
• 0603 (1.6 x 0.8 x 0.6)  Fig.3	VS 2WD9	 White	x 0.29 y 0.30	-	112	220	3.0	3.2	130	50	Yellow Diff.
	VS 22D8	 Blue	-	470	28	45	3.5	4.0	120		Water Clear
	VS 23D8	 True Green	-	525	112	185	3.5	4.0			
	VS 25D8	 Yellow Green	-	573	14	25	2.0	2.4			
	VS 27D8	 Red	-	624	18	40	2.0	2.4			
• 0603 (1.6 x 0.8 x 0.8)  Fig.4	VS 2WA9	 White	x 0.29 y 0.30	-	112	220	3.0	3.2	110	50	Yellow Diff.
	VS 22A8	 Blue	-	470	28	55	3.5	4.0	100		Water Clear
	VS 23A8	 True Green	-	525	112	218	3.5	4.0			
	VS 25A8	 Yellow Green	-	573	18	25	2.0	2.4			
	VS 27A8	 Red	-	624	18	46	2.0	2.4			

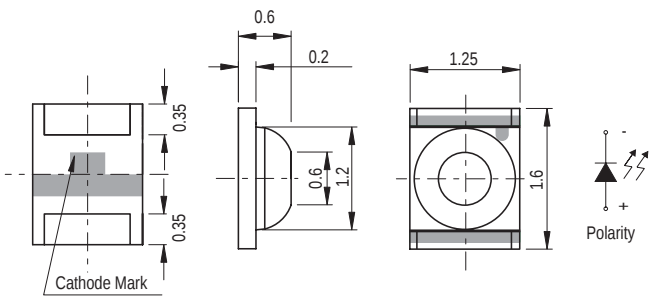
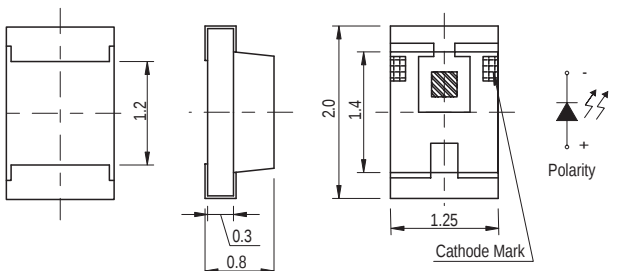
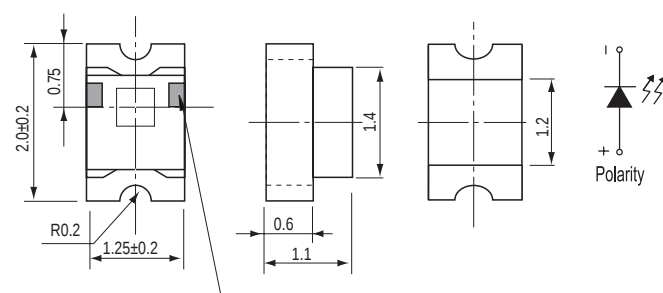
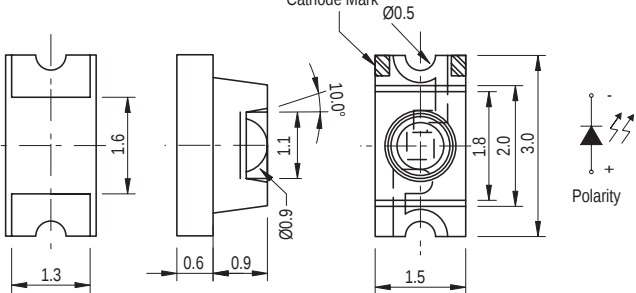
Package Dimensions

Unit : mm  Fig.1	Unit : mm  Fig.2
Unit : mm  Fig.3	Unit : mm  Fig.4

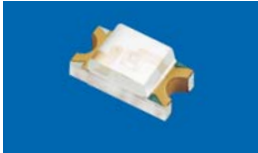
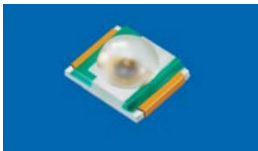
Surface Mount LED Top Emitting Type (Monochrome)

Package Unit : inch / mm (L x W x H)	Product Type	Chromaticity Coordinate			IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)	I _v (mcd)		V _F				
					Min.	Typ.	Typ.	Max.			
• 0605 (1.6 x 1.25 x 0.6)  Fig.1	VS 3WH9	 White	x 0.29 y 0.30	--	90	300	3.0	3.2	170	50	Yellow Diff.
	VS 35H8	 Yellow Green	--	573	18	35	2.0	2.4		10	Water Clear
	VS 36H8	 Yellow	--	589	28	55	2.0	2.4			
	VS 3TH8	 Red	--	631	28	45	2.0	2.4			
• 0805 (2.0 x 1.25 x 0.8)  Fig.2	VS 42D8	 Blue	--	470	28	55	3.5	4.0	130	50	
	VS 43D8	 True Green	--	525	112	185	3.5	4.0		10	
	VS 45D8	 Yellow Green	--	573	14	20	2.0	2.4			
	VS 46D8	 Yellow	--	589	14	35	2.0	2.4			
	VS 47D8	 Red	--	624	14	35	2.0	2.4			
• 0805 (2.0 x 1.25 x 1.1)  Fig.3	VS 4WH9	 White	x 0.29 y 0.30	--	112	220	3.0	3.2	150	50	Yellow Diff.
	VS 42H8	 Blue	--	470	28	55	3.5	4.0	140		Water Clear
	VS 43H8	 True Green	--	525	112	172	3.5	4.0			
	VS 45H8	 Yellow Green	--	573	22.4	35	2.0	2.4			
	VS 47H8	 Red	--	624	18	45	2.0	2.4			
• 1206 (3.0 x 1.5 x 1.5)  Fig.4	VS 6278	 Blue	--	470	56	108	3.5	4.0	60	50	
	VS 6378	 True Green	--	525	280	550	3.5	4.0		10	
	VS 6578	 Yellow Green	--	573	28	42	2.0	2.4			
	VS 6678	 Yellow	--	589	28	75	2.0	2.4			
	VS 6778	 Red	--	624	71	115	2.0	2.4			

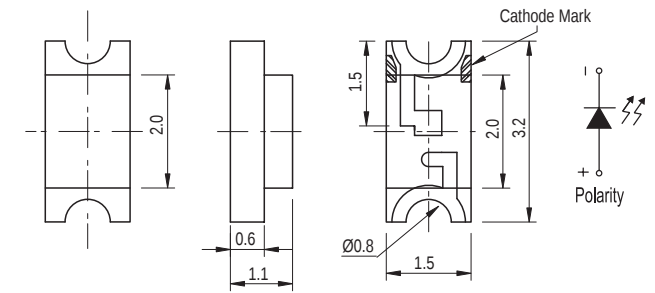
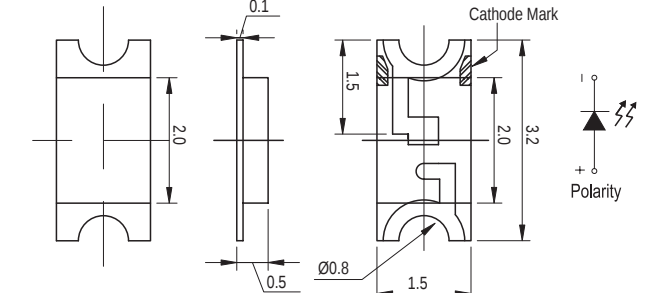
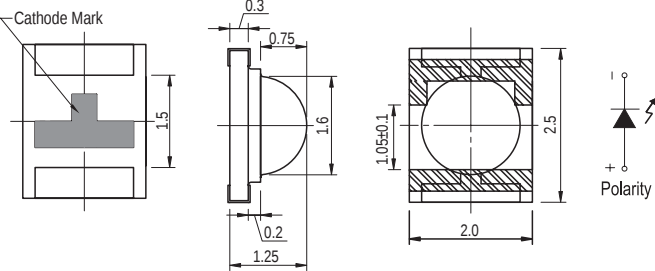
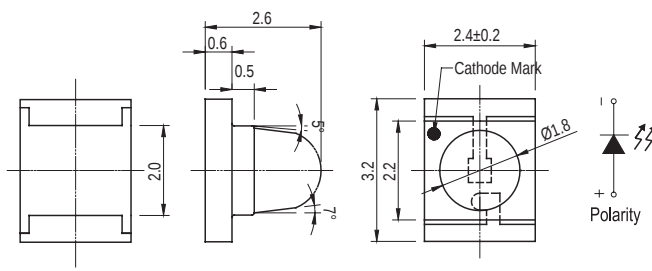
Package Dimensions

 Unit : mm Fig.1	 Unit : mm Fig.2
 Unit : mm Fig.3	 Unit : mm Fig.4

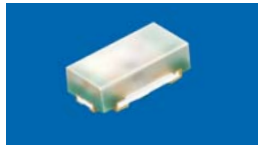
Surface Mount LED Top Emitting Type (Monochrome)

Package Unit : inch / mm (L x W x H)	Product Type	Chromaticity Coordinate			IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)	I _v (mcd)		V _F				
					Min.	Typ.	Typ.	Max.			
• 1206 (3.2 x 1.5 x 1.1)  Fig.1	VS 5WF9	 White	x 0.29 y 0.30	--	180	340	3.0	3.2	150	50	Yellow Diff.
	VS 52F8	 Blue	--	470	28	55	3.5	4.0	130		Water Clear
	VS 53F8	 True Green	--	525	112	185	3.5	4.0			
	VS 55F8	 Yellow Green	--	573	18	25	2.0	2.4			
	VS 57F8	 Red	--	624	18	42	2.0	2.4	10		
• 1206 (3.2 x 1.5 x 0.5)  Fig.2	VS 52H8	 Blue	--	470	45	100	3.5	4.0	140	50	Water Clear
	VS 55H8	 Yellow Green	--	573	28	55	2.0	2.4		10	
	VS 56H8	 Yellow	--	589	45	90	2.0	2.4			
	VS 57H8	 Red	--	624	14	40	2.0	2.4			
	VS 5TH8	 Red	--	631	71	140	2.0	2.4			
• 1008 (2.5 x 2.0 x 1.25)  Fig.3	VS 92A8	 Blue	--	470	112	220	3.5	4.0	100	50	Water Clear
	VS 93A8	 True Green	--	525	280	550	3.5	4.0		10	
	VS 97A8	 Red	--	624	71	120	2.0	2.4			
• 1013 (2.4 x 3.2 x 2.6)  Fig.4	VS 9228	 Blue	--	470	710	1385	3.5	4.0	30	50	Water Clear
	VS 9328	 True Green	--	525	1800	3470	3.5	4.0		10	
	VS 9528	 Yellow Green	--	573	224	350	2.0	2.4			
	VS 9628	 Yellow	--	589	224	365	2.0	2.4			
	VS 9728	 Red	--	624	90	245	2.0	2.4			

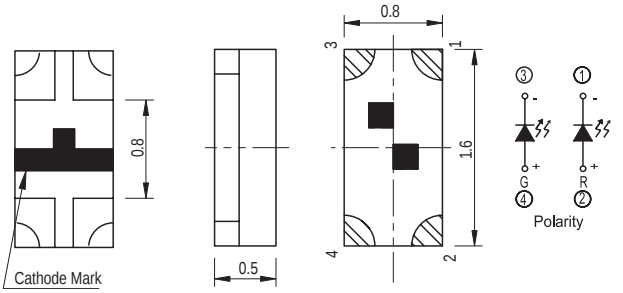
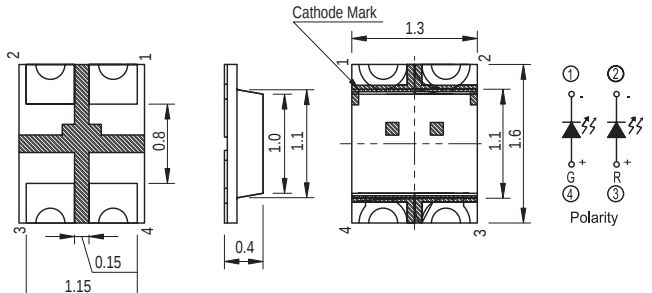
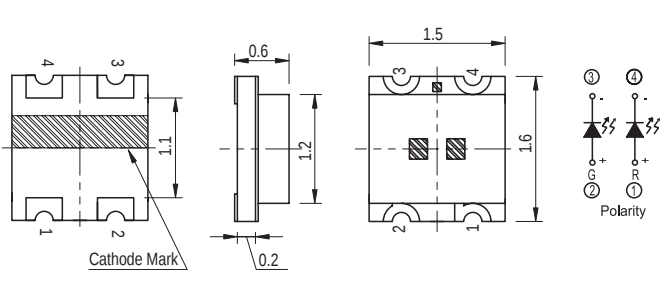
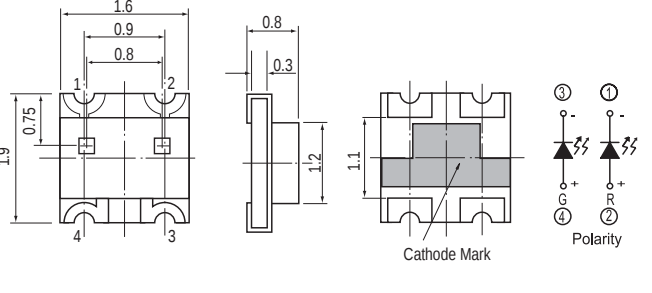
Package Dimensions

Unit : mm  Fig.1	Unit : mm  Fig.2
Unit : mm  Fig.3	Unit : mm  Fig.4

Surface Mount LED Top Emitting Type (Bi- Color)

Package Unit : inch / mm (L x W x H)	Product Type	Chromaticity Coordinate		IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color		
		Emitted Color	λ _D (nm)	I _v (mcd)		V _F						
				Min.	Typ.	Typ.	Max.					
• 0603 (1.6 x 0.8 x 0.5)  Fig.1	VS 2JD8	 Yellow Green	573	28	35	2.0	2.4	120	10	Water Clear		
		 Red	624	56	80	2.0	2.4					
	VS 2FD8	 Blue	470	22.4	40	3.5	4.0				50	
		 Yellow	589	35.5	60	2.0	2.4					
	VS 2MD8	 Blue	470	22.4	40	3.5	4.0		50			
		 Orange Yellow	605	35.5	60	2.0	2.4					
• 0605 (1.6 x 1.3 x 0.4)  Fig.2	VS 3JD8	 Yellow Green	573	9	15	2.0	2.4		10			
		 Red	624	22.4	37	2.0	2.4					
	VS 3KD8	 Yellow Green	573	9	15	2.0	2.4				50	
		 Yellow	589	18	27	2.0	2.4					
	VS 3LD8	 Blue	470	45	82	3.5	4.0				10	
		 Red	624	71	105	2.0	2.4					
• 0606 (1.6 x 1.5 x 0.6)  Fig.3	VS TJD8	 Yellow Green	573	22.4	35	2.0	2.4				50	
		 Red	624	35.5	60	2.0	2.4					
	VS TLD8	 Blue	470	14	22	3.5	4.0					10
		 Red	624	14	22	2.0	2.4					
	VS TMD8	 Blue	470	35.5	60	3.5	4.0					10
		 Orange Yellow	605	71	117	2.0	2.4					
• 0706 (1.9 x 1.6 x 0.8)  Fig.4	VS RDF8	 Blue	470	35.5	50	3.5	4.0	130	50			
		 True Green	525	112	195	3.5	4.0					
	VS RCF8	 Blue	470	28	42	3.5	4.0			10		
		 Yellow Green	573	28	35	2.0	2.4					
	VS RLF8	 Blue	470	18	28	3.5	4.0		50			
		 Red	624	35.5	60	2.0	2.4					
	VS RHF8	 Yellow	589	18	45	2.0	2.4		10			
		Red	624	18	45	2.0	2.4					

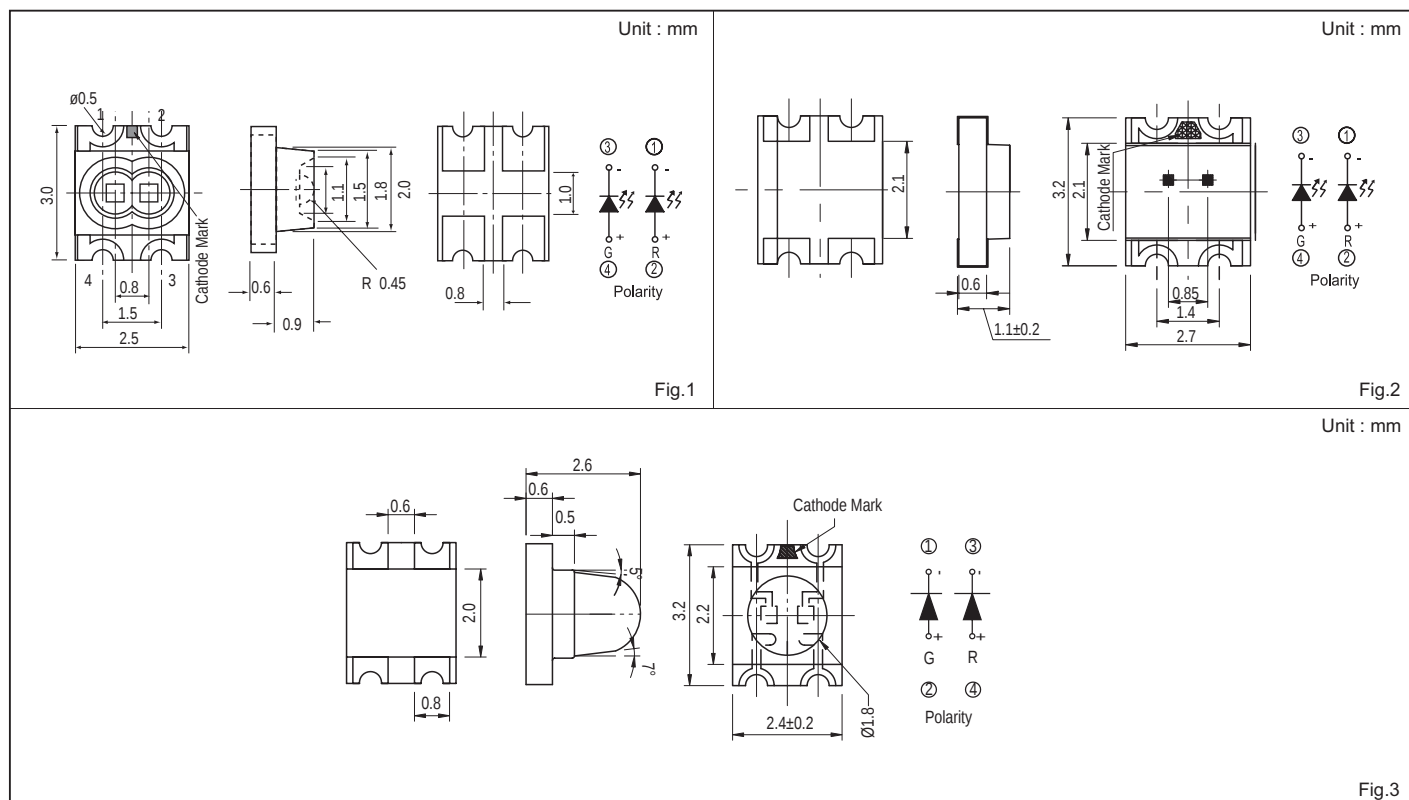
Package Dimensions

Unit : mm  Fig.1	Unit : mm  Fig.2
Unit : mm  Fig.3	Unit : mm  Fig.4

Surface Mount LED Top Emitting Type (Bi- Color)

Package Unit : inch / mm (L x W x H)	Product Type	Chromaticitty Coordinate		IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color	
		Emitted Color	λ _D (nm)	I _v (mcd)		V _F					
				Min.	Typ.	Typ.	Max.				
• 1210 (3.0 x 2.5 x 1.5)  Fig.1	VS LK78	 Yellow Green	573	14	25	2.0	2.4	60	10	Water Clear	
		 Yellow	589	22.4	55	2.0	2.4				
	VS LF78	 Blue	470	71	115	3.5	4.0		50		
		 Yellow	589	90	155	2.0	2.4				
	VS LJ78	 Yellow Green	573	14	25	2.0	2.4		10		
		 Red	624	22.4	55	2.0	2.4				
	VS LL78	 Blue	470	71	115	3.5	4.0		50		
		 Red	624	90	145	2.0	2.4				
VS LH78	 Yellow	589	22.4	55	2.0	2.4					
	 Red	624	22.4	55	2.0	2.4					
	VS QKH8	 Yellow Green	573	14	18	2.0		2.4	140		10
		 Yellow	589	18	40	2.0		2.4			
VS QJH8		 Yellow Green	573	11.2	18	2.0	2.4	50			
		 Red	624	18	40	2.0	2.4				
VS QLH8	 Blue	470	22.4	32	3.5	4.0					
	 Red	624	45	78	2.0	2.4					
	VS QHH8	 Yellow	589	18	40	2.0		2.4			
		 Red	624	18	40	2.0		2.4			
• 1309 (3.2 x 2.4 x 2.6)  Fig.3	VS 9J48	 Yellow Green	573	71	160	2.0	2.4	30	10		
		 Red	624	112	310	2.0	2.4				
	VS 9K48	 Yellow Green	573	71	160	2.0	2.4				
		 Yellow	589	112	310	2.0	2.4				

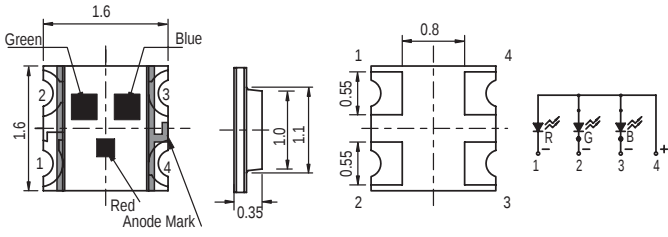
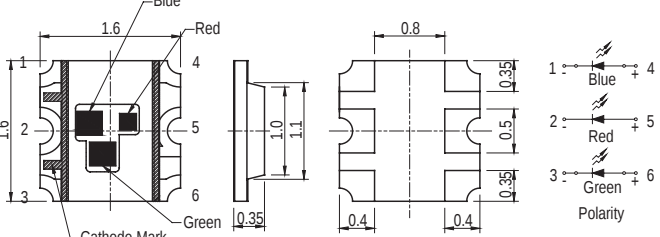
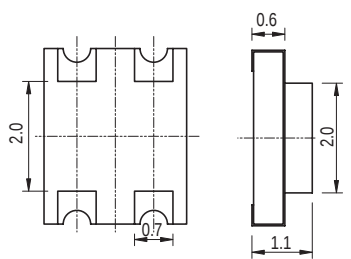
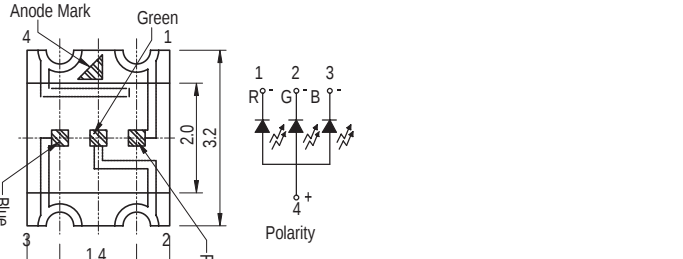
Package Dimensions



Surface Mount LED Top Emitting Type (Full Color)

Package Unit : inch / mm (L x W x H)	Product Type	Chromaticitty Coordinate		IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	λD (nm)	I _v (mcd)		V _F				
				Min.	Typ.	Typ.	Max.			
• 0606 (1.6 x 1.6 x 0.35)  Fig.1	VS MRD8	 Blue	470	28	55	3.3	3.9	120	50	Water Clear
		 True Green	525	112	200	3.3	3.9			
		 Red	624	71	110	2.0	2.4		10	
	• 0606 (1.6 x 1.6 x 0.35)  Fig.2	VS NRD8	 Blue	470	28	55	3.3	3.9	120	
 True Green			525	112	200	3.3	3.9			
 Red			624	71	110	2.0	2.4	10		
• 1311 (3.2 x 2.6 x 1.1)  Fig.3		VS URD8	 Blue	470	35.5	60	3.3	3.9	120	
	 True Green		525	90	135	3.3	3.9			
	 Red		624	56	80	2.0	2.4	10		

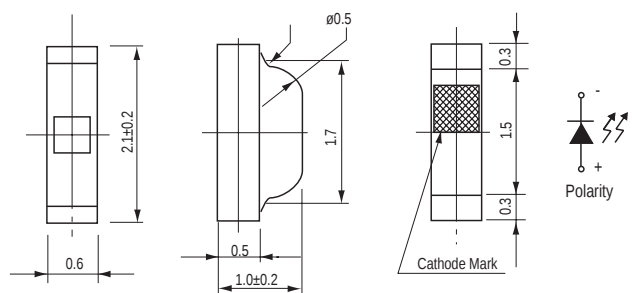
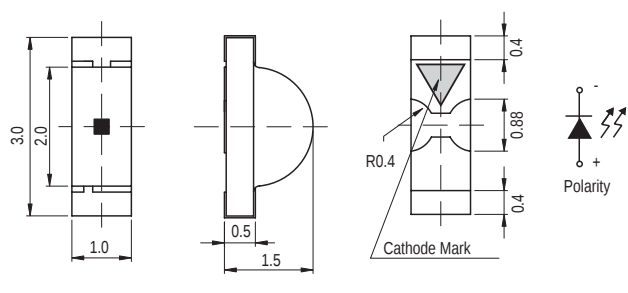
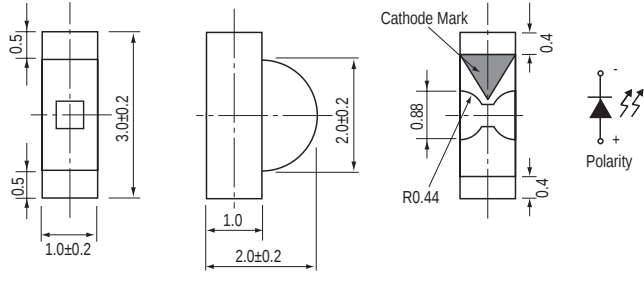
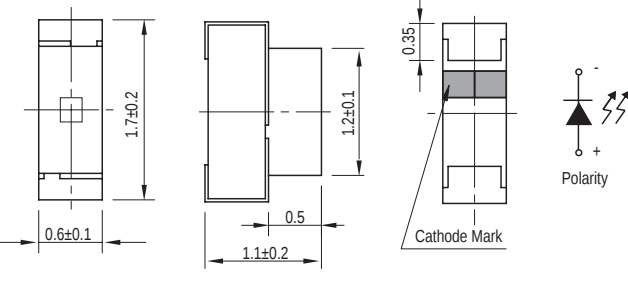
Package Dimensions

Unit : mm  Fig.1		Unit : mm  Fig.2	
 Fig.3		Unit : mm  Fig.3	

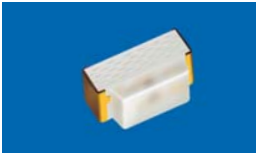
Surface Mount LED Side Emitting Type (Monochrome)

Package Unit : mm (L x W x H)	Product Type	Chromaticity Coordinate			IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _r (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)	I _v (mcd)		V _F				
					Min.	Typ.	Typ.	Max.			
• 2.1 x 1.0 x 0.6  Fig.1	VS 7WG9	 White	x 0.30 y 0.29	--	90	130	3.0	3.2	140	50	Yellow Diff.
	VS 72G8	 Blue	--	470	28	55	3.5	4.0	130		Water Clear
	VS 73G8	 True Green	--	525	112	185	3.5	4.0			
	VS 75G8	 Yellow Green	--	573	18	25	2.0	2.4			
	VS 77G8	 Red	--	624	18	45	2.0	2.4	10		
• 3.0 x 1.5 x 1.0  Fig.2	VS 72A8	 Blue	--	470	28	50	3.5	4.0	100	50	Water Clear
	VS 73A8	 True Green	--	525	140	275	3.5	4.0		10	
	VS 76A8	 Yellow	--	589	45	90	2.0	2.4			
	VS 7BA8	 Deep Red	--	639	28	55	2.0	2.4			
• 3.0 x 2.0 x 1.0  Fig.3	VS 72D8	 Blue	--	470	28	55	3.5	4.0	120	50	Water Clear
	VS 73D8	 True Green	---	525	140	205	3.5	4.0		10	
	VS 75D8	 Yellow Green	---	573	22.4	32	2.0	2.4			
	VS 76D8	 Yellow	---	589	22.4	45	2.0	2.4			
	VS 77D8	 Red	--	624	22.4	49	2.0	2.4			
• 1.7 x 1.1 x 0.6  Fig.4	VS 7WF9	 White	x 0.30 y 0.29	--	28	46	3.0	3.2	140	50	Yellow Diff.
	VS 72F8	 Blue	--	470	28	42	3.5	4.0	130	10	Water Clear
	VS 75F8	 Yellow Green	--	573	11.2	18	2.0	2.4			
	VS 76F8	 Yellow	--	589	18	38	2.0	2.4			
	VS 77F8	 Red	--	624	18	35	2.0	2.4			

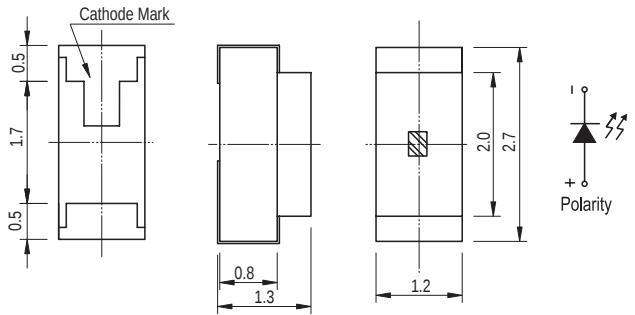
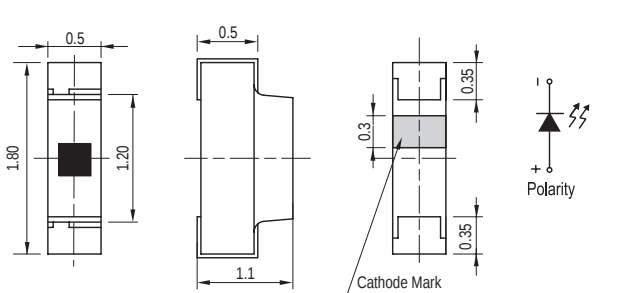
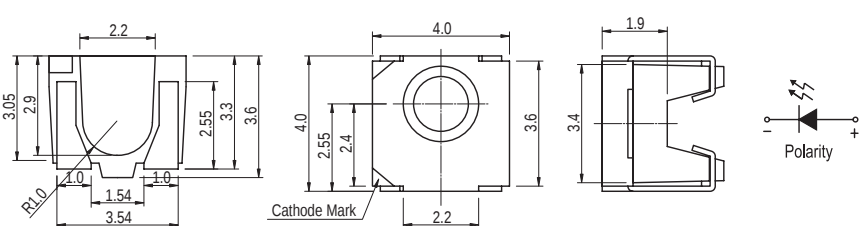
Package Dimensions

Unit : mm  Fig.1	Unit : mm  Fig.2
Unit : mm  Fig.3	Unit : mm  Fig.4

Surface Mount LED Side Emitting Type (Monochrome)

Package Unit : mm (L x W x H)	Product Type	Chromaticity Coordinate			IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _r (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)	I _v (mcd)		V _F				
					Min.	Typ.	Typ.	Max.			
• 2.7 x 1.3 x 1.2  Fig.1	VS 72C8	 Blue	--	470	28	42	3.5	4.0	130	50	Water Clear
	VS 73C8	 True Green	--	525	112	155	3.5	4.0			
	VS 75C8	 Yellow Green	--	573	18	25	2.0	2.4			
	VS 76C8	 Yellow	--	589	18	40	2.0	2.4			
	VS 77C8	 Red	--	624	18	40	2.0	2.4			
• 1.8 x 1.1 x 0.5  Fig.2	VS 7WH9	 White	x 0.30 y 0.29	--	112	220	3.0	3.2	140	50	Yellow Diff.
	VS 76H8	 Yellow	--	589	56	75	2.0	2.4	130	10	Water Clear
	VS 7BH8	 Deep Red	--	639	35.5	55	2.0	2.4			
• 4.0 x 4.0 x 3.6  Fig.3	VR 25D8	 Yellow Green	--	573	28	56	2.0	2.4	120	10	Water Clear
	VR 26D8	 Yellow	--	589	180	300	2.0	2.4			
	VR 27D8	 Red	--	624	35.5	72	2.0	2.4			

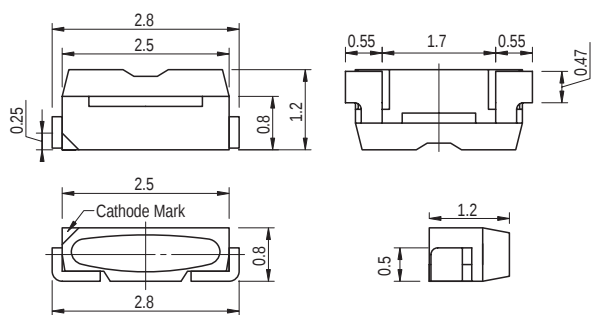
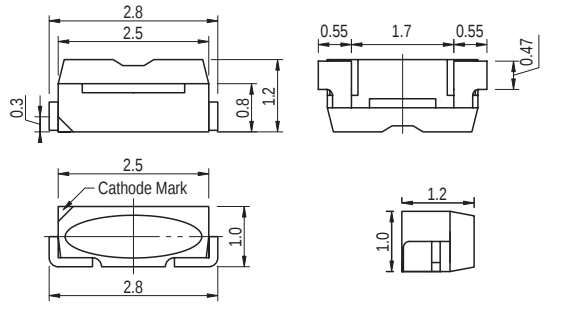
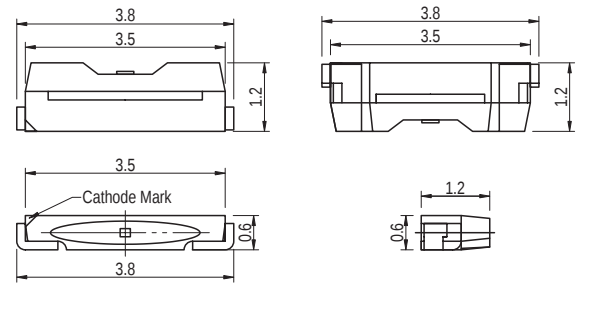
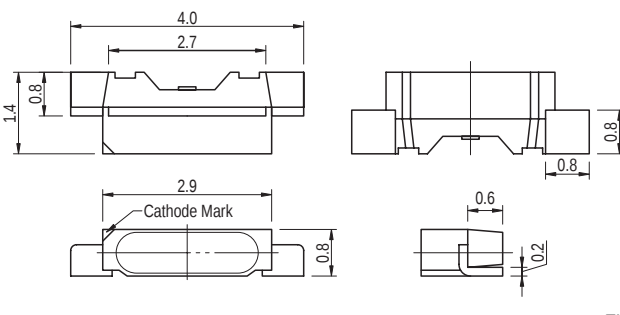
Package Dimensions

 Unit : mm		 Unit : mm	
 Unit : mm		 Fig.3	

Surface Mount LED Side Emitting Type (Monochrome)

Package Unit : mm (L x W x H)	Product Type	Chromaticitty Coordinate			IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)	I _v (mcd)		V _F				
					Min.	Typ.	Typ.	Max.			
• 2.8 x 1.2 x 0.8  Fig.1	VR 3WC8	 White	x 0.29 y 0.30	--	710	810	3.5	4.0	110	50	Water Clear
	VR 32C8	 Blue	--	470	90	175	3.5	4.0			
	VR 33C8	 True Green	--	525	224	435	3.5	4.0			
• 2.8 x 1.2 x 1.0  Fig.2	VR 3WA8	 White	x 0.29 y 0.30	--	710	1060	3.5	4.0	110	50	
	VR 32A8	 Blue	--	470	224	250	3.5	4.0			
• 3.8 x 1.2 x 0.6  Fig.3	VR 3WG8	 White	x 0.29 y 0.30	--	710	1060	3.5	4.0	110	50	
	VR 32G8	 Blue	--	470	90	150	3.5	4.0			
• 4.0 x 1.4 x 0.8  Fig.4	VR 3WB8	 White	x 0.29 y 0.30	--	710	1060	3.5	4.0	110	50	
	VR 32B8	 Blue	--	470	180	355	3.5	4.0			
	VR 33B8	 True Green	--	525	224	400	3.5	4.0			

Package Dimensions

Unit : mm  Fig.1	Unit : mm  Fig.2
Unit : mm  Fig.3	Unit : mm  Fig.4

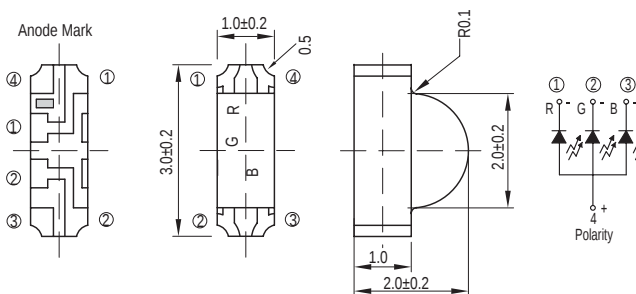
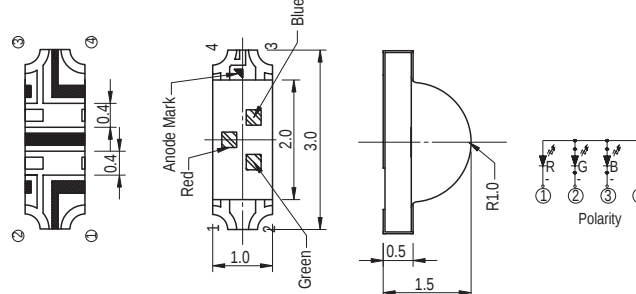
Package Dimensions



Surface Mount LED Side Emitting Type (Full Color)

Package Unit : mm (L x W x H)	Product Type	Chromaticitty Coordinate		IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	λ _D (nm)	I _v (mcd)		V _F				
				Min.	Typ.	Typ.	Max.			
Common Anode  Fig.1	VS 7RC8	 Red	624	56	95	2.0	2.4	120	10	Water Clear
		 True Green	525	112	185	3.5	3.9		50	
		 Blue	470	45	80	3.5	3.9			
	VS 7EC8	 Orange Yellow	605	45	85	2.0	2.4	120	10	
		 True Green	525	112	165	3.5	3.9		50	
		 Blue	470	28	45	3.5	3.9			
Common Anode  Fig.2	VS 7RA8	 Red	624	56	95	2.0	2.4	100	10	
		 True Green	525	112	185	3.5	3.9		50	
		 Blue	470	35.5	55	3.5	3.9			

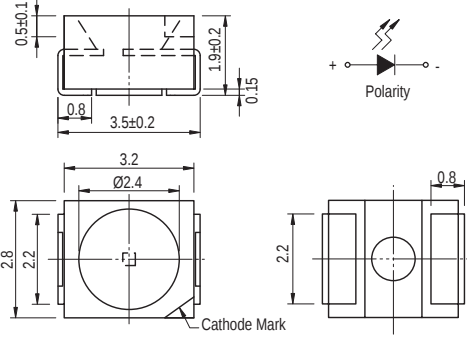
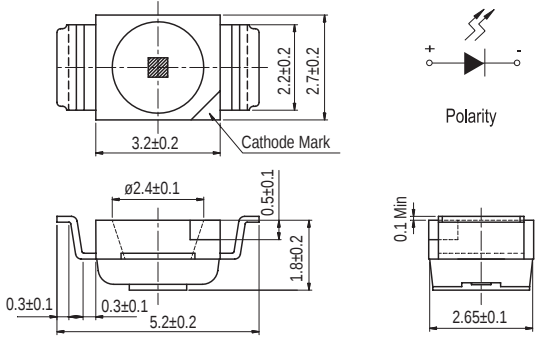
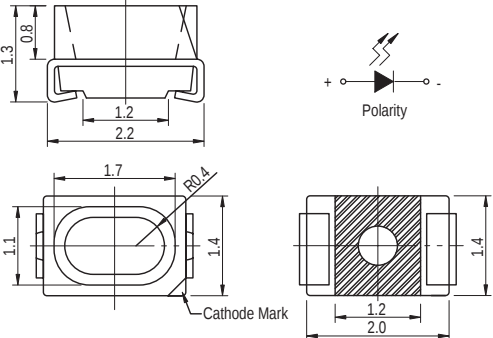
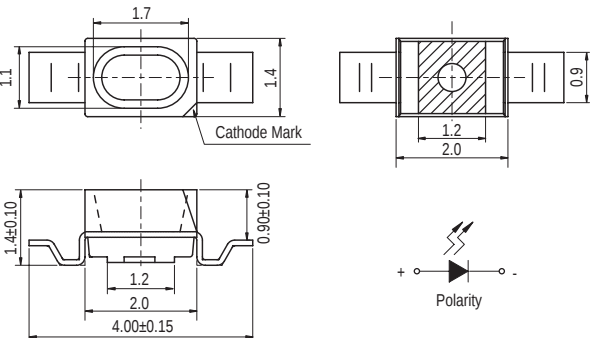
Package Dimensions

Unit : mm				Unit : mm			
							
Fig.1				Fig.2			

Surface Mount LED PLCC Type (Monochrome)

Package Unit : mm (L x W x H)	Product Type	Chromaticity Coordinate			IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)	I _v (mcd)		V _F				
					Min.	Typ.	Typ.	Max.			
• 3.2 x 2.8 x 1.9  Fig.1	VR AWC8	 White	x 0.29 y 0.30	--	560	780	3.5	4.0	120	50	Water Clear
	VR A2C8	 Blue	--	470	45	50	3.5	4.0			
	VR A3C8	 True Green	--	525	140	290	3.5	4.0			
	VR A5C8	 Yellow Green	--	573	35.5	55	2.0	2.4			
	VR A7C8	 Red	--	624	28	65	2.0	2.4			
• 3.2 x 2.7 x 1.8  Fig.2	VR BWC8	 White	x 0.29 y 0.30	--	450	760	3.5	4.0	120	50	
	VR B2C8	 Blue	--	470	56	75	3.5	4.0			
	VR B3C8	 True Green	--	525	140	290	3.5	4.0			
	VR B5C8	 Yellow Green	--	573	18	25	2.0	2.4			
	VR B7C8	 Red	--	624	28	60	2.0	2.4			
• 2.0 x 1.4 x 1.3  Fig.3	VR EWC8	 White	x 0.29 y 0.30	--	560	625	3.5	4.0	120	50	
	VR E2C8	 Blue	--	470	35.5	55	3.5	4.0			
	VR E3C8	 True Green	--	525	140	260	3.5	4.0			
	VR E5C8	 Yellow Green	--	573	35.5	53	2.0	2.4			
	VR E7C8	 Red	--	624	35.5	70	2.0	2.4			
• 2.0 x 1.4 x 1.4  Fig.4	VR F5C8	 Yellow Green	--	573	14	23	2.0	2.4	120	10	
	VR F6C8	 Yellow	--	589	56	85	2.0	2.4			

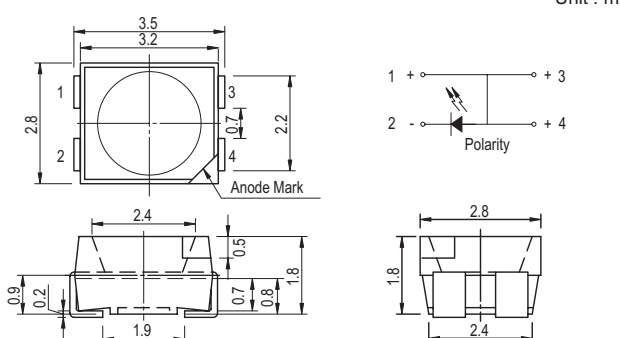
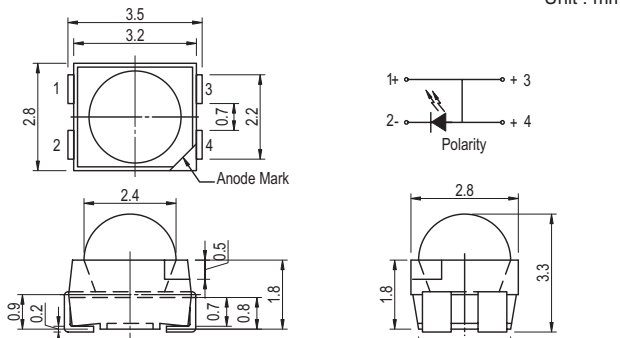
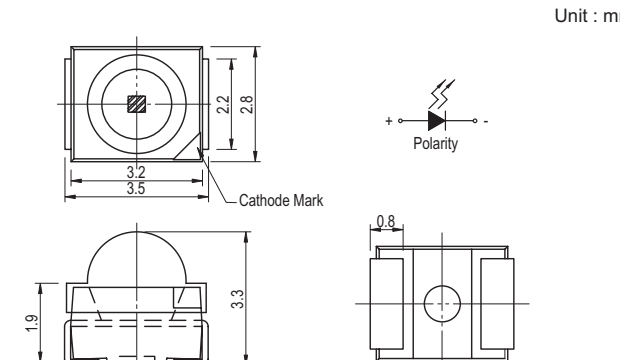
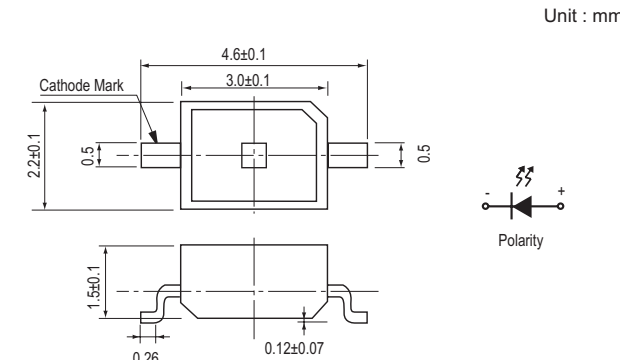
Package Dimensions

Unit : mm  Fig.1	Unit : mm  Fig.2
Unit : mm  Fig.3	Unit : mm  Fig.4

Surface Mount LED PLCC Type (Monochrome)

Package Unit : mm (L x W x H)	Product Type	Chromaticitty Coordinate			IF (mA)	IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)		I _v (mcd)		V _F				
						Min.	Typ.	Typ.	Max.			
• 3.5 x 2.8 x 1.8  Fig.1	VR 79C8	 Orange Red	--	615	50	710	1385	2.0	2.4	120	10	Water Clear
	VR 77C8	 Red	--	624	50	710	1385	2.0	2.4			
• 3.5 x 2.8 x 3.3  Fig.2	VR 7378	 True Green	--	525	30	2240	3710	3.5	4.0	60	50	
	VR 7678	 Yellow	--	589	50	1120	2185	2.0	2.4		10	
	VR 7978	 Orange Red	--	615	50	2240	3710	2.0	2.4			
• 3.5 x 2.8 x 3.3  Fig.3	VR CW78	 White	x 0.29 y 0.30	--	20	1800	2930	3.5	4.0	60	50	
	VR C278	 Blue	--	470	20	710	1150	3.5	4.0		10	
	CR C678	 Yellow	--	589	20	224	415	2.0	2.4			
	VR C778	 Red	--	624	20	224	415	2.0	2.4			
• 3.0 x 2.2 x 1.5  Fig.4	VR 9WD8	 White	x 0.29 y 0.30	--	20	450	675	3.5	4.0	130	50	
	VR 92D8	 Blue	--	470	20	71	85	3.5	4.0		10	
	VR 93D8	 True Green	--	525	20	140	260	3.5	4.0			
	VR 95D8	 Yellow Green	--	573	20	28	40	2.0	2.4			
	VR 97D8	 Red	--	624	20	45	65	2.0	2.4			

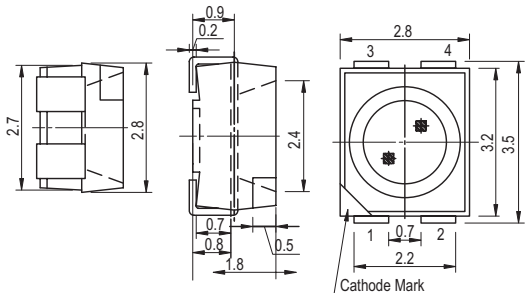
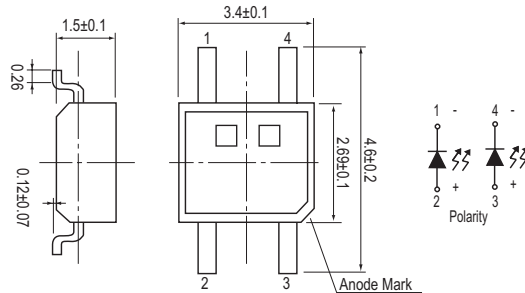
Package Dimensions

Unit : mm  Fig.1		Unit : mm  Fig.2	
Unit : mm  Fig.3		Unit : mm  Fig.4	

Surface Mount LED PLCC Type (Bi-Color)

Package Unit : mm (L x W x H)	Product Type	Chromaticitty Coordinate		IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	λD (nm)	I _v (mcd)		V _F				
				Min.	Typ.	Typ.	Max.			
• 3.2 x 2.8 x 1.8  Fig.1	VR 4JD8	 Yellow Green	573	18	28	2.0	2.4	120	10	Water Clear
		 Red	624	22.4	65	2.0	2.4			
	VR 4HD8	 Yellow	589	71	107	2.0	2.4			
		 Red	624	71	105	2.0	2.4			
	VR 4KD8	 Yellow	589	45	70	2.0	2.4			
		 Yellow Green	573	35.5	45	2.0	2.4			
• 3.4 x 2.6 x 1.5  Fig.2	VR 6JD8	 Yellow Green	573	14	20	2.0	2.4	130	10	
		 Red	624	18	45	2.0	2.4			

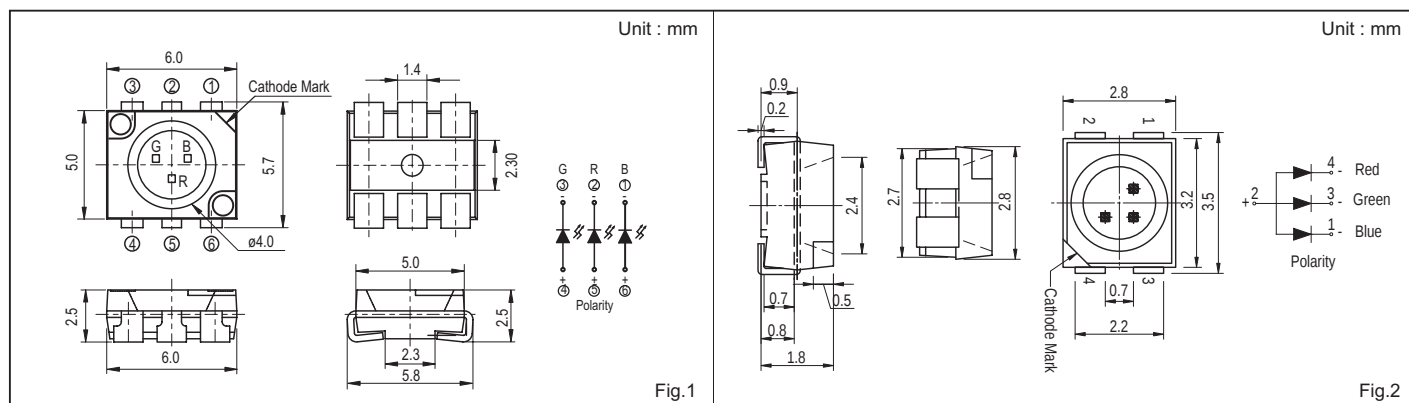
Package Dimensions

Unit : mm		Unit : mm	
			
Fig.1		Fig.2	

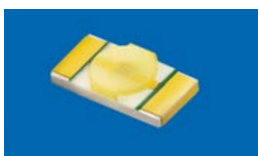
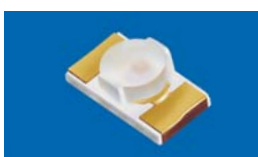
Surface Mount LED PLCC Type (Full Color)

Package Unit : mm (L x W x H)	Product Type	Chromaticitty Coordinate		IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	λD (nm)	I _v (mcd)		V _F				
				Min.	Typ.	Typ.	Max.			
• 6.0 x 5.0 x 2.5  Fig.1	VR 8UC8	 Blue	470	112	305	4.5	5.0	120	50	Water Clear
		 True Green	525	280	770	4.5	5.0			
		 Orange Red	615	112	305	2.5	3.0		10	
	VR 8RC8	 Blue	470	112	305	4.5	5.0	120	50	
		 True Green	525	280	770	4.5	5.0			
		 Red	624	112	305	2.5	3.0		10	
• 3.5 x 2.8 x 1.8  Fig.2	VR 5RC8	 Blue	470	35.5	65	3.5	4.0	120	50	
		 True Green	525	140	300	3.5	4.0			
		 Deep Red	639	35.5	60	2.0	2.4		10	

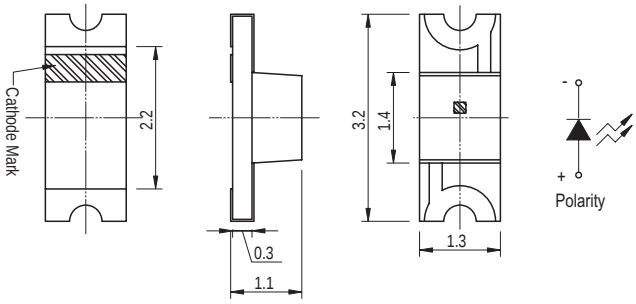
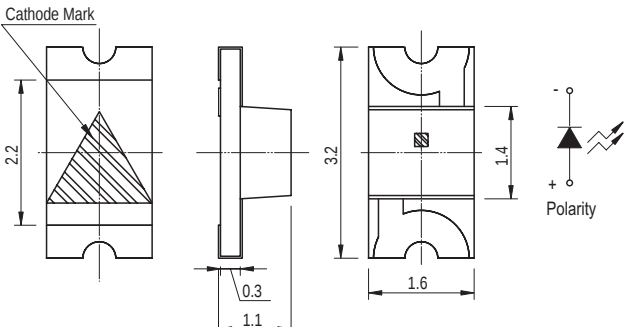
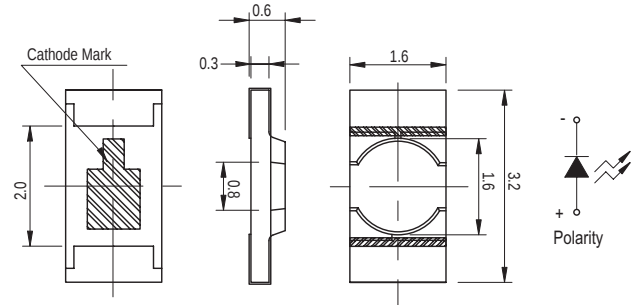
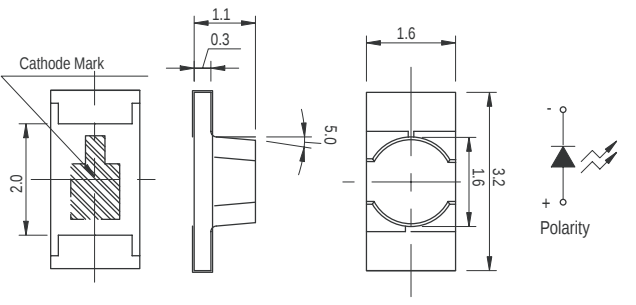
Package Dimensions



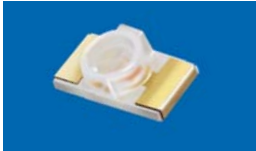
Surface Mount LED Reverse Package (Monochrome)

Package Unit : mm (L x W x H)	Product Type	Chromaticitty Coordinate			IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color	
		Emitted Color	Typ. (x,y)	λD (nm)	I _v (mcd)		V _F					
					Min.	Typ.	Typ.	Max.				
• 3.2 x 1.3 x 1.1  Fig.1	VS 82F8	 Blue	--	470	28	36	3.5	4.0	130	50	Water Clear	
	VS 83F8	 True Green	--	525	140	250	3.5	4.0				
	VS 8BF8	 Deep Red	--	639	14	29	2.0	2.4		10		
• 3.2 x 1.6 x 1.1  Fig.2	VS 82D8	 Blue	--	470	28	40	3.5	4.0	130	50		
	VS 83D8	 True Green	--	525	140	275	3.5	4.0		10		
	VS 85D8	 Yellow Green	--	573	18	25	2.0	2.4				
	VS 86D8	 Yellow	--	589	18	39	2.0	2.4				
	VS 87D8	 Red	--	624	18	45	2.0	2.4				
• 3.2 x 1.6 x 0.6  Fig.3	VS 8WH9	 White	x 0.29 y 0.30	--	180	360	2.6	3.2	140	50	Yellow Diff.	
• 3.2 x 1.6 x 1.1  Fig.4	VS 82G8	 Blue	--	470	28	50	3.5	4.0	130	50	Water Clear	
	VS 83G8	 True Green	--	525	140	230	3.5	4.0		10		
	VS 85G8	 Yellow Green	--	573	18	25	2.0	2.4				
	VS 86G8	 Yellow	--	589	18	39	2.0	2.4				
	VS 87G8	 Red	--	624	18	45	2.0	2.4				

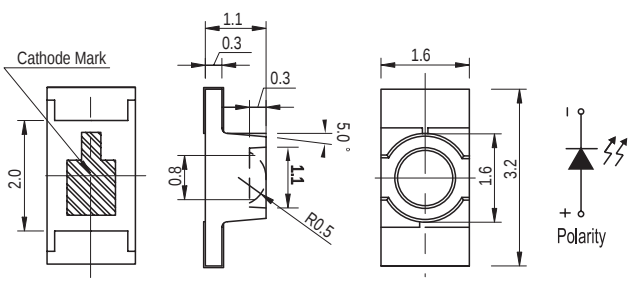
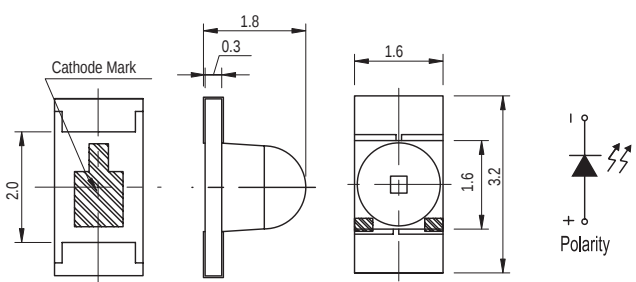
Package Dimensions

Unit : mm  Fig.1		Unit : mm  Fig.2	
Unit : mm  Fig.3		Unit : mm  Fig.4	

Surface Mount LED Reverse Package (Monochrome)

Package Unit : mm (L x W x H)	Product Type	Chromaticity Coordinate			IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)	I _v (mcd)		V _F				
					Min.	Typ.	Typ.	Max.			
• 3.2 x 1.6 x 1.1  Fig.1	VS 8W79	 White	x 0.29 y 0.30	--	112	360	3.0	3.2	70	50	Yellow Diff.
	VS 8278	 Blue	--	470	45	110	3.5	4.0	60		
	VS 8578	 Yellow Green	--	573	22.4	35	2.0	2.4	60	10	
	VS 8678	 Yellow	--	589	22.4	42	2.0	2.4	60		
	VS 8778	 Red	--	624	18	40	2.0	2.4	60		
• 3.2 x 1.6 x 1.9  Fig.2	VS 8548	 Yellow Green	--	573	180	310	2.0	2.4	30	10	Water Clear
	VS 8648	 Yellow	--	589	224	405	2.0	2.4	30		
	VS 8948	 Orange Red	--	615	355	840	2.0	2.4	30		
	VS 8748	 Red	--	624	280	575	2.0	2.4	30		

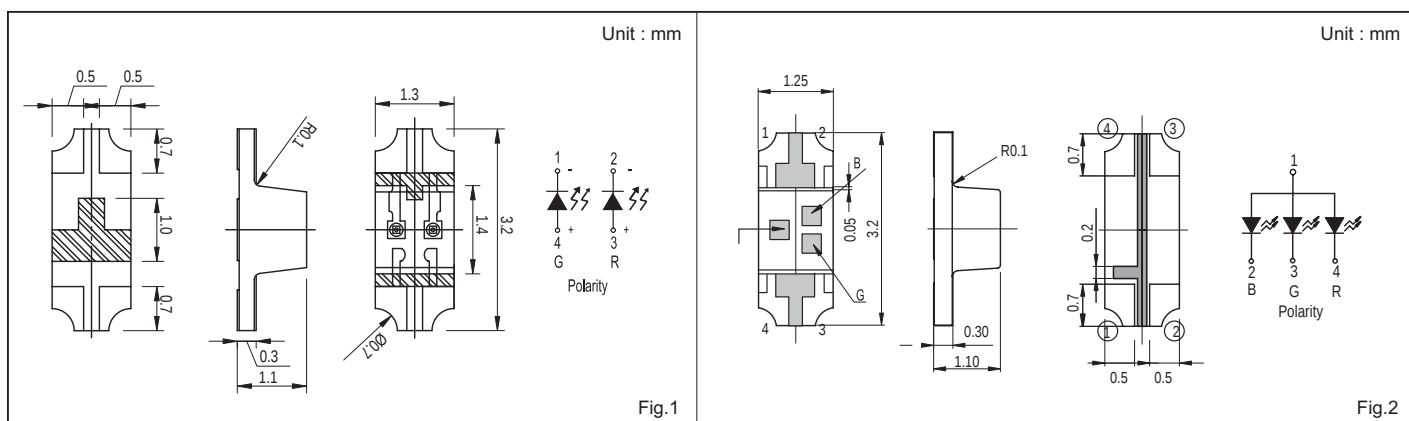
Package Dimensions

Unit : mm	Unit : mm
 Fig.1	 Fig.2

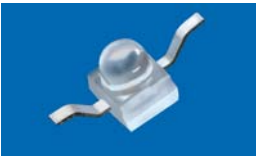
Surface Mount LED Reverse Package

Package Unit : mm (L x W x H)	Product Type	Chromaticitty Coordinate		IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	λD (nm)	I _v (mcd)		V _F				
				Min.	Typ.	Typ.	Max.			
Bi-Color  Fig.1	VS 8JD8	 Yellow Green	573	22.4	60	2.0	2.4	130	10	Water Clear
		 Red	631	45	80	2.0	2.4			
	VS 8MD8	 Blue	470	28	50	3.3	3.7		50	
		 Orange Yellow	605	45	90	2.0	2.4			
	VS 8KD8	 Yellow	589	35.5	85	2.0	2.4		10	
		 Yellow Green	573	18	60	2.0	2.4			
Full-Color  Fig.2	VS 8RD8	 Blue	470	45	70	3.3	3.7	130	50	
		 True Green	525	140	190	3.3	3.7			
		 Red	624	71	95	2.0	2.4		10	

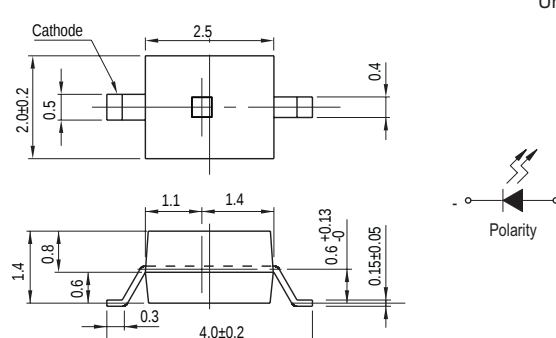
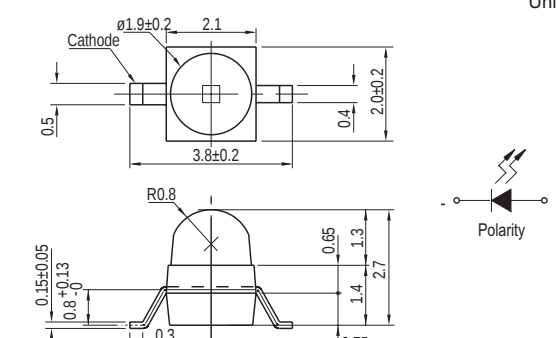
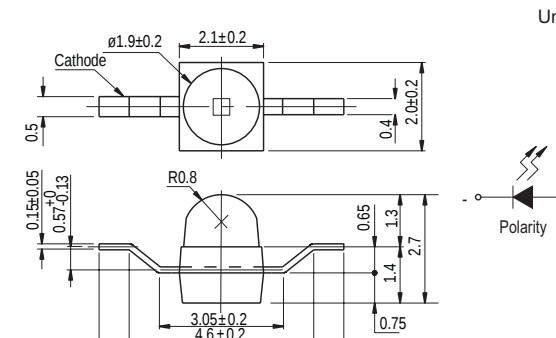
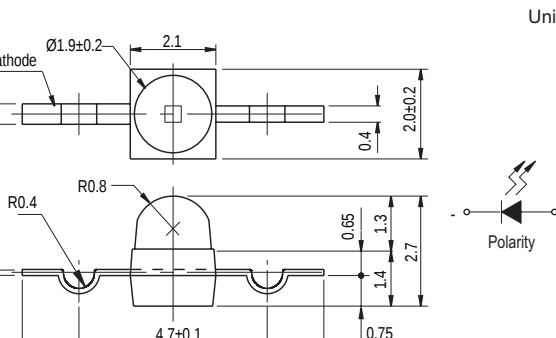
Package Dimensions



Surface Mount LED Lead Type (Monochrome)

Package	Product Type	Chromaticitty Coordinate		IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color	
		Emitted Color	λ _D (nm)	I _v (mcd)		V _F					
				Min.	Typ.	Typ.	Max.				
• "Gull Wing" Lead 	VL M2H8	 Blue	470	22.4	30	3.5	4.0	150	50	Water Clear	
	VL M5H8	 Yellow Green	573	14	30	2.0	2.4		10		
	VL M6H8	 Yellow	589	14	35	2.0	2.4				
	VL M8H8	 Orange Yellow	605	14	35	2.0	2.4				
	VL M7H8	 Red	624	14	35	2.0	2.4				
• "Gull Wing" Lead 	VL H228	 Blue	470	450	510	3.5	4.0	25	50		
	VL H328	 True Green	525	1800	2350	3.5	4.0		10		
	VL H528	 Yellow Green	573	280	340	2.0	2.4				
	VL H828	 Orange Yellow	605	180	510	2.0	2.4				
	VL H728	 Red	624	180	425	2.0	2.4				
• "Z Bend" Lead 	VL K228	 Blue	470	450	510	3.5	4.0	25	50		
	VL K528	 Yellow Green	573	280	340	2.0	2.4		10		
	VL K628	 Yellow	589	224	535	2.0	2.4				
	VL K928	 Orange Red	615	180	510	2.0	2.4				
	VL K728	 Red	624	180	485	2.0	2.4				
• "Yoke" Lead 	VL J228	 Blue	470	450	510	3.5	4.0	25	50		
	VL J328	 True Green	525	1800	2350	3.5	4.0		10		
	VL J528	 Yellow Green	573	280	340	2.0	2.4				
	VL J628	 Yellow	589	224	535	2.0	2.4				
	VL J728	 Red	624	180	485	2.0	2.4				

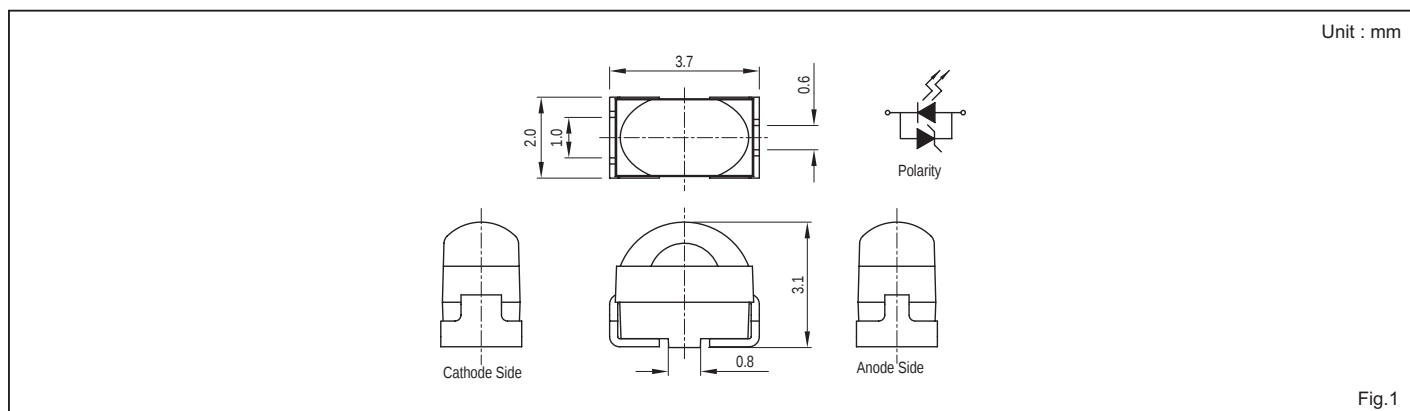
Package Dimensions

 Unit : mm Fig.1	 Unit : mm Fig.2
 Unit : mm Fig.3	 Unit : mm Fig.4

Surface Mount LED Lead Type (Monochrome)

Package Unit : mm (L x W x H)	Product Type	Chromaticitty Coordinate		IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	λ _D (nm)	I _v (mcd)		V _F				
				Min.	Typ.	Typ.	Max.			
• 3.7 x 2.0 x 3.1  Fig.1	VL PWB8	 White	x 0.29 y 0.30	710	1450	3.3	3.7	110	50	Water Clear

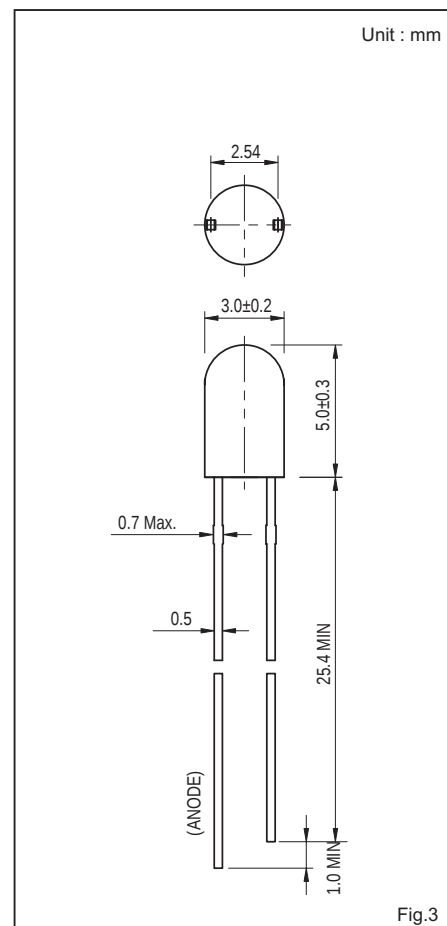
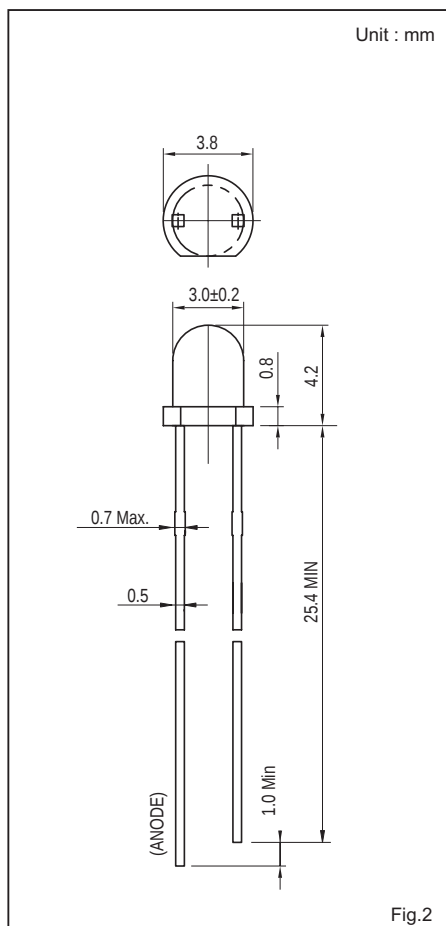
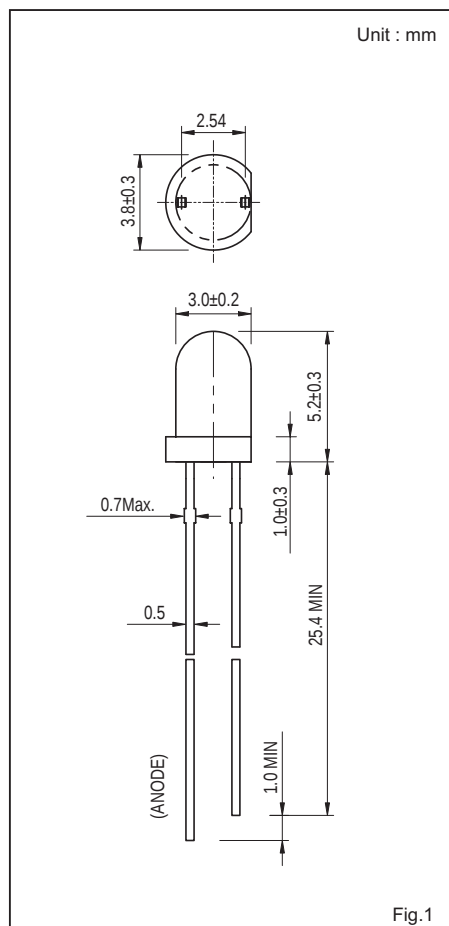
Package Dimensions



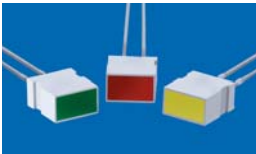
3mm Round Ultra Bright LED Lamp

Package	Product Type	Chromaticitty Coordinate			IF (mA)=20mA					I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)	I _v (mcd)		V _F		Directivity 2θ 1/2 (degree)		
					Min.	Typ.	Typ.	Max.			
• 3mm Round  Fig.1	VT 3W28.51	 White	x 0.29 y 0.30	--	3550	6000	3.3	3.6	25	50	Water Clear
	VT 3228.42	 Blue	--	470	450	810	3.5	4.0	20		
	VT 3328.49	 True Green	--	525	2240	3550	3.5	4.0			
	VT 3728.50	 Red	--	624	2800	4100	2.0	2.4	10		
• 3mm Round  Fig.2	VT 3WA8.44	 White	x 0.29 y 0.30	--	710	1630	3.3	3.6	100	50	
	VT 3248.42	 Blue	--	470	450	650	3.5	4.0	60		
	VT 3A48.43	 Bluish Green	--	505	560	810	3.5	4.0			
	VT 3348.43	 True Green	--	525	560	810	3.5	4.0	90		
	VT 3798.40	 Red	--	624	280	410	2.0	2.4		10	
• 3mm Round  Fig.3	VT 3W68.47	 White	x 0.29 y 0.30	--	1400	2300	3.5	4.0	50	50	
	VT 3238.44	 Blue	--	470	710	1050	3.5	4.0	20		
	VT 3338.47	 True Green	--	525	1400	3250	3.5	4.0			
	VT 3638.46	 Yellow	--	589	1120	2050	2.0	2.4			

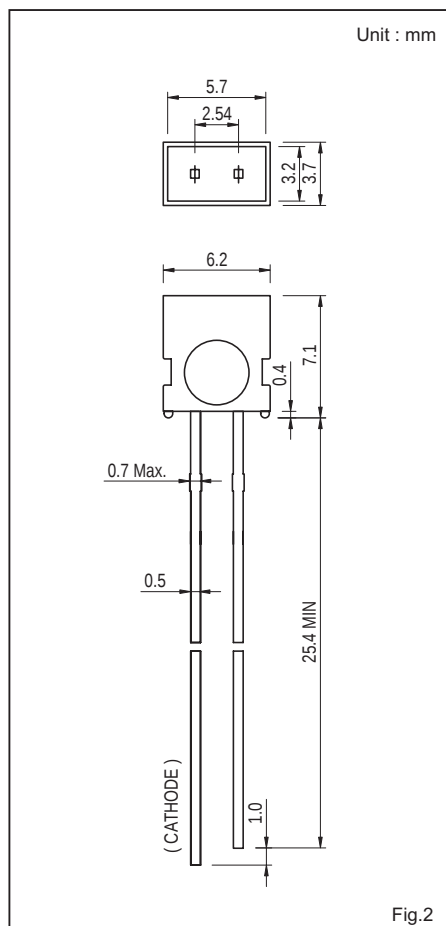
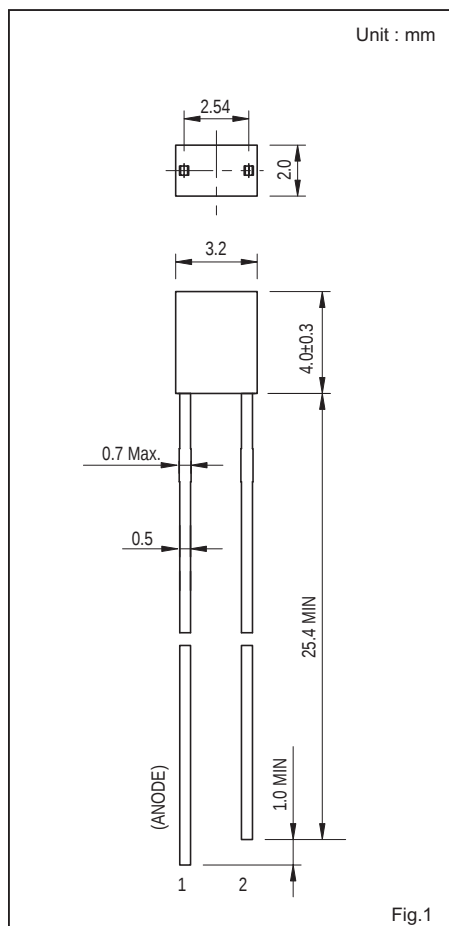
Package Dimensions



Rectangular Super Bright LED Lamp

Package	Product Type	Chromaticitty Coordinate			IF (mA)=20mA				I _R (μA) Max. @ V _R = 5V	Lens Color	
		Emitted Color	Typ. (x,y)	λD (nm)	I _v (mcd)		V _F				Directivity 2θ 1/2 (degree)
					Min.	Typ.	Typ.	Max.			
 Fig.1	VT RWA8.40	 White	x 0.29 y 0.30	--	280	360	3.5	4.0	100	50	Water Clear
	VT R2A8.38	 Blue	--	470	180	310	3.5	4.0			
	VT R3A8.43	 True Green	--	525	560	800	3.5	4.0			
 Fig.2	VT R5D6.24	 Yellow Green	--	573	7.1	13	2.0	2.4	110	10	Green Diffuse
	VT R6D6.30	 Yellow	--	589	28	53	2.0	2.4			Yellow Diffuse
	VT R7D6.30	 Red	--	624	28	55	2.0	2.4			Red Diffuse

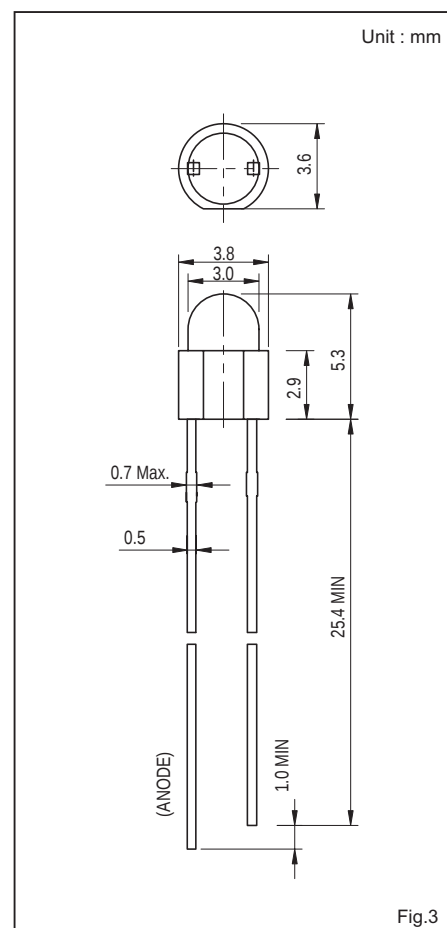
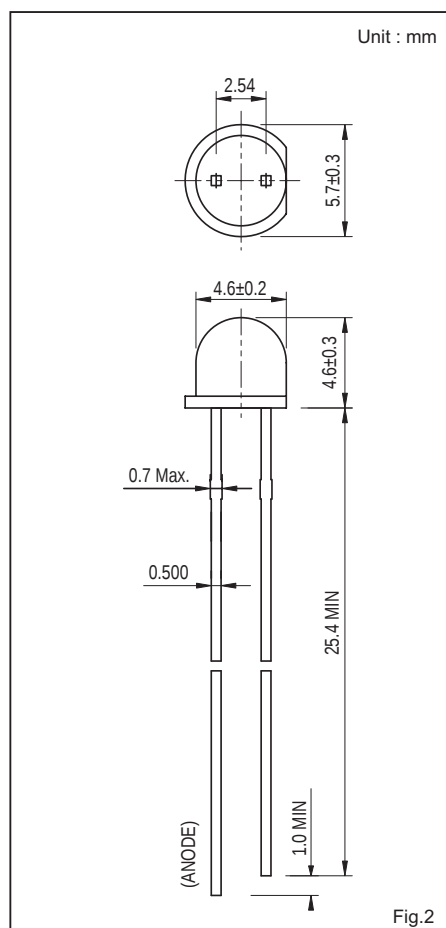
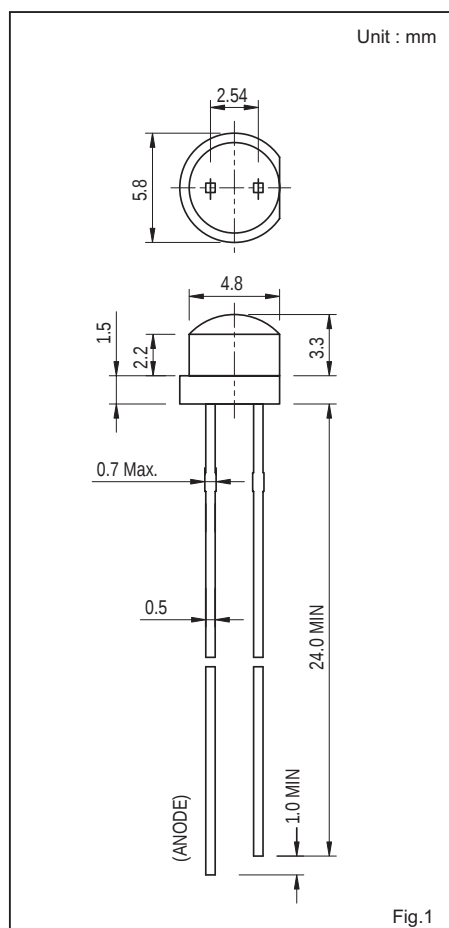
Package Dimensions



Hat Shape Ultra Bright LED Lamp

Package Unit : mm (L x W x H)	Product Type	Chromaticitty Coordinate			IF (mA)=20mA				I _R (μA) Max. @ V _R = 5V	Lens Color		
		Emitted Color	Typ. (x,y)	λD (nm)	I _v (mcd)		V _F				Directivity 2θ 1/2 (degree)	
					Min.	Typ.	Typ.	Max.				
• 4.8mm  Fig.1	VT HW78.39	White	x 0.29 y 0.30	--	224	500	3.5	4.0	70	50	Water Clear	
	VT H278.42	Blue	--	470	450	670	3.5	4.0				
	VT H378.45	True Green	--	525	900	1435	3.5	4.0				
	VT H778.41	Red	--	624	355	570	2.0	2.4		10		
• 4.6mm  Fig.2	VT H268.39	Blue	--	470	224	330	3.5	4.0	60	50		
	VT H368.44	True Green	--	525	710	1350	3.5	4.0		10		
	VT H668.36	Yellow	--	589	112	210	2.0	2.4				
	VT H788.34	Red	--	624	71	130	2.0	2.4				
• 3.0mm  Fig.3	VT H328.44	True Green	--	525	710	1300	3.5	4.0	20	50		
	VT H528.40	Yellow Green	--	573	280	450	2.0	2.4	36	10		
	VT H728.41	Red	--	624	355	810	2.0	2.4	20			
	VT H645.36	Yellow	--	589	112	210	2.0	2.4	30		Yellow Trans.	
	VT H745.38	Red	--	624	180	330	2.0	2.4	30		Red Trans.	

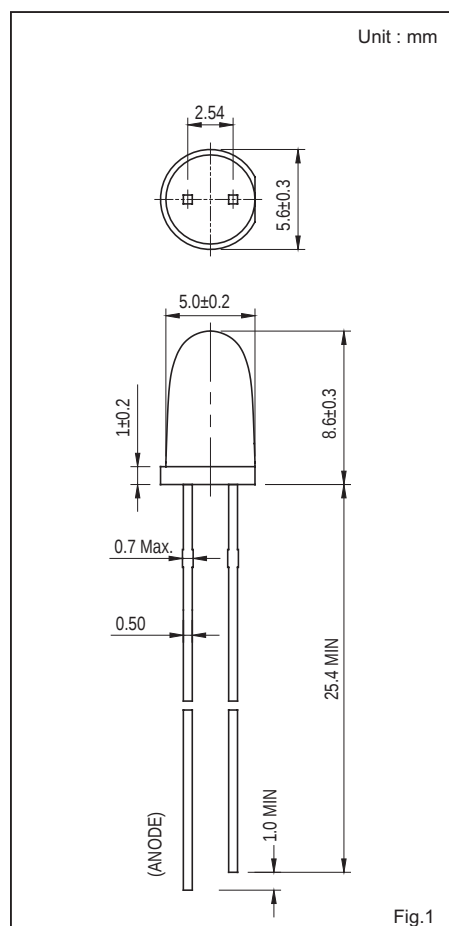
Package Dimensions



5mm Round Ultra Bright LED Lamp

Package	Product Type	Chromaticitty Coordinate		IF (mA)=20mA				I _R (μA) Max. @ V _R = 5V	Lens Color	
		Emitted Color	λ _D (nm)	I _v (mcd)		V _F				Directivity 2θ 1/2 (degree)
				Min.	Typ.	Typ.	Max.			
• 5mm Round  Fig.1	VT 5218.47	 Blue	470	1400	2100	3.5	4.0	6	50	Water Clear
	VT 5218.49	 Blue	470	2240	3300	3.5	4.0			
	VT 5A18.51	 Bluish Green	505	3550	5100	3.5	4.0			
	VT 5A18.53	 Bluish Green	505	5600	8100	3.5	4.0			
	VT 5318.50	 True Green	525	2800	4100	3.5	4.0			
	VT 5318.52	 True Green	525	4500	6400	3.5	4.0			
	VT 5618.58	 Yellow	589	16500	20100	2.0	2.4	10		
	VT 5918.56	 Orange Red	615	11200	20100	2.0	2.4			
	VT 5718.53	 Red	624	5600	10100	2.0	2.4			

Package Dimensions



5mm Round Ultra Bright LED Lamp

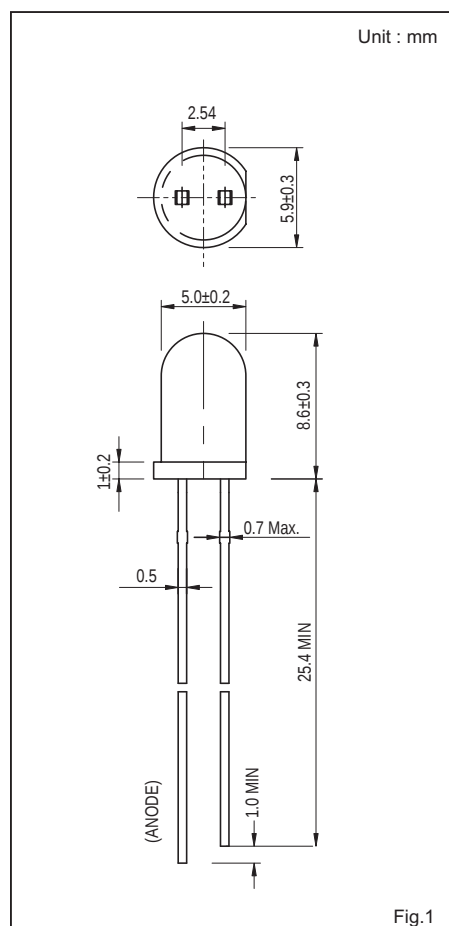
Package	Product Type	Chromaticity Coordinate			IF (mA)=20mA					I _R (μA) Max. @ V _R = 5V	Lens Color	
		Emitted Color	Typ. (x.y)	λD (nm)	I _v (mcd)		V _F		Directivity 2θ 1/2 (degree)			
					Min.	Typ.	Typ.	Max.				
• 5mm Round  Fig.1	VT 5228.46	 Blue	--	470	1120	1650	3.5	4.0	10	50	Water Clear	
	VT 5228.48	 Blue	--	470	1800	2550	3.5	4.0				
	VT 5A28.49	 Bluish Green	--	505	2240	4050	3.5	4.0				
	VT 5A28.52	 Bluish Green	--	505	4500	6350	3.5	4.0				
	VT 5328.52	 True Green	--	525	4500	5600	3.5	4.0				
	VT 5328.54	 True Green	--	525	7100	12600	3.5	4.0				
	VT 5628.52	 Yellow	--	589	4500	6350	2.0	2.4		10		
	VT 5628.55	 Yellow	--	589	9000	14300	2.0	2.4				
	VT 5928.52	 Orange Red	--	615	4500	6350	2.0	2.4				
	VT 5928.55	 Orange Red	--	615	9000	14300	2.0	2.4				
	VT 5728.51	 Red	--	624	3550	5050	2.0	2.4				
	VT 5728.55	 Red	--	624	9000	14300	2.0	2.4				
	VT 5238.44	 Blue	--	470	710	1270	3.5	4.0	15	50		
	VT 5238.48	 Blue	--	470	1800	2050	3.5	40				
	VT 5A38.48	 Bluish Green	--	505	1800	3250	3.5	4.0				
	VT 5A38.51	 Bluish Green	--	505	3550	5100	3.5	4.0				
	VT 5338.50	 True Green	--	525	2800	5100	3.5	4.0				
	VT 5338.54	 True Green	--	525	7100	11100	3.5	4.0				
	VT 5P38.47	 Pink	x 0.36 y 0.21	--	1400	2000	2.8	3.6		10		
	VT 5638.51	 Yellow	--	589	3550	5100	2.0	2.4				
	VT 5638.53	 Yellow	--	589	5600	9100	2.0	2.4				
	VT 5938.51	 Orange Red	--	615	3550	5100	2.0	2.4				
	VT 5938.53	 Orange Red	--	615	5600	9100	2.0	2.4				
	VT 5738.49	 Red	--	624	2240	4100	2.0	2.4				
	VT 5738.52	 Red	--	624	4500	7200	2.0	2.4	25	50		
	VT 5248.49	 Blue	--	470	2240	3650	3.5	4.0				
	VT 5A48.52	 Bluish Green	--	505	4500	7200	3.5	4.0				
	VT 5348.52	 True Green	--	525	4500	7200	3.5	4.0				
	VT 5648.48	 Yellow	--	589	1800	2550	2.0	2.4				10
	VT 5648.53	 Yellow	--	589	5600	9050	2.0	2.4				
	VT 5948.47	 Orange Red	--	615	1400	2450	2.0	2.4				
	VT 5948.48	 Orange Red	--	615	1800	3250	2.0	2.4				
	VT 5748.48	 Red	--	624	1800	2550	2.0	2.4				
	VT 5748.51	 Red	--	624	3550	5700	2.0	2.4				
	VT 5258.42	 Blue	--	470	450	640	3.5	4.0		30		50
	VT 5258.48	 Blue	--	470	1800	2900	3.5	4.0				
VT 5A58.48	 Bluish Green	--	505	1800	3050	3.5	4.0					
VT 5A58.53	 Bluish Green	--	505	5600	7150	3.5	4.0					
VT 5358.49	 True Green	--	525	2240	3450	3.5	4.0					
VT 5358.51	 True Green	--	525	3550	5700	3.5	4.0					

Fig.1

5mm Round Ultra Bright LED Lamp

Package	Product Type	Chromaticity Coordinate		IF (mA)=20mA				I _R (μA) Max. @ V _R = 5V	Lens Color	
		Emitted Color	λ _D (nm)	I _V (mcd)		V _F				Directivity 2θ 1/2 (degree)
				Min.	Typ.	Typ.	Max.			
• 5mm Round  Fig.1	VT 5658.48	 Yellow	589	1800	2550	2.0	2.4	30	10	Water Clear
	VT 5658.51	 Yellow	589	3550	5700	2.0	2.4			
	VT 5958.48	 Orange Red	615	1800	2550	2.0	2.4			
	VT 5958.50	 Orange Red	615	2800	3650	2.0	2.4			
	VT 5758.47	 Red	624	1400	2550	2.0	2.4			
	VT 5758.48	 Red	624	1800	2900	2.0	2.4			

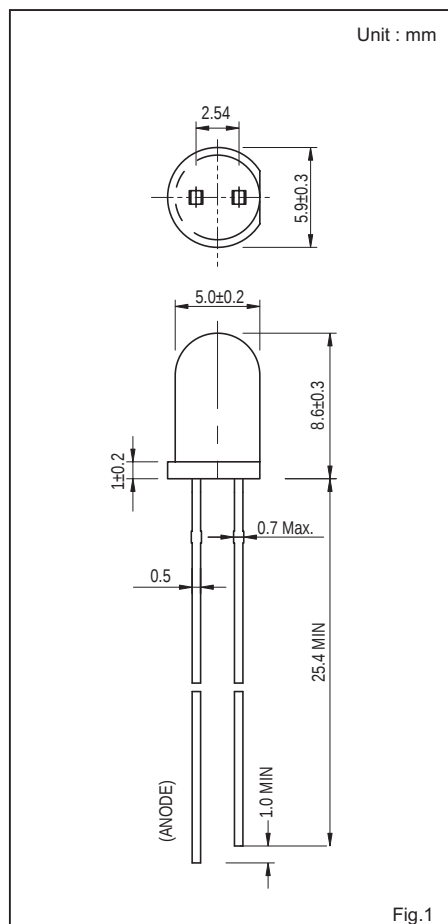
Package Dimensions



5mm Round Ultra Bright White Color LED Lamp

Package	Product Type	Chromaticitty Coordinate			IF (mA)=20mA					I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)	I _v (mcd)		V _F		Directivity 2θ 1/2 (degree)		
					Min.	Typ.	Typ.	Max.			
• 5mm Round  Fig.1	VT 5W28.56	White	x 0.30 y 0.29	--	11200	18550	3.5	4.0	15	50	Water Clear
	VT 5W48.51	White	x 0.30 y 0.29	--	3550	5910	3.5	4.0	30		
	VT 5W68.48	White	x 0.30 y 0.29	--	1800	3470	3.5	4.0	50		
	VT 5128.55	Warm White	x 0.40 y 0.39	--	9000	14850	3.5	4.0	15		
	VT 5148.50	Warm White	x 0.40 y 0.39	--	2800	5500	3.5	4.0	30		
	VT 5168.49	Warm White	x 0.40 y 0.39	--	2240	5200	3.5	4.0	50		

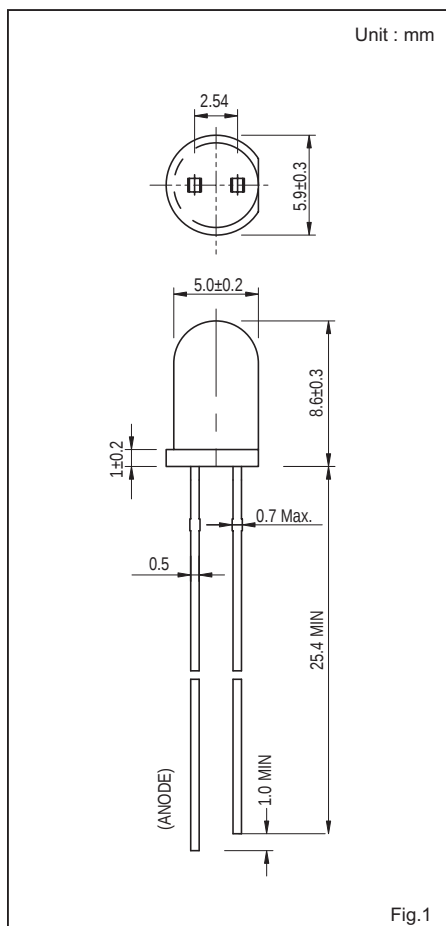
Package Dimensions



Package	Product Type	Chromaticitty Coordinate		IF (mA)=20mA				I _R (μA) Max. @ V _R = 5V	Lens Color	
		Emitted Color	λD (nm)	I _V (mcd)		V _F				Directivity 2θ 1/2 (degree)
				Min.	Typ.	Typ.	Max.			
• 5mm Round  Fig.1	VT BA48	 Bluish Green	505	7100	9000	3.2	3.6	30	50	Water Clear
	VT B648	 Yellow	589	3550	5600	2.0	2.6		10	
	VT B748	 Red	624	2800	4500	2.0	2.6		10	

* High ESD protection up to 2k & 4k Volts DC

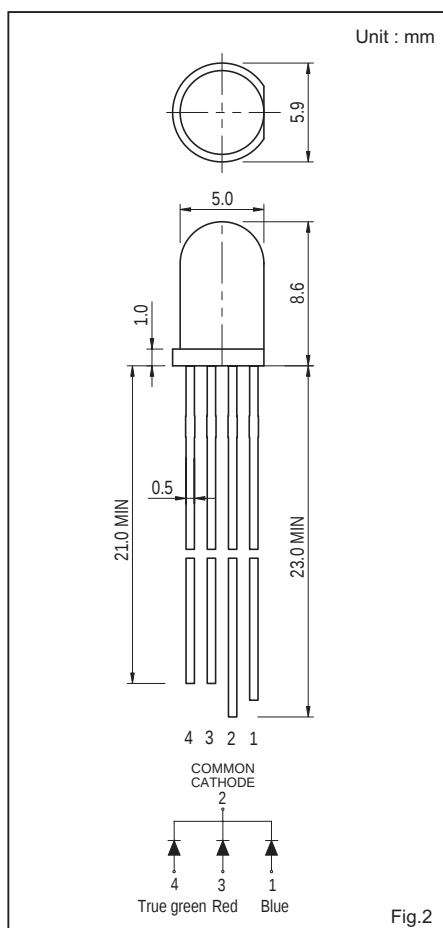
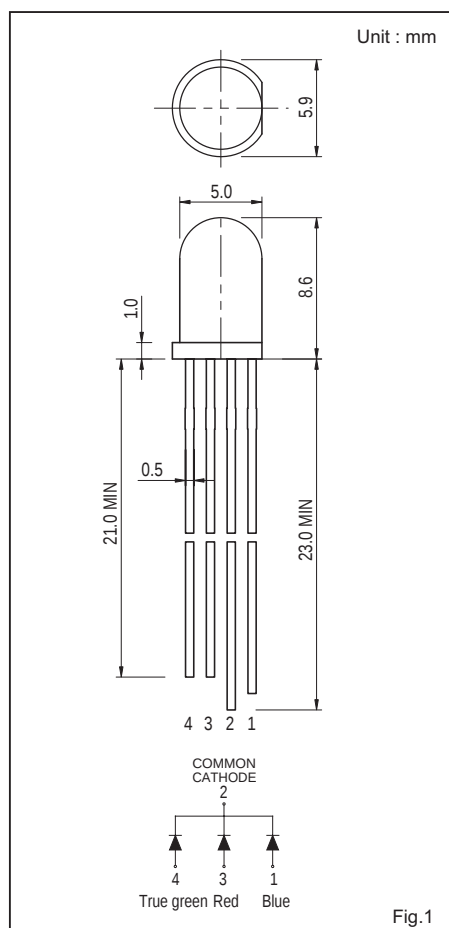
Package Dimensions



5mm Round Ultra Bright Full Color LED Lamp

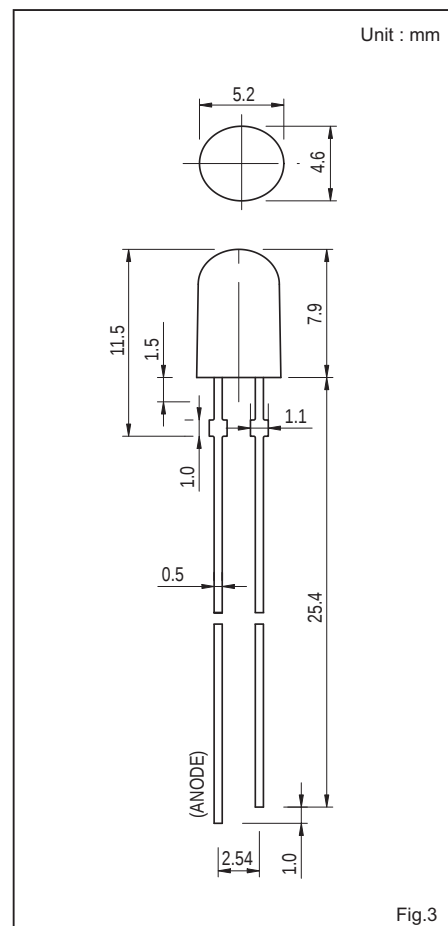
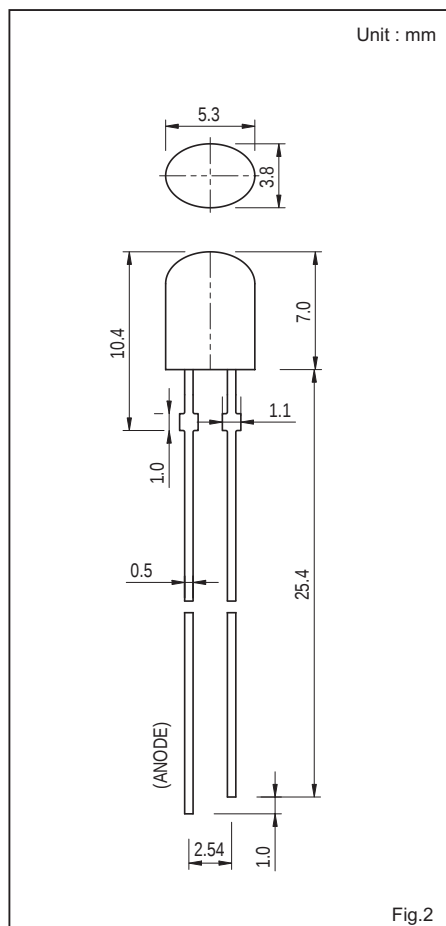
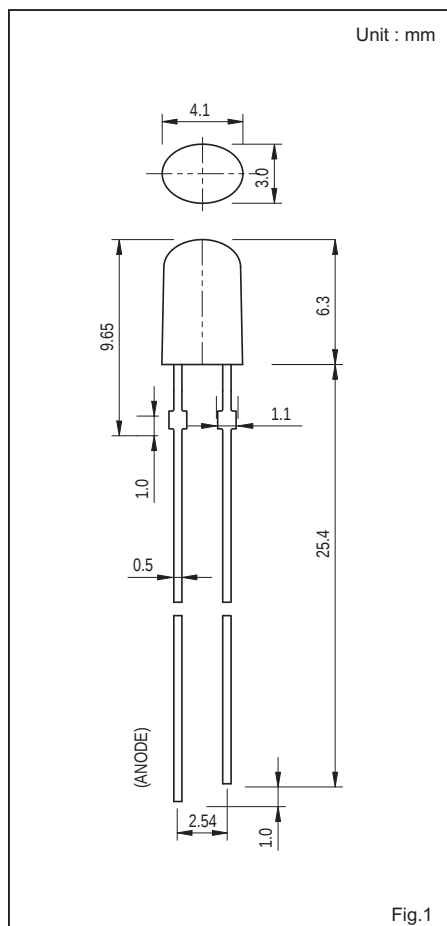
Package	Product Type	Chromaticity Coordinate		IF (mA)=20mA				I _R (μA) Max. @ V _R = 5V	Lens Color	
		Emitted Color	λ _D (nm)	I _v (mcd)		V _F				Directivity 2θ 1/2 (degree)
				Min.	Typ.	Typ.	Max.			
• 5mm Round  Fig.1	VT 5R68	 Blue	470	224	340	3.5	4.0	50	50	Water Clear
		 True Green	525	710	1050	3.5	4.0			
		 Red	624	560	810	2.0	2.4		10	
• 5mm Round  Fig.2	VT 5R67	 Blue	470	130	180	3.5	4.0	60	50	White Diff.
		 True Green	525	355	410	3.5	4.0			
		 Red	624	280	410	2.0	2.4		10	

Package Dimensions



Package	Product Type	Chromaticitty Coordinate		IF (mA) = 20mA					I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	λD (nm)	I _v (mcd)		V _F		Directivity 2θ 1/2 (degree)		
				Min.	Typ.	Typ.	Max.			
• 4.1 x 3.0mm 	VT 72K6	 Blue	470	450	575	3.5	4.0	110 / 50	50	Blue Diff.
	VT 73K6	 True Green	525	1400	2050	3.5	4.0	110 / 50	50	Green Diff.
	VT 76K6	 Yellow	589	710	930	2.0	2.6	110 / 50	10	Yellow Diff.
	VT 77K6	 Red	624	710	930	2.0	2.6	110 / 50	10	Red Diff.
• 5.3 x 3.8mm 	VT 7WL8	 White	x 0.30 y 0.29	1120	1430	3.5	4.0	110/40	50	Water Clear
	VT 72L6	 Blue	470	355	570	3.5	4.0	110 / 40	50	Blue Diff.
	VT 73L6	 True Green	525	1400	2300	3.5	4.0	110 / 40	50	Green Diff.
	VT 76L9	 Yellow	589	710	1150	2.0	2.6	110 / 40	10	Yellow Diff.
	VT 77L6	 Red	624	710	930	2.0	2.6	110/ 40	10	Red Diff.
• 5.2 x 4.6mm 	VT 72M6	 Blue	470	710	930	3.5	4.0	70 / 40	50	Blue Diff.
	VT 73M6	 True Green	525	2240	2900	3.5	4.0	70 / 40	50	Green Diff.
	VT 76M6	 Yellow	589	1120	1850	2.0	2.6	70 / 40	10	Yellow Diff.
	VT 77M6	 Red	624	900	1450	2.0	2.6	70 / 40	10	Red Diff.
	VT 73M8	 True Green	525	1120	2550	3.5	4.0	70 / 40	50	Water Clear
	VT 76M8	 Yellow	589	1120	1550	2.0	2.6	70 / 40	10	Water Clear
	VT 77M8	 Red	631	900	1300	2.0	2.6	70 / 40	10	Water Clear

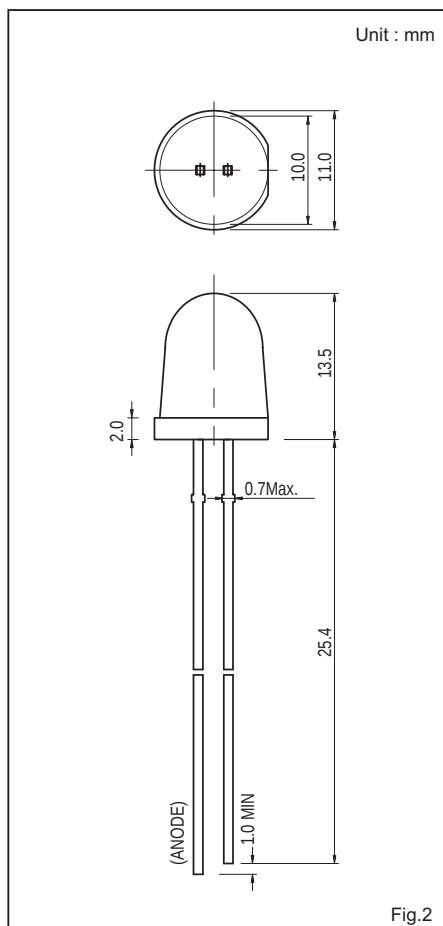
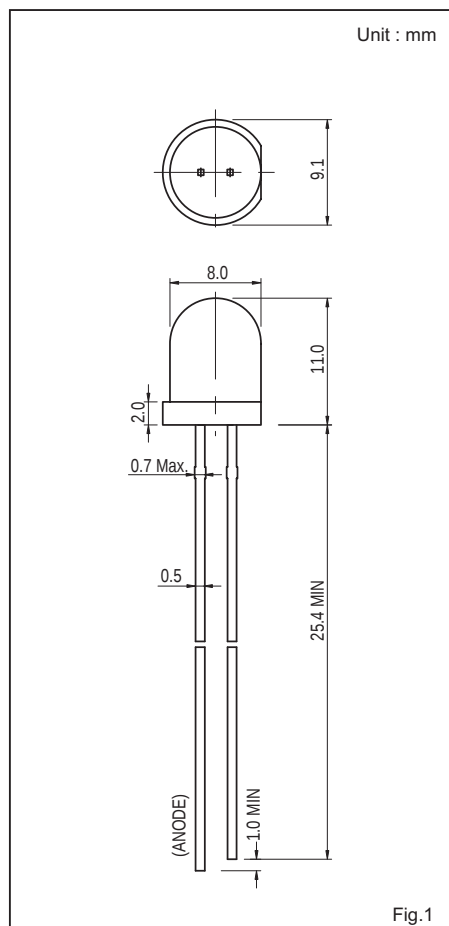
Package Dimensions



8mm Round & 10mm Round Super Bright LED Lamp

Package	Product Type	Chromaticitty Coordinate			IF (mA)=20mA					I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)	I _v (mcd)		V _F		Directivity 2θ 1/2 (degree)		
					Min.	Typ.	Typ.	Max.			
• 8mm Round  Fig.1	VT 8W38.52	 White	x 0.30 y 0.29	--	4500	8000	3.5	4.0	20	50	Water Clear
	VT 8248.46	 Blue	--	470	1120	2100	3.5	4.0	30		
	VT 8248.48	 Blue	--	470	1800	3300	3.5	4.0			
	VT 8348.52	 True Green	--	525	4500	6500	3.5	4.0			
	VT 8A48.46	 Bluish Green	--	505	1120	2100	3.5	4.0			
	VT 8648.43	 Yellow	--	589	560	750	2.0	2.4			
	VT 8848.46	 Orange Yellow	--	605	1120	2100	2.0	2.4			
	VT 8748.42	 Red	--	624	450	780	2.0	2.4			
• 10mm Round  Fig.2	VT 1W28.56	 White	x 0.30 y 0.29	--	11200	18020	3.5	4.0	10	50	
	VT 1228.48	 Blue	--	470	1800	3150	3.5	4.0			
	VT 1A28.51	 Bluish Green	--	505	3550	8050	3.5	4.0			
	VT 1328.49	 True Green	--	525	2240	5100	3.5	4.0			
	VT 1628.48	 Yellow	--	589	1800	3150	2.0	2.4			
	VT 1928.48	 Orange Red	--	615	1800	3150	2.0	2.4			
	VT 1728.48	 Red	--	624	1800	3150	2.0	2.4			

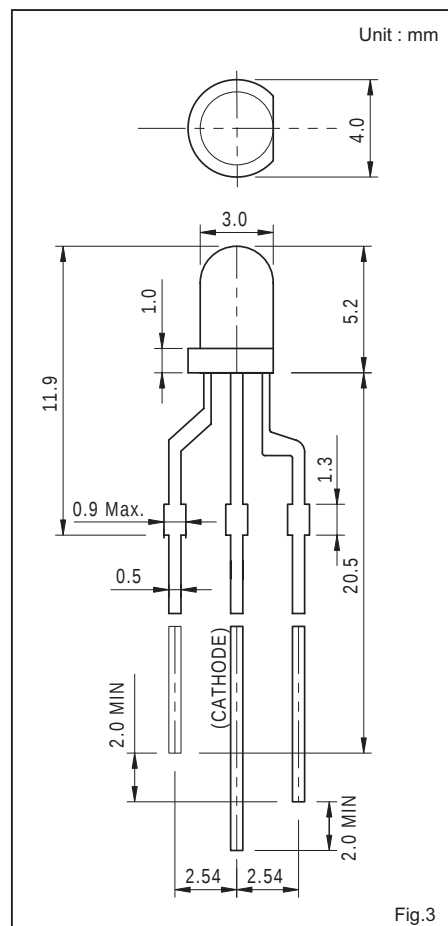
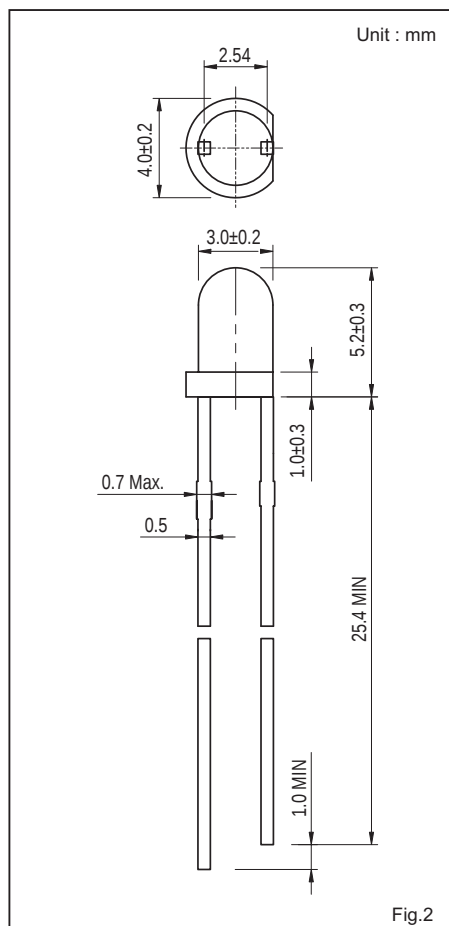
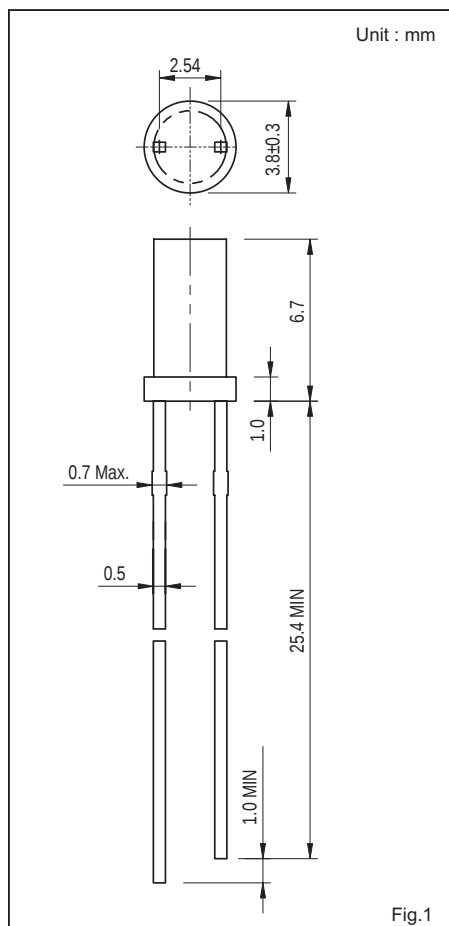
Package Dimensions



3mm Round Bi-Color LED Lamp

Package	Product Type	Chromaticity Coordinate		IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color		
		Emitted Color	λD (nm)	I _v (mcd)		V _F						
				Min.	Typ.	Typ.	Max.					
• 3mm Round Non Polarity  Fig.1	VT 3LH7	 Blue	470	28	55	3.5	4.0	140	50			
		 Red	624	18	32	2.0	2.4		10			
	VT 3QH7	 True Green	525	28	55	3.5	4.0		50			
		 Red	624	18	32	2.0	2.4		10			
• 3mm Round Non Polarity  Fig.2	VT 3L77	 Blue	470	22.4	35	3.5	4.0	60	50	White Diff.		
		 Red	624	22.4	35	2.0	2.4		10			
	VT 3J77	 Yellow Green	573	11.2	22	2.0	2.4					
		 Red	624	22.4	35	2.0	2.4					
	VT 3H77	 Yellow	589	18	35	2.0	2.4					
		 Red	624	22.4	35	2.0	2.4					
• 3mm Round Common Cathode 2.54mm Pitch  Fig.3	VT 3L67	 Blue	470	18	28	3.5	4.0	40	50	Water Clear		
		 Red	624	45	65	2.0	2.4					
	VT 3J67	 Yellow Green	573	11.2	18	2.0	2.4					
		 Red	624	18	43	2.0	2.4					
	VT 3J68	 Yellow Green	573	45	85	2.0	2.4					
		 Red	624	71	130	2.0	2.4					
	VT 3S68	 True Green	525	180	325	3.5	4.0		50			
		 Yellow	589	112	205	2.0	2.4		10			
	VT 3K67	 Yellow Green	573	11.2	18	2.0	2.4		60		10	White Diff.
		 Yellow	589	28	55	2.0	2.4					

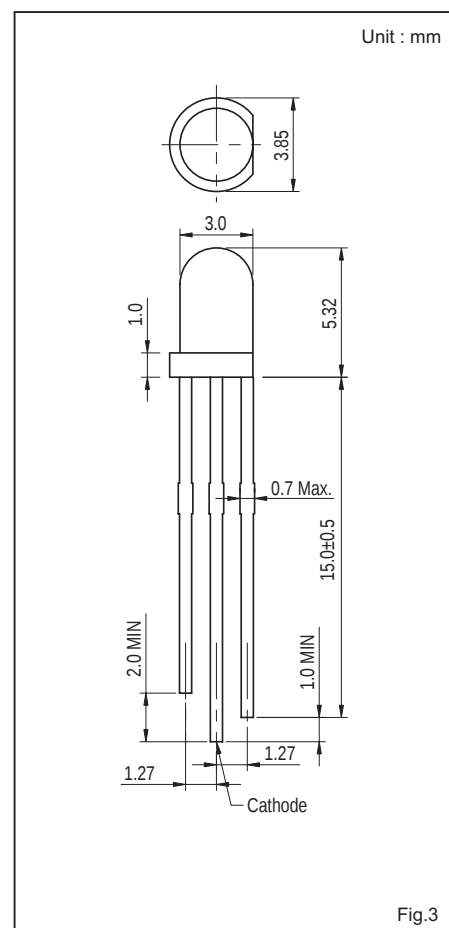
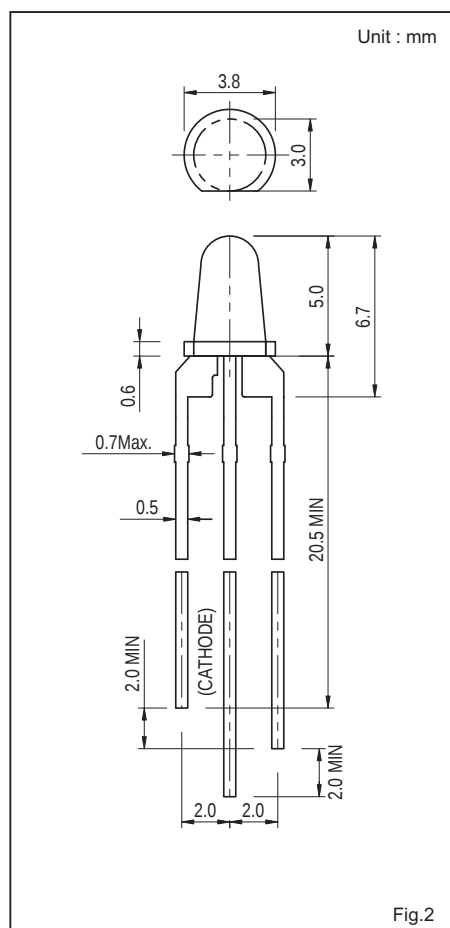
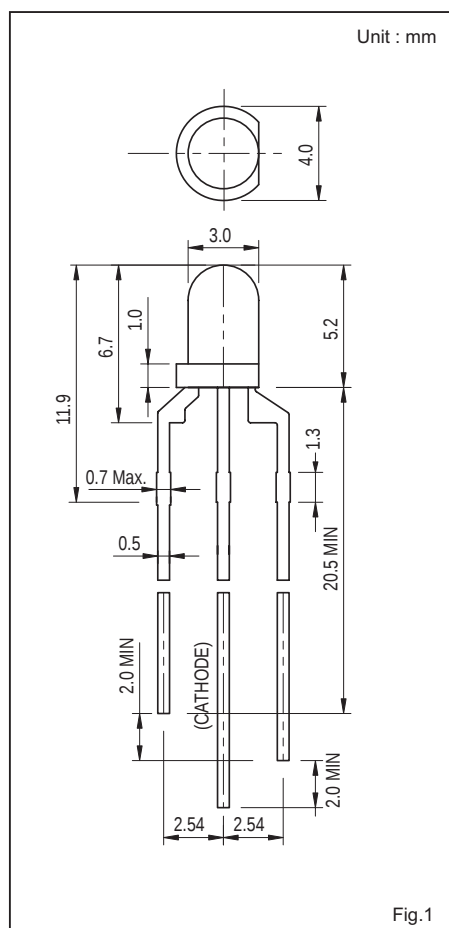
Package Dimensions



3mm Round Bi-Color LED Lamp

Package	Product Type	Chromaticitty Coordinate		IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color				
		Emitted Color	λD (nm)	I _v (mcd)		V _F								
				Min.	Typ.	Typ.	Max.							
• 3mm Round Common Cathode 2.54mm Pitch  Fig.1	VT 3L97	 Blue	470	35.5	71	3.5	4.0	60	50	White Diff.				
		 Red	624	28	52	2.0	2.4		10					
	VT 3J87	 Yellow Green	573	28	40	2.0	2.4				10			
		 Red	624	35.5	71	2.0	2.4					10		
	VT 3K97	 Yellow Green	573	28	40	2.0	2.4						10	
		 Yellow	589	45	65	2.0	2.4			10				
• 3mm Round Common Cathode 2.0 mm Pitch  Fig.2	VT 3L47	 Blue	470	45	85	3.5	4.0		60					50
		 Red	624	180	330	2.0	2.4				10			
	VT 3J47	 Yellow Green	573	28	40	2.0	2.4					10		
		 Red	624	45	85	2.0	2.4						10	
	VT 3K47	 Yellow Green	573	45	85	2.0	2.4			10				
		 Yellow	589	71	130	2.0	2.4							10
	VT 3J97	 Yellow Green	573	11.2	18	2.0	2.4	10			White Diff.			
		 Red	624	18	25	2.0	2.4							

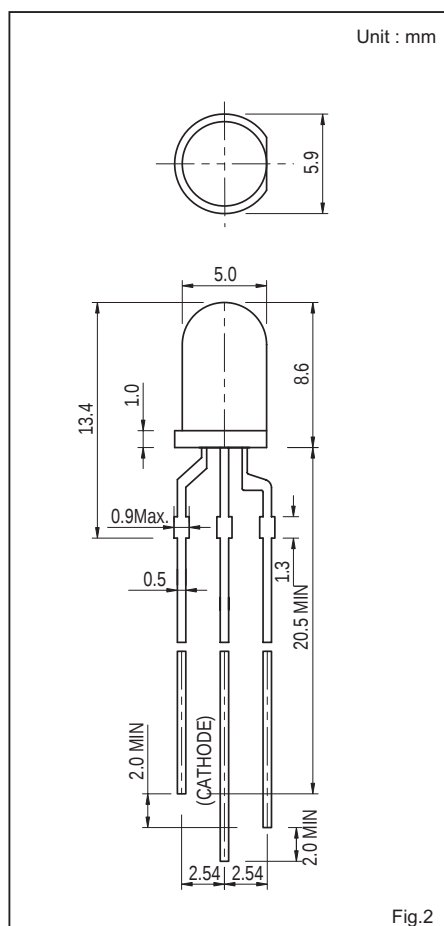
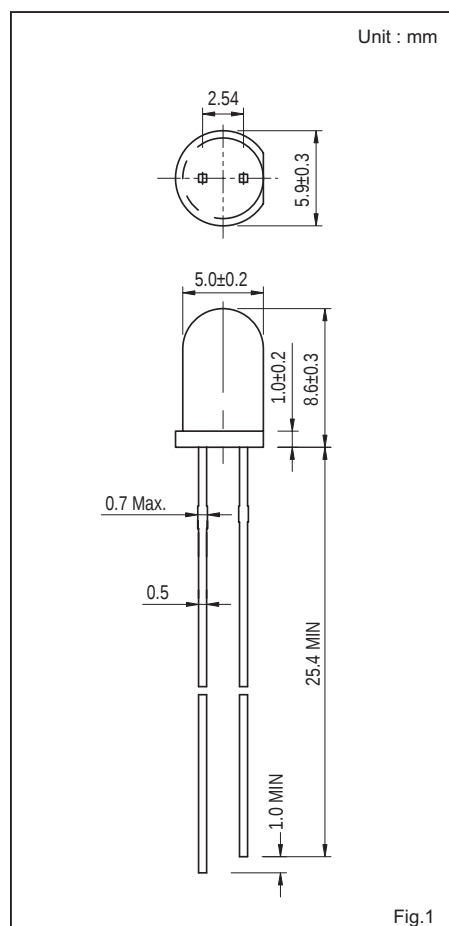
Package Dimensions



5mm Round Bi-Color LED Lamp

Package	Product Type	Chromaticitty Coordinate		IF (mA)=20mA				Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	λD (nm)	I _v (mcd)		V _F				
				Min.	Typ.	Typ.	Max.			
• 5 mm Round Non Polarity  Fig.1	VT 5L67	 Blue	470	35.5	55	3.5	4.0	60	50	White Diff.
		 Red	624	45	65	2.0	2.4		10	
	VT 5J67	 Yellow Green	573	28	53	2.0	2.4			
		 Red	624	45	65	2.0	2.4			
	VT 5K67	 Yellow	589	45	65	2.0	2.4			
		 Yellow Green	573	28	53	2.0	2.4			
• 5mm Round Common Cathode  Fig.2	VT 5L48	 Blue	470	710	1280	3.5	4.0	40	50	Water Clear
		 Red	624	280	520	2.0	2.4		10	
	VT 5J48	 Yellow Green	573	180	260	2.0	2.4			
		 Red	624	180	260	2.0	2.4			
	VT 5J77	 Yellow Green	573	28	53	2.0	2.4	60	10	White Diff.
		 Red	624	45	65	2.0	2.4			
	VT 5Q48	 True Green	525	710	325	3.5	4.0	40	50	Water Clear
		 Red	624	112	205	2.0	2.4			
	VT 5K48	 Yellow Green	573	71	130	2.0	2.4		10	
		 Yellow	589	112	260	2.0	2.4			
	VT 5K77	 Yellow Green	573	28	53	2.0	2.4	60	10	White Diff.
		 Yellow	589	45	65	2.0	2.4			

Package Dimensions

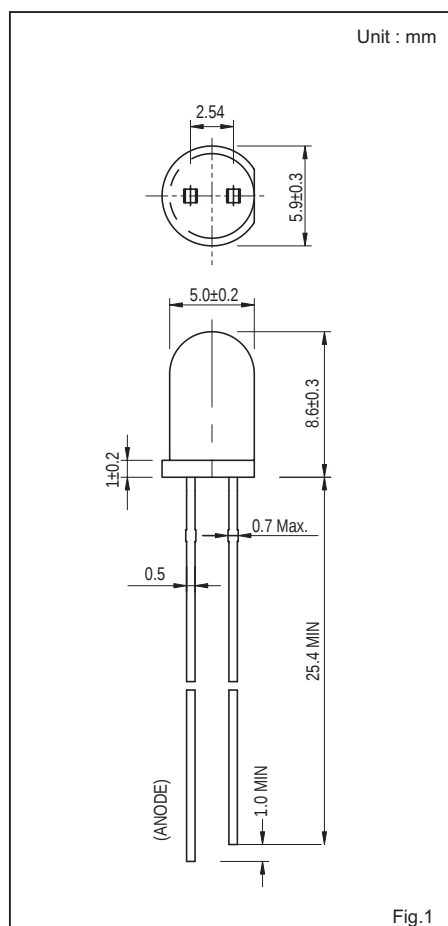


5mm Round High Current LED Lamp @ 150mA

Package	Product Type	Chromaticitty Coordinate		IF (mA) = 150mA					I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	λ _D (nm)	I _V (mcd)		V _F		Directivity 2θ 1/2 (degree)		
				Min.	Typ.	Typ.	Max.			
• 5mm Round  Fig.1	VH 6628	Yellow	589	36000	75000	2.3	2.8	15	10	Water Clear
	VH 6678	Yellow	589	7100	9100	2.3	2.8	55	10	
	VH 6728	Red	624	23000	35000	2.3	2.8	15	10	
	VH 6778	Red	624	7100	9100	2.3	2.8	55	10	

Fig.1

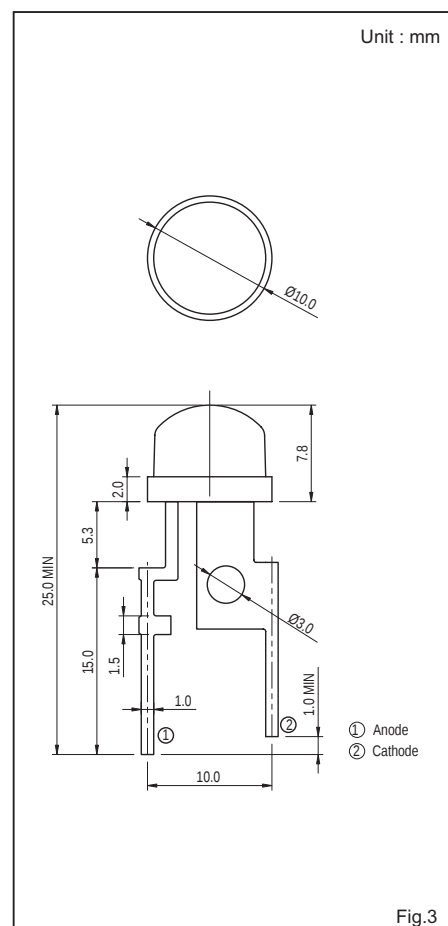
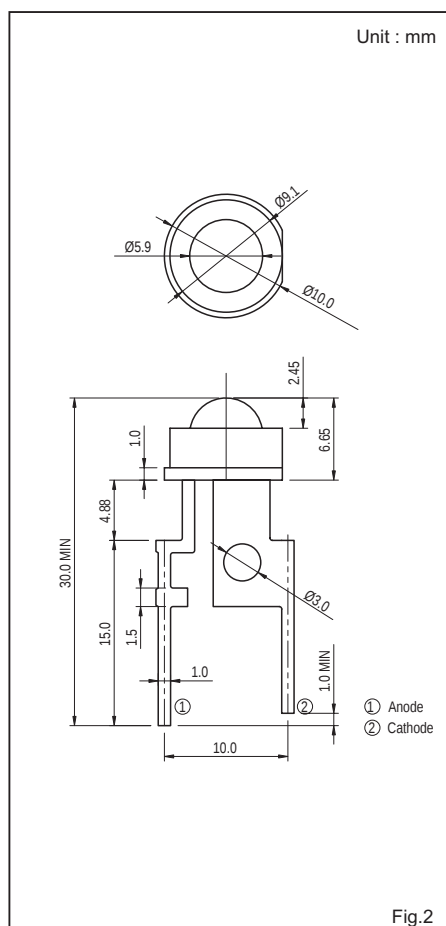
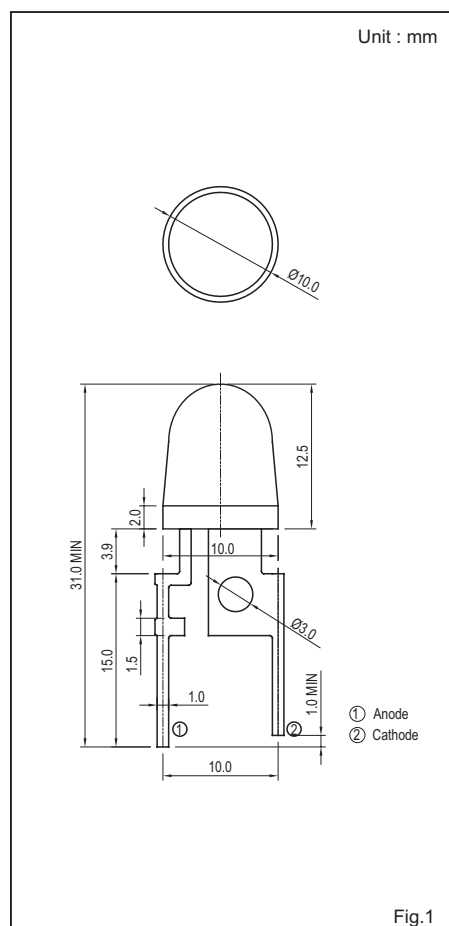
Package Dimensions



10mm Round High Current LED Lamp @ 350mA

Package	Product Type	Chromaticity Coordinate			IF (mA) = 350mA				I _R (μA) Max. @ V _R = 5V	Lens Color	
		Emitted Color	Typ. (x,y)	λD (nm)	Luminous Fulx (lm)		V _F				Directivity 2θ 1/2 (degree)
					Min.	Typ.	Typ.	Max.			
• 10mm Round  Fig.1	VH 6W48	 White	x 0.29 y 0.28	--	30	40	3.5	4.0	25	10	Water Clear
	VH 6248	 Blue	--	470	9	16	3.5	4.0			
	VH 6348	 True Green	--	525	46	56	3.5	4.0			
	VH 6648	 Yellow	--	589	28	36	2.4	3.0			
	VH 6748	 Red	--	624	29	36	2.4	3.0			
• 10mm Round  Fig.2	VH 6WA8	 White	x 0.29 y 0.28	--	27	35	3.5	4.0	100	10	
• 10mm Round  Fig.3	VH 6WC8	 White	x 0.29 y 0.28	--	27	35	3.5	4.0	120	10	

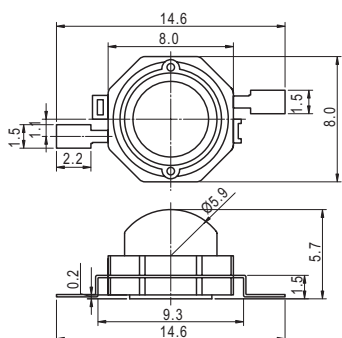
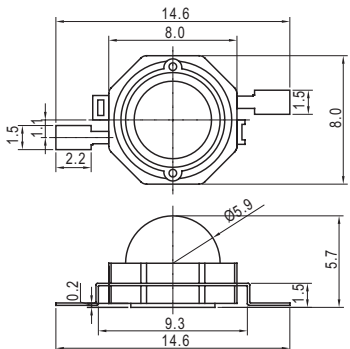
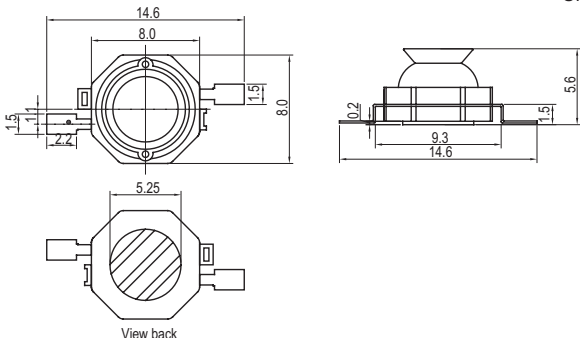
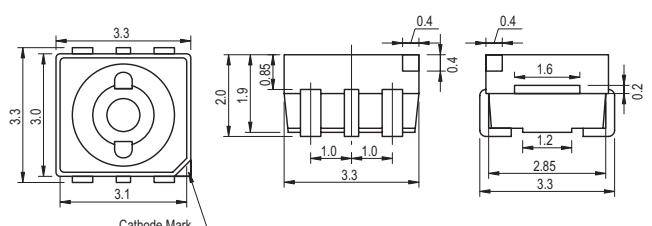
Package Dimensions



Surface Mount High Current LED @ 350mA & 150mA

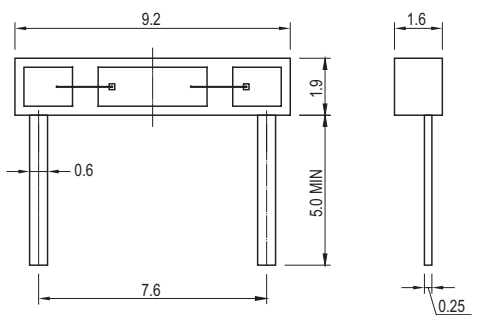
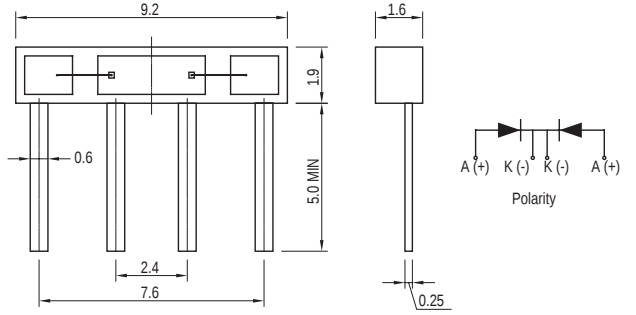
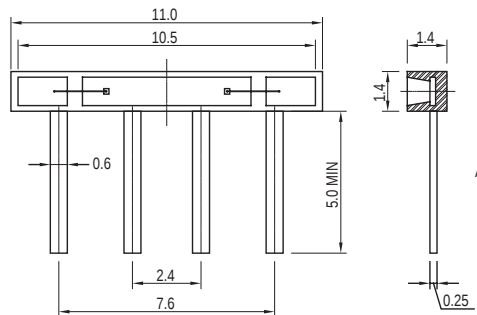
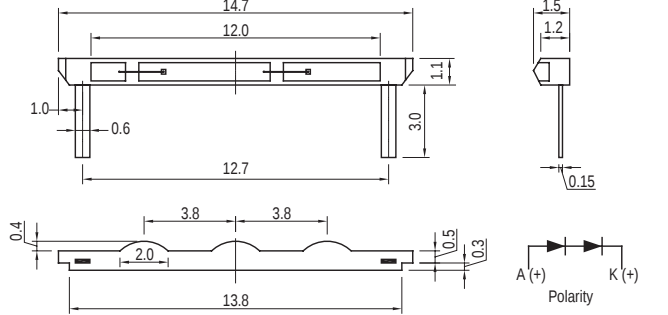
Package	Product Type	Chromaticity Coordinate			I _F (mA)	Flux (lm)		VF		Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)		Min.	Typ.	Typ.	Max.			
 Fig.1	VH 8WA8	 White	x 0.33 y 0.33	--	350	24	41	3.3	4.0	110	90	50
	VH 8298	 Blue	--	470	350	7	12	3.3	4.0	90		
	VH 8398	 True Green	--	525	350	34	55	3.3	4.0			
	VH 8Y98	 Amber	--	592	350	20	35	2.4	3.0			
	VH 8798	 Red	--	624	350	22	36	2.4	3.0			
 Fig.2	VH 8WC8	 White	x 0.33 y 0.33	--	350	25	42	3.5	4.0			
	VH 83C8	 True Green	--	525	350	45	64	3.5	4.0			
	VH 87C8	 Red	--	624	350	25	34	2.4	3.0	130	10	
 Fig.3	VH 8WF8	 White	x 0.33 y 0.33	--	350	25	40	3.5	4.0	170	50	
	VH 83F8	 True Green	--	525	350	33	52	3.5	4.0			
	VH 87F8	 Red	--	624	350	20	30	2.4	3.0		10	
 Fig.4	VH 9WC8	 White	x 0.33 y 0.33	--	150	--	4	3.5	4.0	120	50	
	VH 92C8	 Blue	--	470	150	--	4	3.5	4.0			
	VH 93C8	 True Green	--	525	150	--	4	3.5	4.0			
	VH 9YC8	 Amber	--	592	150	--	2.5	2.4	3.0		10	
	VH 97C8	 Red	--	624	150	--	2.5	2.4	3.0			

Package Dimensions

 Unit : mm Fig.1	 Unit : mm Fig.2
 Unit : mm Fig.3	 Unit : mm Fig.4

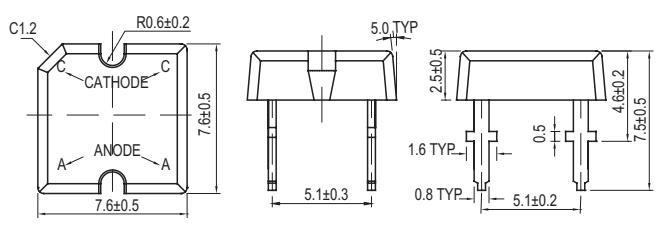
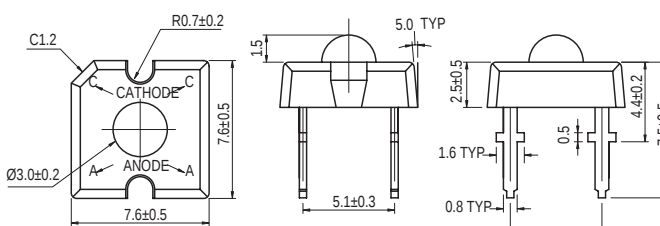
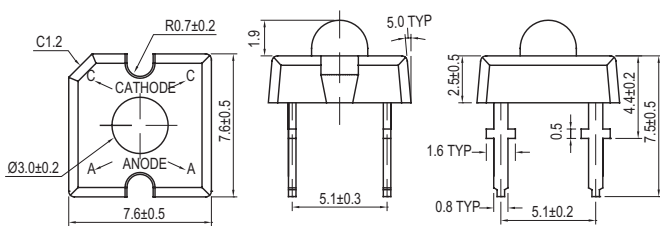
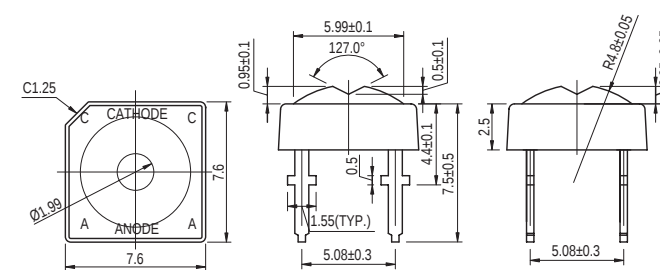
Package	Product Type	Chromaticitty Coordinate		IF (mA) = 20mA					I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	λD (nm)	I _v (mcd)		V _F		Directivity 2θ 1/2 (degree)		
				Min.	Typ.	Typ.	Max.			
 Fig.1	VT A2F8	 Blue	470	45	55	7.0	8.0	130	50	Water Clear
	VT A3F8	 True Green	525	180	205	7.0	8.6	130	50	
	VT A5F8	 Yellow Green	573	56	75	4.0	4.8	130	10	
	VT A6F8	 Yellow	589	45	100	4.0	4.8	130	10	
	VT A8F8	 Orange Yellow	605	45	100	4.0	4.8	130	10	
	VT A7F8	 Red	624	45	95	4.0	4.8	130	10	
 Fig.2	VT A2D8	 Blue	470	56	65	3.5	4.3	130	50	
	VT A6D8	 Yellow	589	71	80	2.0	2.4	130	10	
	VT A8D8	 Orange Yellow	605	22.4	60	2.0	2.4	130	10	
 Fig.3	VT A2G8	 Blue	470	71	105	3.5	4.3	145	50	
	VT A5G8	 Yellow Green	573	45	70	2.0	2.4	145	10	
	VT A6G8	 Yellow	589	28	55	2.0	2.4	145	10	
	VT A8G8	 Orange Yellow	605	28	55	2.0	2.4	145	10	
 Fig.4	VT A2H8	 Blue	470	35.5	40	7.0	8.0	145	50	
	VT A3H8	 True Green	525	140	150	7.0	8.0	145	50	
	VT A5H8	 Yellow Green	573	35.5	55	4.0	4.8	145	10	
	VT A7H8	 Red	624	28	70	4.0	4.8	145	10	

Package Dimensions

Unit : mm  Fig.1	Unit : mm  Fig.2
Unit : mm  Fig.3	Unit : mm  Fig.4

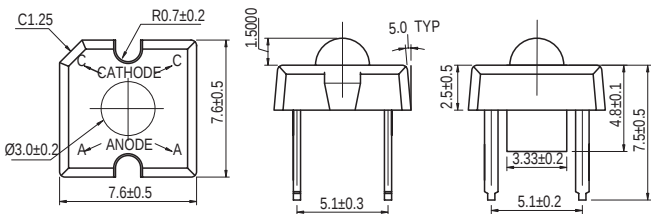
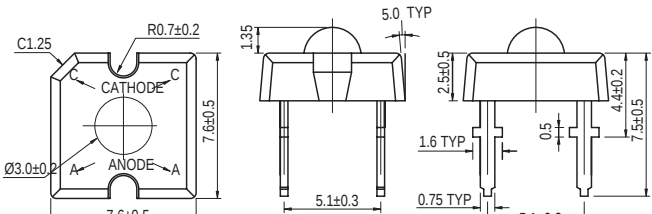
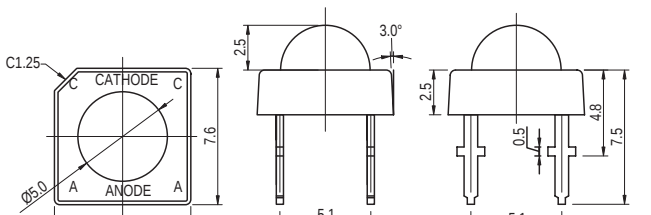
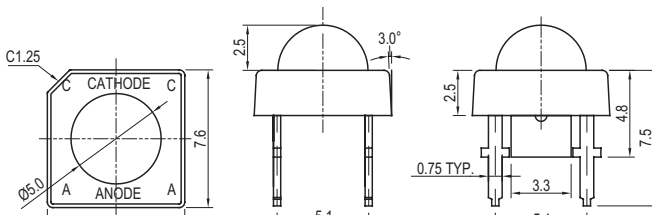
Package	Product Type	Chromaticity Coordinate			I _F (mA)	Flux (mIm)		VF		Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)		Min.	Typ.	Typ.	Max.			
• VT 6□D8 Series  Fig.1	VT 6WD8	White	x 0.30 y 0.29	--	30	1400	1950	3.5	4.0	120	50	Water Clear
	VT 62D8	Blue	--	470	30	710	900	3.5	4.0			
	VT 6AD8	Bluish Green	--	505	30	2800	3950	3.5	4.0			
	VT 63D8	True Green	--	525	30	2800	3950	3.5	4.0			
	VT 66D8	Yellow	--	589	70	3550	4950	2.6	3.1			
	VT 67D8	Red	--	624	70	3550	4950	2.6	3.1		10	
• VT 6□68 Series  Fig.2	VT 6W68	White	x 0.30 y 0.29	--	30	1400	1900	3.5	4.0	60	50	
	VT 6268	Blue	--	470	30	710	950	3.5	4.0	50		
	VT 6368	True Green	--	525	30	2800	3900	3.5	4.0			
	VT 6668	Yellow	--	589	70	3550	4950	2.6	3.1	80	10	
	VT 6768	Red	--	624	70	3600	4950	2.6	3.1			
• VT 6□48 Series  Fig.3	VT 6W48	White	x 0.30 y 0.29	--	30	1400	1900	3.5	4.0	50	50	
	VT 6248	Blue	--	470	30	710	900	3.5	4.0	40		
	VT 6348	True Green	--	525	30	2800	3900	3.5	4.0			
	VT 6648	Yellow	--	589	70	3550	4950	2.6	3.1	50	10	
	VT 6748	Red	--	624	70	3550	4950	2.6	3.1			
• VT 6□H8 Series  Fig.4	VT 62H8	Blue	--	470	30	450	700	3.5	4.0	180	50	
	VT 63H8	True Green	--	525	30	2800	3550	3.5	4.0			
	VT 69H8	Orange Red	--	615	70	3550	4450	2.6	3.1		10	

Package Dimensions

Unit : mm  Fig.1		Unit : mm  Fig.2	
Unit : mm  Fig.3		Unit : mm  Fig.4	

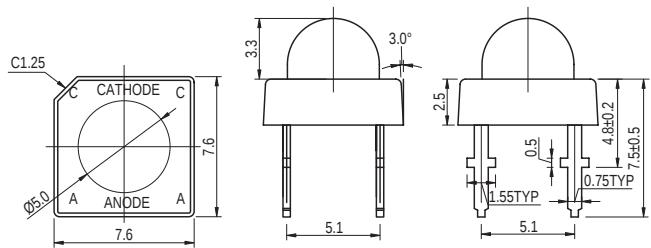
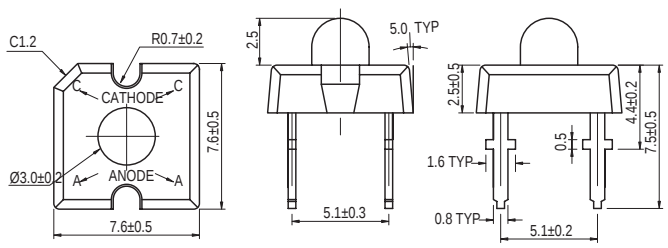
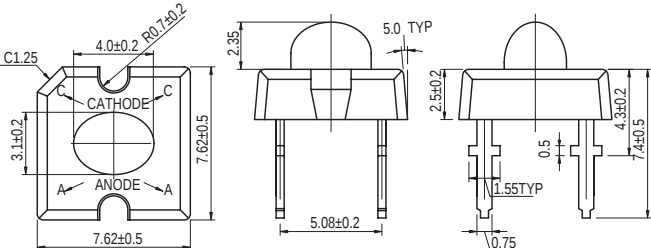
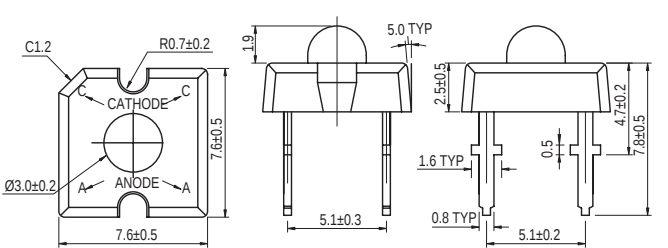
Package	Product Type	Chromaticity Coordinate			I _F (mA)	Flux (mIm)		VF		Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)		Min.	Typ.	Typ.	Max.			
• VT 6□78 Series  Fig.1	VT 6678	 Yellow	--	589	150	9000	10900	2.6	3.1	50	10	Water Clear
	VT 6978	 Orange Red	--	615	150	9000	10900	2.6	3.1			
	VT 6778	 Red	--	624	150	7100	7950	2.6	3.1			
• VT 6□98 Series  Fig.2	VT 6W98	 White	x 0.30 y 0.29	--	30	1400	1950	3.5	4.0	75	50	
	VT 6298	 Blue	--	470	30	710	950	3.5	4.0	70		
	VT 6A98	 Bluish Green	--	505	30	2800	3950	3.5	4.0	70		
	VT 6398	 True Green	--	525	30	2800	3950	2.6	3.1	70		
	VT 6798	 Red	--	624	70	3550	4950	2.6	3.1	90	10	
• VT 6□B8 Series  Fig.3	VT 6WB8	 White	x 0.30 y 0.29	--	30	1400	1950	3.5	4.0	75	50	
	VT 62B8	 Blue	--	470	30	710	950	3.5	4.0	70		
	VT 6AB8	 Bluish Green	--	505	30	2800	3950	3.5	4.0	70		
	VT 63B8	 True Green	--	525	30	2800	3950	2.6	3.1	70		
	VT 67B8	 Red	--	624	70	3550	4950	2.6	3.1	90	10	
• VT 6□C8 Series  Fig.4	VT 66C8	 Yellow	--	589	150	9000	10900	2.6	3.1	85	10	
	VT 69C8	 Orange Red	--	615	150	9000	10900	2.6	3.1			
	VT 67C8	 Red	--	624	150	7100	7900	2.6	3.1			

Package Dimensions

Unit : mm  Fig.1		Unit : mm  Fig.2	
Unit : mm  Fig.3		Unit : mm  Fig.4	

Package	Product Type	Chromaticity Coordinate			I _F (mA)	Flux (mIm)		VF		Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color			
		Emitted Color	Typ. (x,y)	λD (nm)		Min.	Typ.	Typ.	Max.						
• VT 6□58 Series  Fig.1	VT 6658	 Yellow	--	589	70	3550	4950	2.6	3.1	30	10	Water Clear			
	VT 6958	 Orange Red	--	615	70	3550	4950	2.6	3.1						
	VT 6758	 Red	--	624	70	3550	4950	2.6	3.1						
• VT 6□38 Series  Fig.2	VT 6638	 Yellow	--	589	70	3550	4950	2.6	3.1	20	10		Water Clear		
	VT 6938	 Orange Red	--	615	70	3550	4950	2.6	3.1						
	VT 6738	 Red	--	624	70	3550	4950	2.6	3.1						
• VT 6□J8 Series  Fig.3	VT 66J8	 Yellow	--	589	70	3550	4950	2.6	3.1	25/70	10			Water Clear	
	VT 69J8	 Orange Red	--	615	70	3550	4950	2.6	3.1						
	VT 67J8	 Red	--	624	70	3550	4950	2.6	3.1						
• VT 6□28 Series  Fig.4	VT 6628	 Yellow	--	589	70	3550	4950	2.6	3.1	40	10				Water Clear
	VT 6928	 Orange Red	--	615	70	3550	4950	2.6	3.1						
	VT 6728	 Red	--	624	70	3550	4950	2.6	3.1						

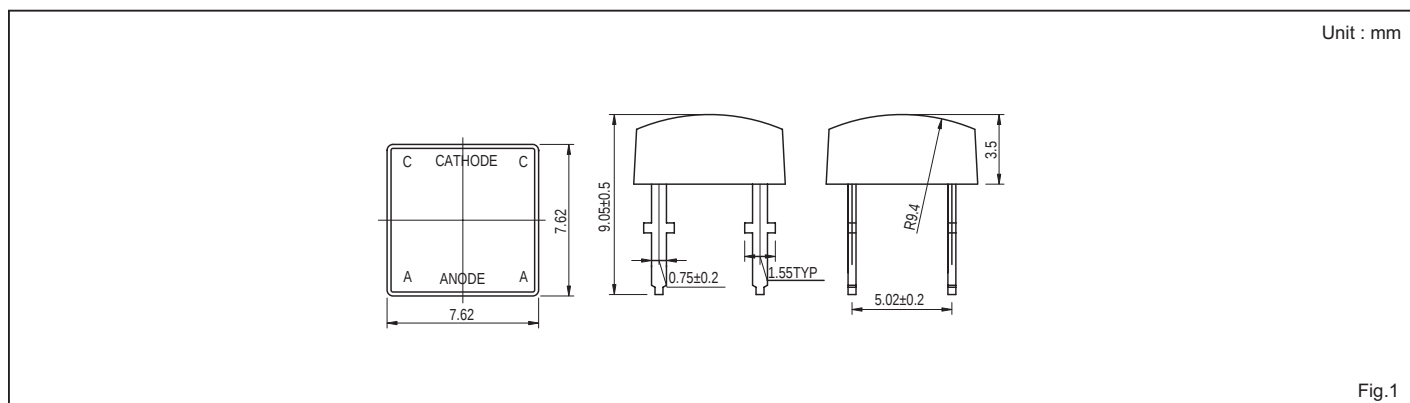
Package Dimensions

Unit : mm  Fig.1		Unit : mm  Fig.2	
Unit : mm  Fig.3		Unit : mm  Fig.4	



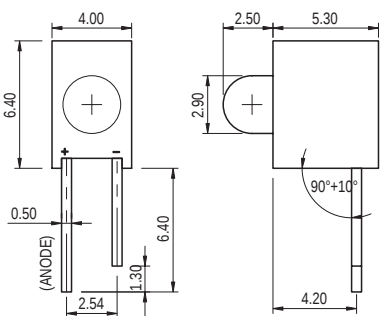
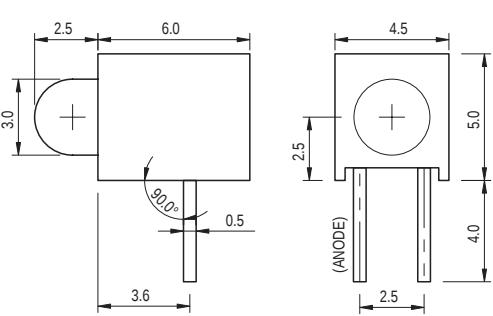
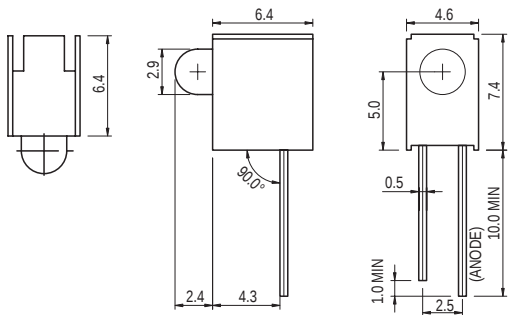
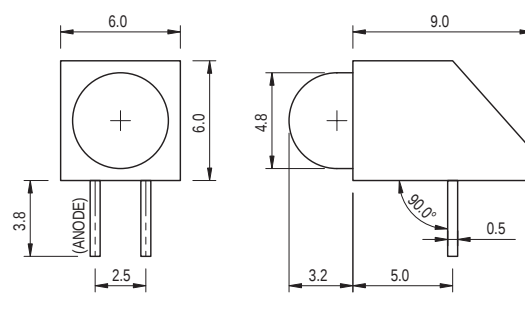
Package	Product Type	Chromaticity Coordinate			I _F (mA)	Flux (lm)		VF		Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	Typ. (x,y)	λD (nm)		Min.	Typ.	Typ.	Max.			
• VT 6□S8 Series  Fig.3	VT 6WS8	White	x 0.30 y 0.29	--	30	1800	2750	3.5	4.0	430	50	Water Clear

Package Dimensions



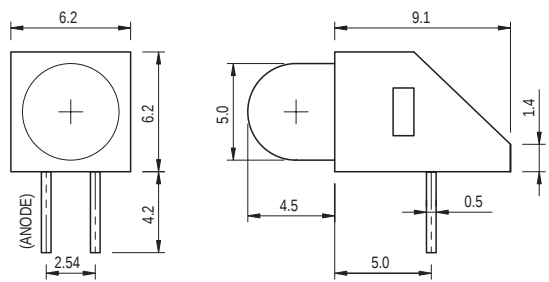
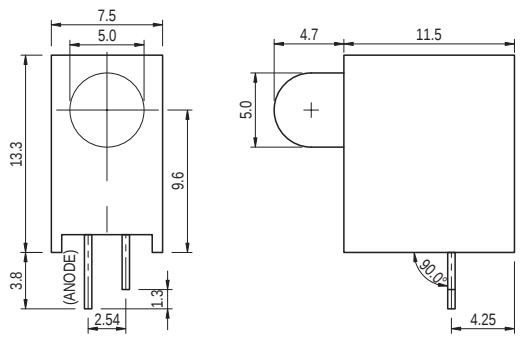
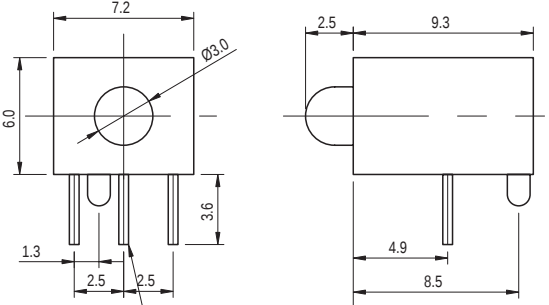
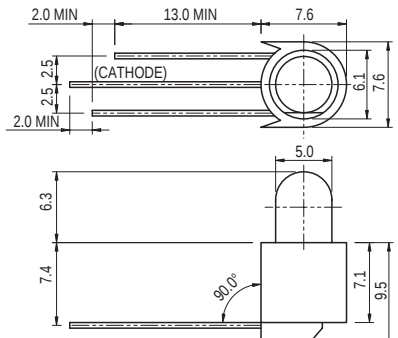
Package	Product Type	Chromaticitty Coordinate		IF (mA) = 20mA					I _R (μA) Max. @ V _R = 5V	Lens Color
		Emitted Color	λD (nm)	I _v (mcd)		V _F		Directivity 2θ 1/2 (degree)		
				Min.	Typ.	Typ.	Max.			
• 3mm LED Lamp  Fig.1	VA 1576	 Yellow Green	573	45	85	2.0	2.4	60	10	Green Diff.
	VA 1679	 Yellow	589	56	105	2.0	2.4	60	10	Yellow Diff.
	VA 1776	 Red	624	56	125	2.0	2.4	60	10	Red Diff.
• 3mm LED Lamp  Fig.2	VA 1596	 Yellow Green	573	45	85	2.0	2.4	60	10	Green Diff.
	VA 1699	 Yellow	589	45	85	2.0	2.4	60	10	Yellow Diff.
	VA 1B96	 Deep Red	639	45	85	2.0	2.4	60	10	Red Diff.
• 3mm LED Lamp  Fig.3	VA 15B6	 Yellow Green	573	45	85	2.0	2.4	60	10	Green Diff.
	VA 16B9	 Yellow	589	56	105	2.0	2.4	60	10	Yellow Diff.
	VA 17B6	 Red	624	56	125	2.0	2.4	60	10	Red Diff.
• 5mm LED Lamp  Fig.4	VA 1566	 Yellow Green	573	45	70	2.0	2.4	40	10	Green Diff.
	VA 1669	 Yellow	589	56	125	2.0	2.4	40	10	Yellow Diff.
	VA 1766	 Red	624	45	105	2.0	2.4	40	10	Red Diff.

Package Dimensions

Unit : mm  Fig.1	Unit : mm  Fig.2
Unit : mm  Fig.3	Unit : mm  Fig.4

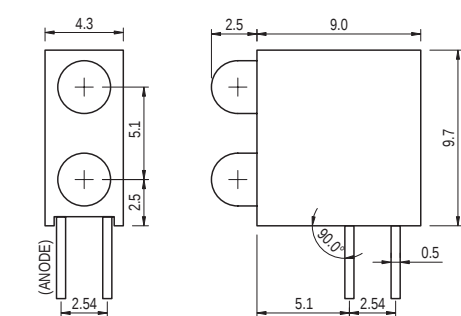
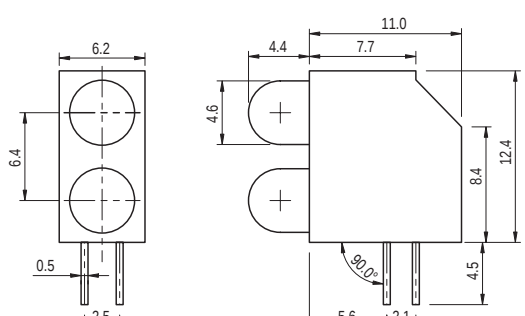
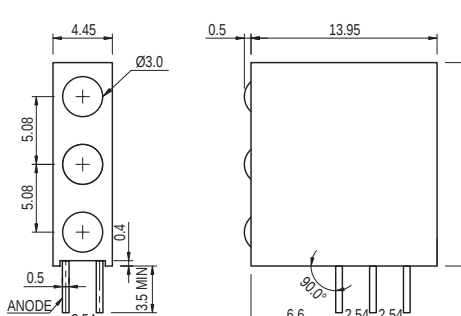
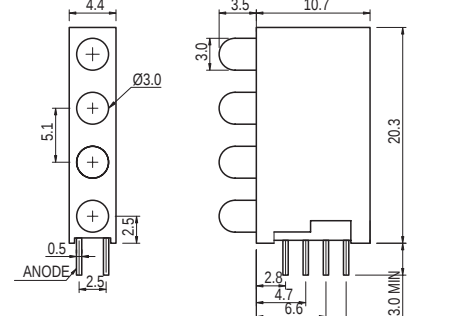
Package	Product Type	Chromaticity Coordinate		IF (mA) = 20mA				I _R (μA) Max. @ V _R = 5V	Lens Color	
		Emitted Color	λ _D (nm)	I _v (mcd)		V _F				Directivity 2θ 1/2 (degree)
				Min.	Typ.	Typ.	Max.			
• 5mm LED Lamp 	VA 1546	 Yellow Green	573	45	70	2.0	2.4	40	10	Green Diff.
	VA 1649	 Yellow	589	90	190	2.0	2.4			Yellow Diff.
	VA 1746	 Red	624	90	190	2.0	2.4			Red Diff.
• 5mm LED Lamp 	VA 1526	 Yellow Green	573	45	80	2.0	2.4	40	10	Green Diff.
	VA 1629	 Yellow	589	90	190	2.0	2.4			Yellow Diff.
	VA 1726	 Red	624	90	190	2.0	2.4			Red Diff.
• 3mm LED Lamp - Bi Color 	VA 1G87	 Yellow Green	573	28	53	2.0	2.4	70	10	White Diff
		 Deep Red	539	45	65	2.0	2.4			
• 5mm LED Lamp - Bi Color 	VA 1JA7	 Yellow Green	573	18	35	2.0	2.4	100	10	White Diff
		 Red	624	28	55	2.0	2.4			
	VA 1K87	 Yellow Green	573	35.5	55	2.0	2.4			
		 Yellow	589	71	110	2.0	2.4			

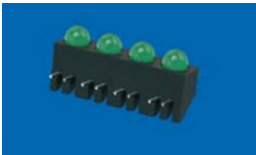
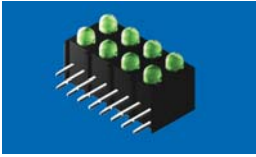
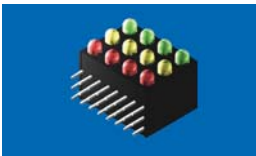
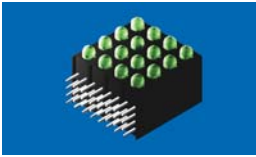
Package Dimensions

Unit : mm  Fig.1	Unit : mm  Fig.2
Unit : mm  Fig.3	Unit : mm  Fig.4

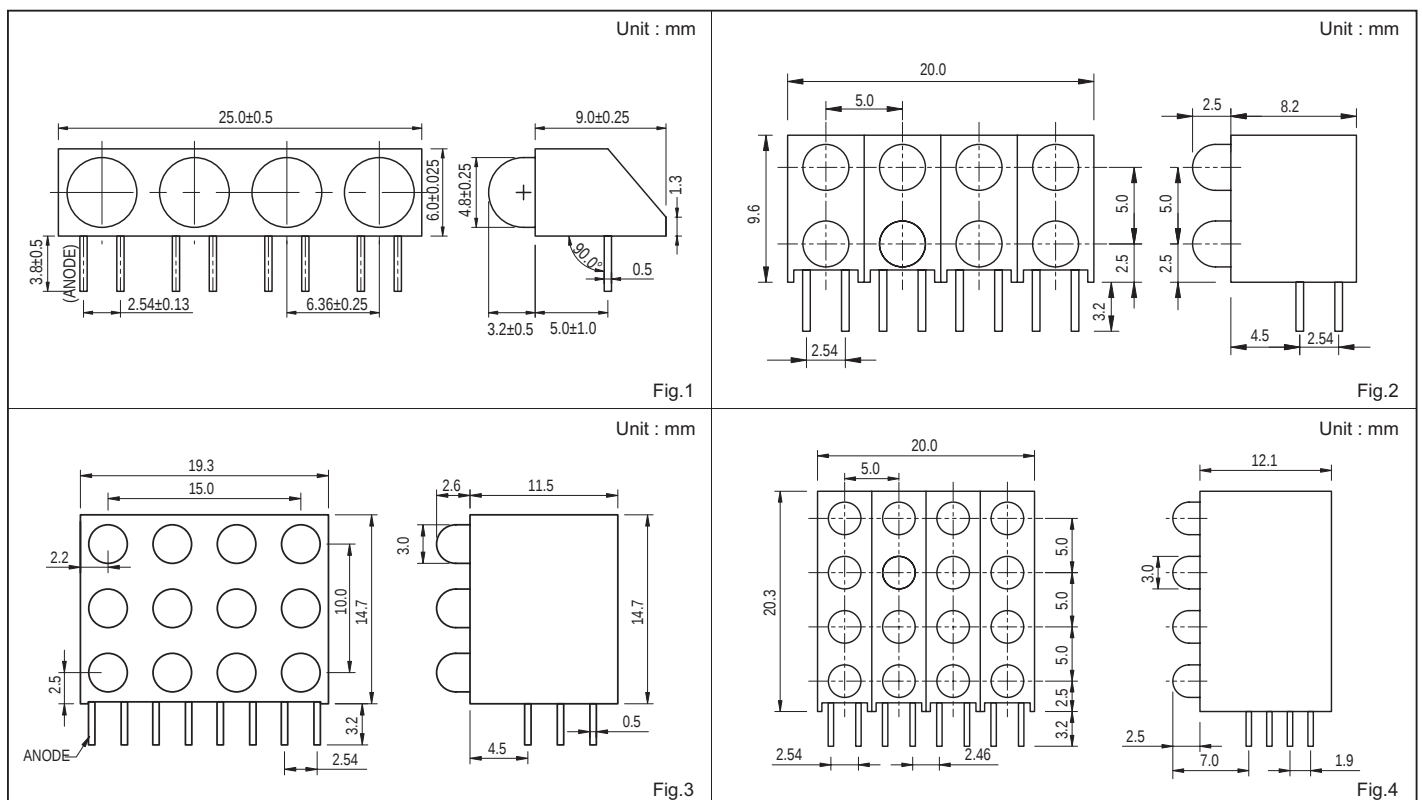
Package	Product Type	Chromaticitty Coordinate		IF (mA) = 20mA				I _R (μA) Max. @ V _R = 5V	Lens Color	
		Emitted Color	λ _D (nm)	I _v (mcd)		V _F				Directivity 2θ 1/2 (degree)
				Min.	Typ.	Typ.	Max.			
• 3mm LED Lamp  Fig.1	VA 2576	 Yellow Green	573	28	54	2.0	2.4	60	10	Green Diff.
	VA 2679	 Yellow	589	35.5	65	2.0	2.4			Yellow Diff.
	VA 2776	 Red	624	35.5	65	2.0	2.4			Red Diff.
• 4.6mm LED Lamp  Fig.2	VA 2669	 Yellow	589	112	205	2.0	2.4	60	10	Yellow Diff.
	VA 2766	 Red	624	112	300	2.0	2.4			Red Diff.
• 3mm LED Lamp  Fig.3	VA 3576	 Yellow Green	573	7.4	15	2.0	2.4	60	10	Green Diff.
	VA 3679	 Yellow	589	18	35	2.0	2.4			Yellow Diff.
	VA 3776	 Red	624	11.2	27	2.0	2.4			Red Diff.
• 3mm LED Lamp  Fig.4	VA 4587	 Yellow Green	573	45	85	2.0	2.4	60	10	White Diff.
	VA 4687	 Yellow	589	55	105	2.0	2.4			White Diff.
	VA 4787	 Red	624	43	68	2.0	2.4			White Diff.

Package Dimensions

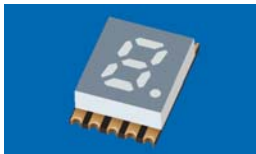
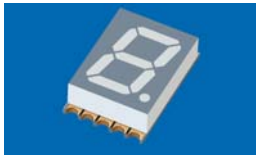
Unit : mm  Fig.1	Unit : mm  Fig.2
Unit : mm  Fig.3	Unit : mm  Fig.4

Package	Product Type	Chromaticity Coordinate		IF (mA) = 20mA				I _R (μA) Max. @ V _R = 5V	Lens Color	
		Emitted Color	λ _D (nm)	I _v (mcd)	V _F	Directivity 2θ 1/2 (degree)				
• 5mm LED Lamp  Fig.1	VA 4546	 Yellow Green	573	45	70	2.0	2.4	40	10	Green Diff.
	VA 4649	 Yellow	589	56	125	2.0	2.4			Yellow Diff.
	VA 4746	 Red	624	45	105	2.0	2.4			Red Diff.
• 3mm LED Lamp  Fig.2	VA 8576	 Yellow Green	573	35.5	45	2.0	2.4	40	10	Green Diff.
• 3mm LED Lamp  Fig.3	VA BV46	 Yellow Green	573	35.5	45	2.0	2.4	40	10	Green Diff.
		 Yellow	589	22.4	30	2.0	2.4			Yellow Diff.
		 Red	631	45	60	2.0	2.4			Red Diff.
• 5mm LED Lamp  Fig.4	VA D576	 Yellow Green	573	35.5	45	2.0	2.4	40	10	Green Diff.

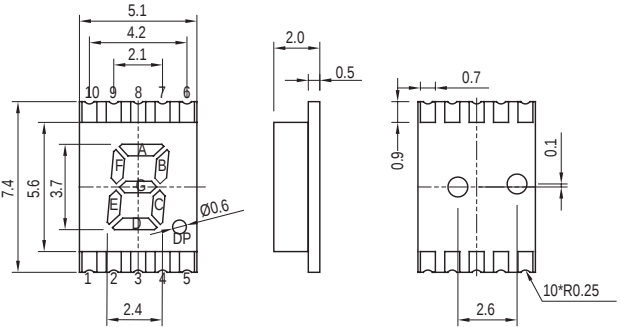
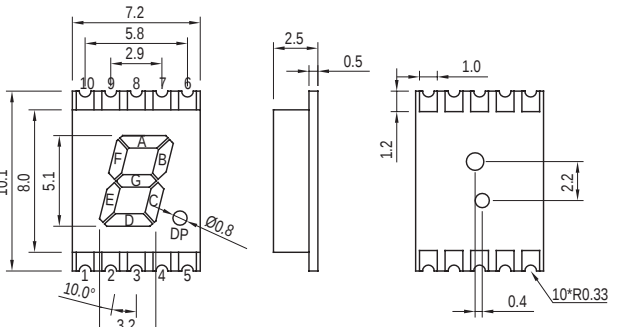
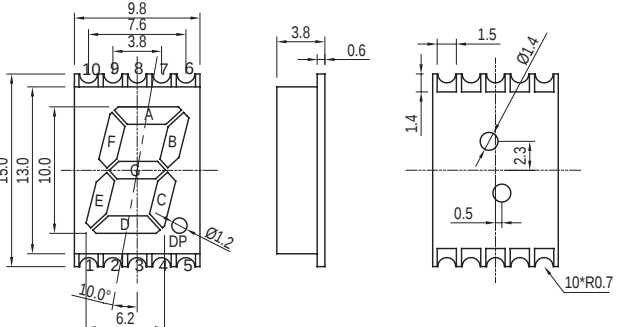
Package Dimensions



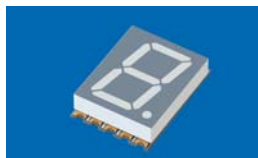
Surface Mount Single Digit Display

Package	Product Type	Chromaticitty Coordinate		IF (mA) = 10mA		IF (mA) = 20mA		I _R (μA) Max. @ V _R = 5V	Circuitry
		Emitted Color	λD (nm)	IV (mcd)		VF			
				Min.	Typ.	Typ.	Max.		
• 0.15" Character Height  Fig.1	VD 151C	 Yellow Green	573	4.5	7	2.0	2.4	10	Common Cathode
	VD 161A	 Yellow	589	5.6	9	2.0	2.4	10	Common Anode
	VD 181C	 Orange Yellow	605	5.6	9	2.0	2.4	10	Common Cathode
	VD 1T1A	 Red	631	4.5	7	2.0	2.4	10	Common Anode
	VD 1B1C	 Deep Red	639	4.5	6	2.0	2.4	10	Common Cathode
• 0.20" Character Height  Fig.2	VD 251C	 Yellow Green	573	7.1	13	2.0	2.4	10	Common Cathode
	VD 261A	 Yellow	589	9.0	15.5	2.0	2.4	10	Common Anode
	VD 281C	 Orange Yellow	605	9.0	15.5	2.0	2.4	10	Common Cathode
	VD 271A	 Red	624	9.0	15.5	2.0	2.4	10	Common Anode
	VD 2T1C	 Red	631	7.1	13	2.0	2.4	10	Common Cathode
• 0.39" Character Height  Fig.3	VD 321A	 Blue	470	14	22	3.5	4.3	50	Common Anode
	VD 351C	 Yellow Green	573	5.6	12	2.0	2.4	10	Common Cathode
	VD 371A	 Red	624	4.5	9	2.0	2.4	10	Common Anode

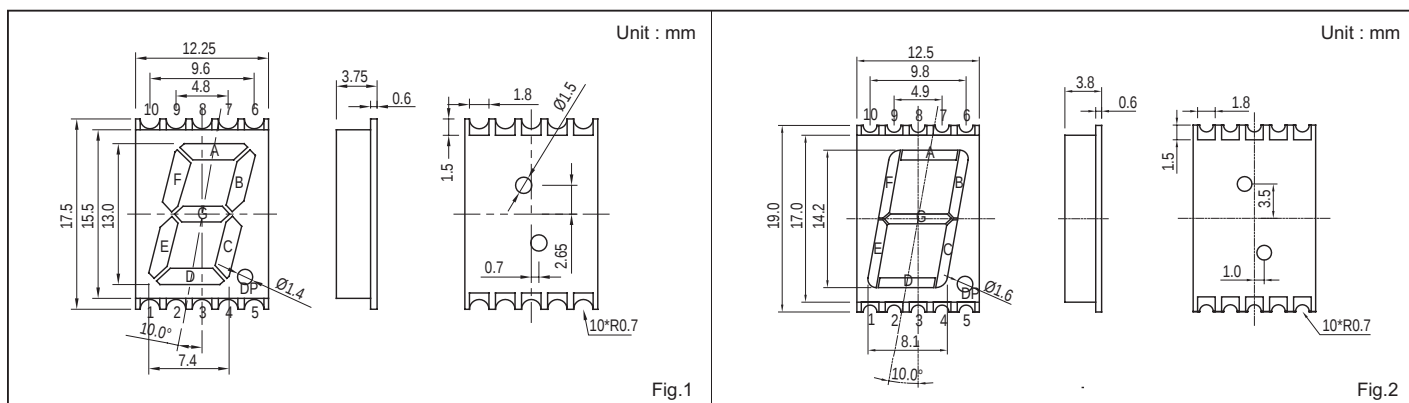
Package Dimensions

 Unit : mm Fig.1	 Unit : mm Fig.2
 Unit : mm Fig.3	

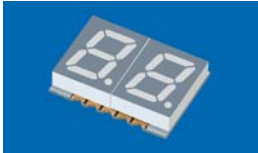
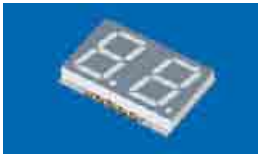
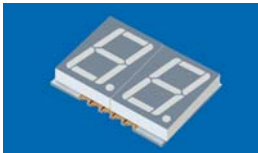
Surface Mount Single Digit Display

Package	Product Type	Chromaticitty Coordinate		IF (mA) = 10mA		IF (mA) = 20mA		I _R (μA) Max. @ V _R = 5V	Circuitry
		Emitted Color	λD (nm)	IV (mcd)		VF			
				Min.	Typ.	Typ.	Max.		
• 0.51" Character Height  Fig.1	VD 451A	 Yellow Green	573	5.6	10	2.0	2.4	10	Common Anode
	VD 471C	 Red	624	14	35	2.0	2.4	10	Common Cathode
• 0.56" Character Height  Fig.2	VD 551A	 Yellow Green	573	4.5	12	2.0	2.4	10	Common Anode
	VD 571C	 Red	624	3.55	9	2.0	2.4	10	Common Cathode

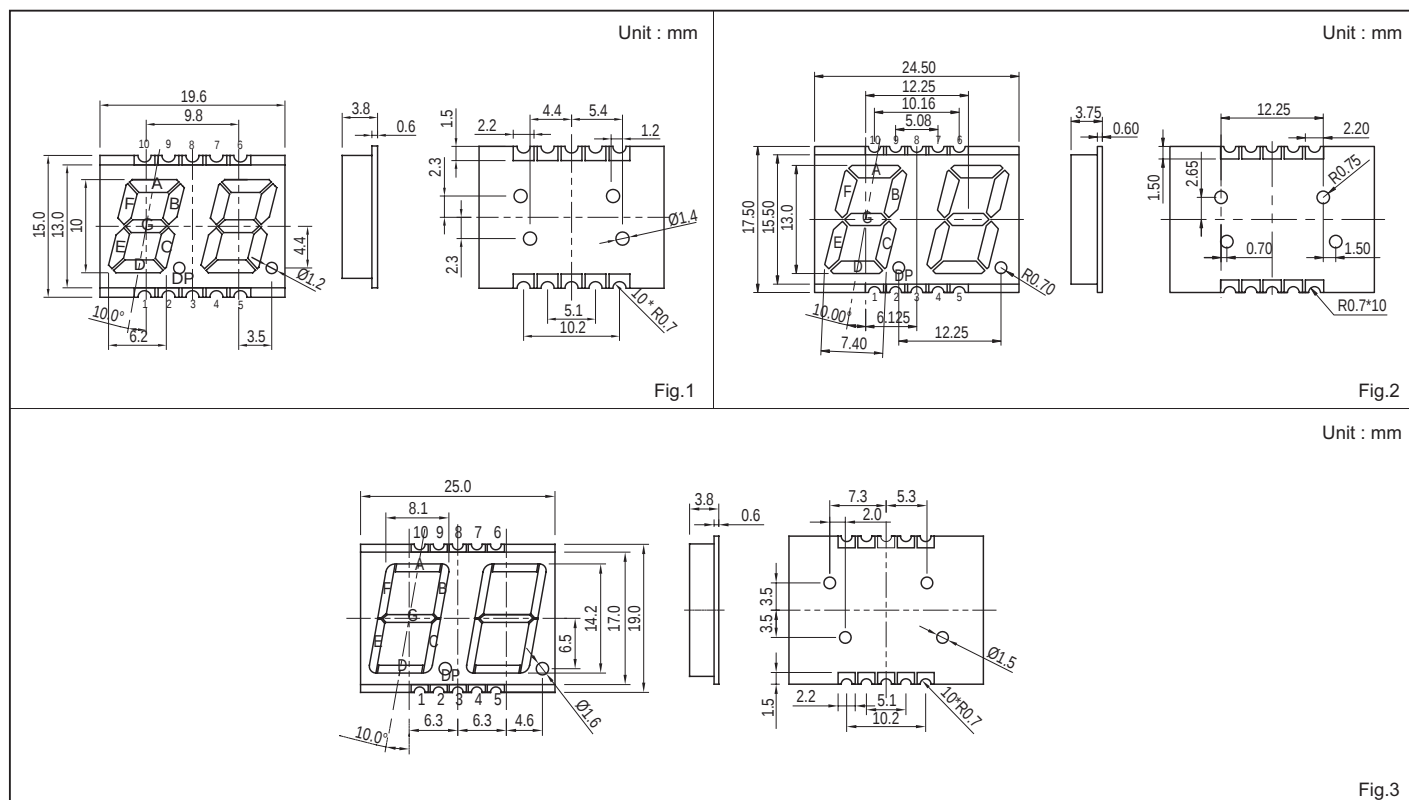
Package Dimensions



Surface Mount Dual Digit Display

Package	Product Type	Chromaticitty Coordinate		IF (mA) = 10mA		IF (mA) = 20mA		I _R (μA) Max. @ V _R = 5V	Circuitry
		Emitted Color	λD (nm)	IV (mcd)		VF			
				Min.	Typ.	Typ.	Max.		
• 0.39" Character Height  Fig.1	VD 352C	 Yellow Green	573	7.1	12	2.0	2.4	10	Common Cathode
	VD 352A	 Yellow Green	573	7.1	12	2.0	2.4	10	Common Anode
	VD 372C	 Red	624	9	20	2.0	2.4	10	Common Cathode
	VD 372A	 Red	624	9	20	2.0	2.4	10	Common Anode
• 0.51" Character Height  Fig.2	VD 452C	 Yellow Green	573	7.1	11	2.0	2.4	10	Common Cathode
	VD 452A	 Yellow Green	573	7.1	11	2.0	2.4	10	Common Anode
• 0.56" Character Height  Fig.3	VD 552C	 Yellow Green	573	2.8	5.0	2.0	2.4	10	Common Cathode
	VD 552A	 Yellow Green	573	2.8	5.0	2.0	2.4	10	Common Anode

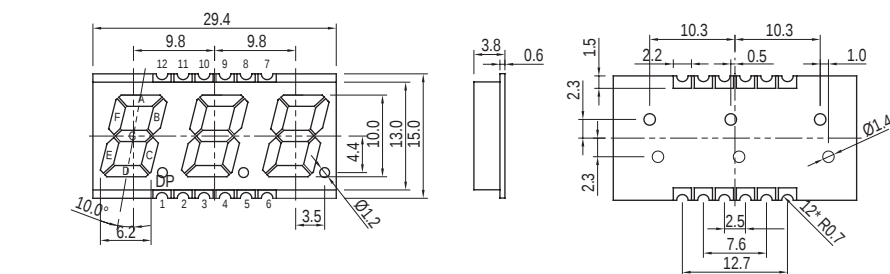
Package Dimensions



Surface Mount Triple Digit Display

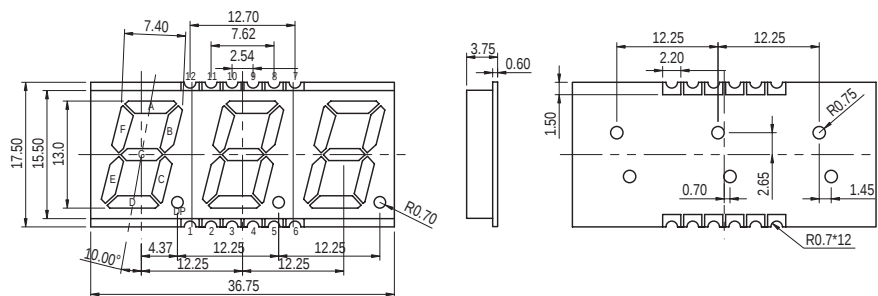
Package	Product Type	Chromaticity Coordinate		IF (mA) = 10mA		IF (mA) = 20mA		I _R (μA) Max. @ V _R = 5V	Circuitry
		Emitted Color	λD (nm)	IV (mcd)		VF			
				Min.	Typ.	Typ.	Max.		
• 0.39" Character Height  Fig.1	VD 353C	 Yellow Green	573	3.5	6	2.0	2.4	10	Common Cathode
	VD 353A	 Yellow Green	573	3.5	6	2.0	2.4	10	Common Anode
	VD 373C	 Red	624	3.5	8	2.0	2.4	10	Common Cathode
	VD 373A	 Red	624	3.5	8	2.0	2.4	10	Common Anode
• 0.51" Character Height  Fig.2	VD 453C	 Yellow Green	573	3.5	6.5	2.0	2.4	10	Common Cathode
	VD 453A	 Yellow Green	573	3.5	6.5	2.0	2.4	10	Common Anode
• 0.56" Character Height  Fig.3	VD 553C	 Yellow Green	573	4.5	10.5	2.0	2.4	10	Common Cathode
	VD 553A	 Yellow Green	573	4.5	10.5	2.0	2.4	10	Common Anode
	VD 573C	 Red	624	18	25	2.0	2.4	10	Common Cathode
	VD 573A	 Red	624	18	25	2.0	2.4	10	Common Anode

Package Dimensions



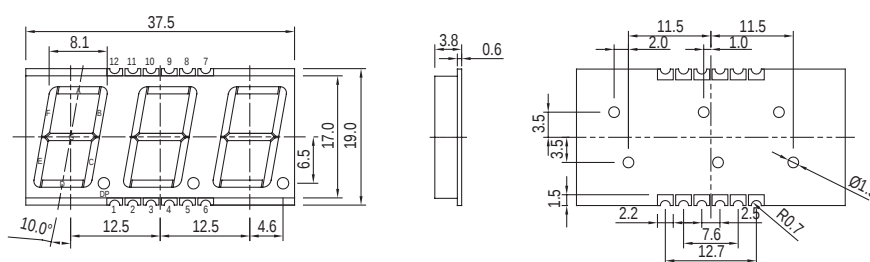
Unit : mm

Fig.1



Unit : mm

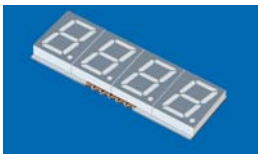
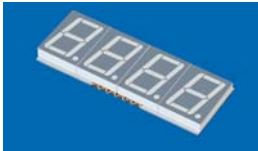
Fig.2



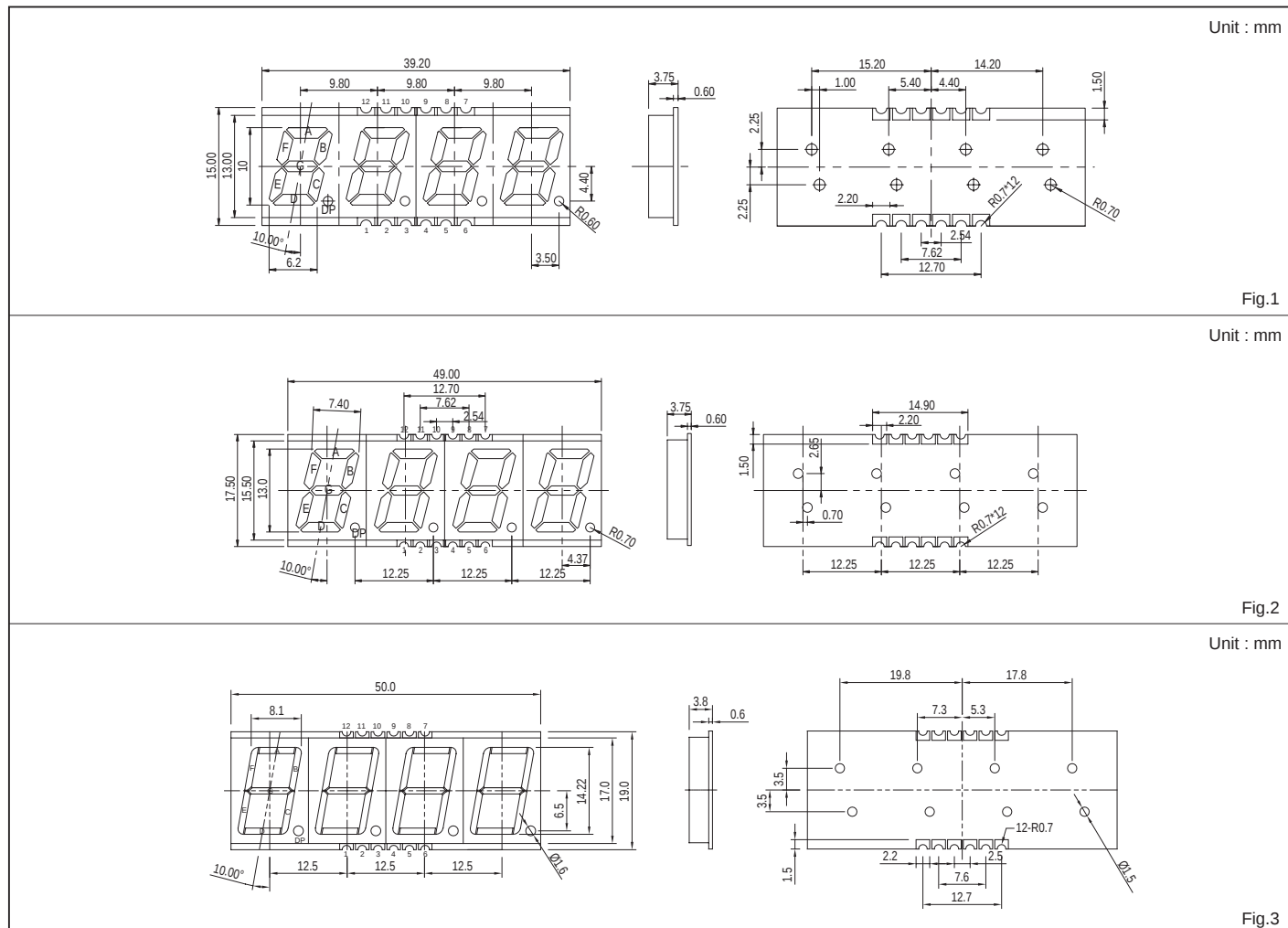
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Fig.3

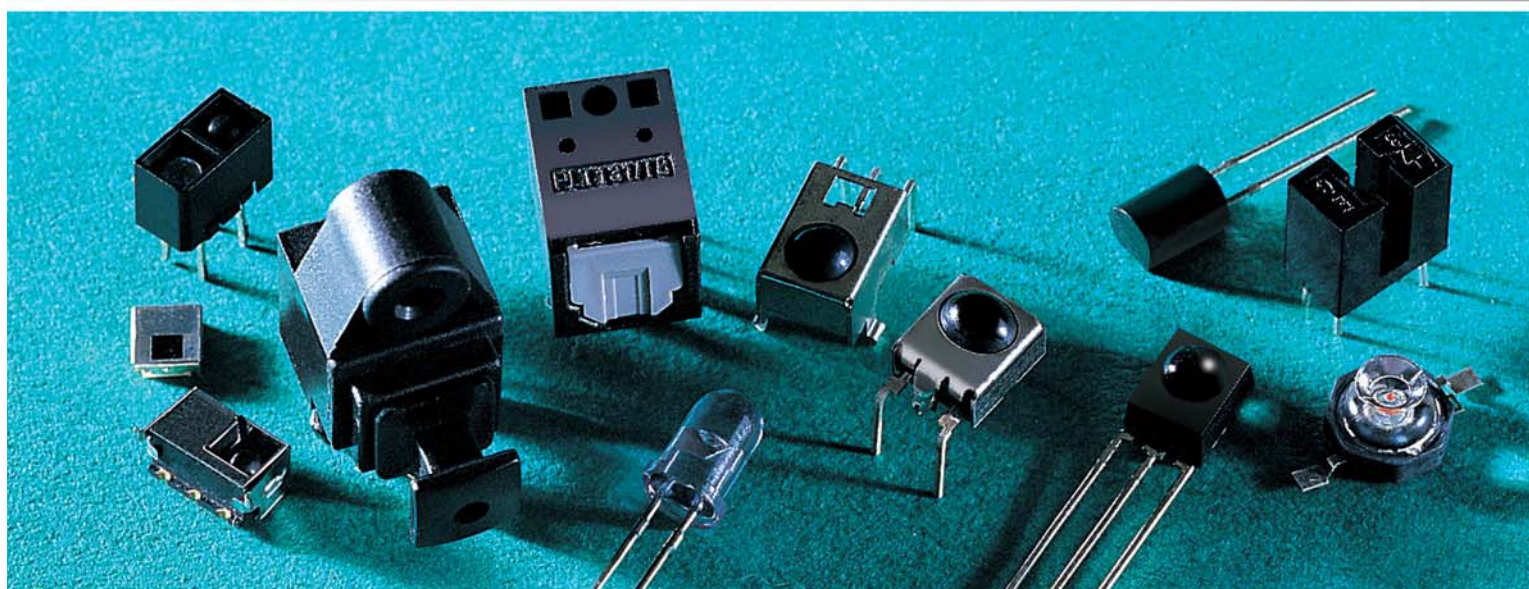
Surface Mount Quadruple Digit Display

Package	Product Type	Chromaticitty Coordinate		IF (mA) = 10mA		IF (mA) = 20mA		I _R (μA) Max. @ V _R = 5V	Circuitry
		Emitted Color	λD (nm)	IV (mcd)		VF			
				Min.	Typ.	Typ.	Max.		
• 0.39" Character Height  Fig.1	VD 354C	 Yellow Green	573	3.5	8.5	2.0	2.4	10	Common Cathode
	VD 354A	 Yellow Green	573	3.5	8.5	2.0	2.4	10	Common Anode
	VD 374C	 Red	624	9	18	2.0	2.4	10	Common Cathode
	VD 374A	 Red	624	9	18	2.0	2.4	10	Common Anode
• 0.51" Character Height  Fig.2	VD 454C	 Yellow Green	573	3.5	4.5	2.0	2.4	10	Common Cathode
	VD 454A	 Yellow Green	573	3.5	4.5	2.0	2.4	10	Common Anode
• 0.56" Character Height  Fig.3	VD 554C	 Yellow Green	573	5.6	12	2.0	2.4	10	Common Cathode
	VD 554A	 Yellow Green	573	5.6	12	2.0	2.4	10	Common Anode
	VD 574C	 Red	624	22.4	36	2.0	2.4	10	Common Cathode
	VD 574A	 Red	624	22.4	36	2.0	2.4	10	Common Anode

Package Dimensions



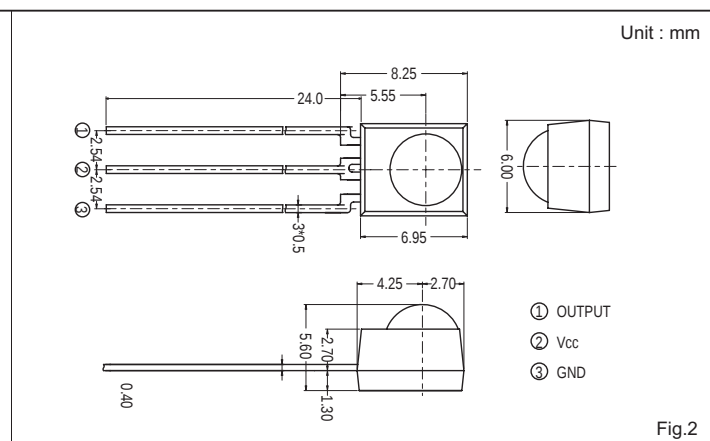
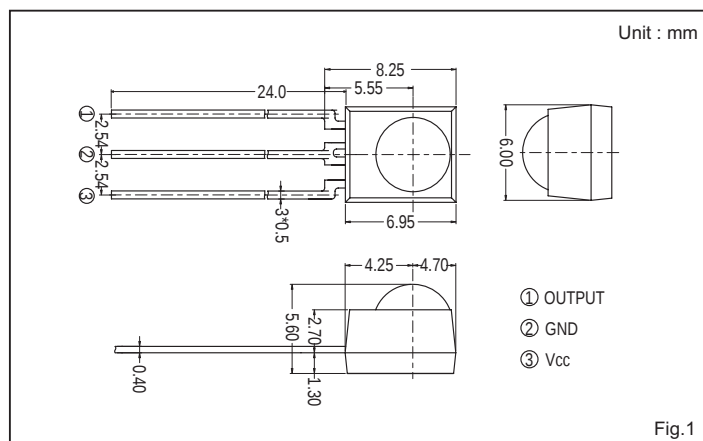
Opto Sensor Product



Infrared Remote Control Receiver Module

Package	Product Type	B. P. F	Supply Voltage Typ. (V)	Transmission Distance Min. (m)	Supply Current Typ. (mA)	Angle θ_h (°)	Pin Configuration
		Center Frequency (KHz)					
• OS 1 Series 	OS 13A5	33	5	12	1.3	± 45	① OUTPUT ② GND ③ Vcc
	OS 13A6	36	5	12	1.3	± 45	
	OS 13A7	38	5	12	1.3	± 45	
	OS 13A8	40	5	12	1.3	± 45	
	OS 13A9	56	5	12	1.3	± 45	
	OS 14A5	33	3 ~ 5	12	1.3	± 45	① OUTPUT ② GND ③ Vcc
	OS 14A6	36	3 ~ 5	12	1.3	± 45	
	OS 14A7	38	3 ~ 5	12	1.3	± 45	
	OS 14A8	40	3 ~ 5	12	1.3	± 45	
	OS 14A9	56	3 ~ 5	12	1.3	± 45	
• OS 2 Series 	OS 23A5	33	5	12	1.3	± 45	① OUTPUT ② Vcc ③ GND
	OS 23A6	36	5	12	1.3	± 45	
	OS 23A7	38	5	12	1.3	± 45	
	OS 23A8	40	5	12	1.3	± 45	
	OS 23A9	56	5	12	1.3	± 45	
	OS 24A5	33	3 ~ 5	12	1.3	± 45	① OUTPUT ② Vcc ③ GND
	OS 24A6	36	3 ~ 5	12	1.3	± 45	
	OS 24A7	38	3 ~ 5	12	1.3	± 45	
	OS 24A8	40	3 ~ 5	12	1.3	± 45	
	OS 24A9	56	3 ~ 5	12	1.3	± 45	

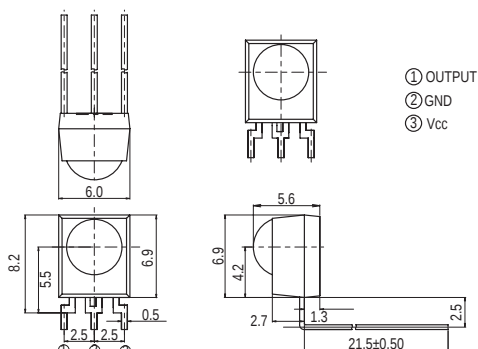
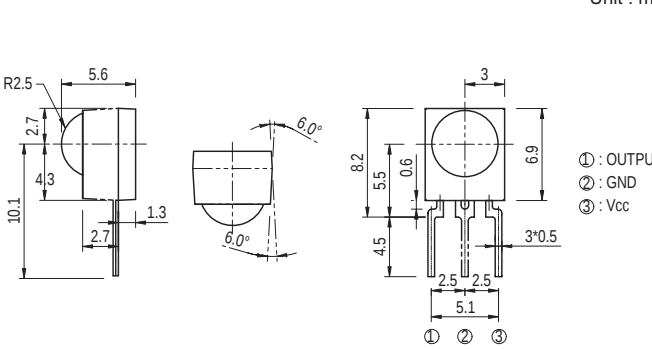
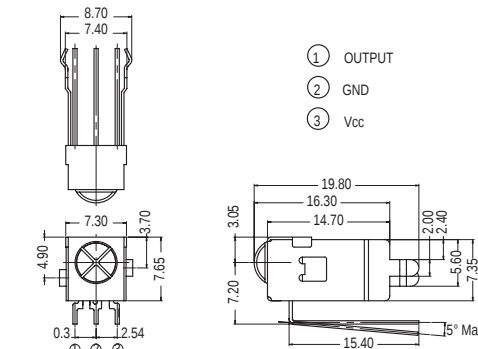
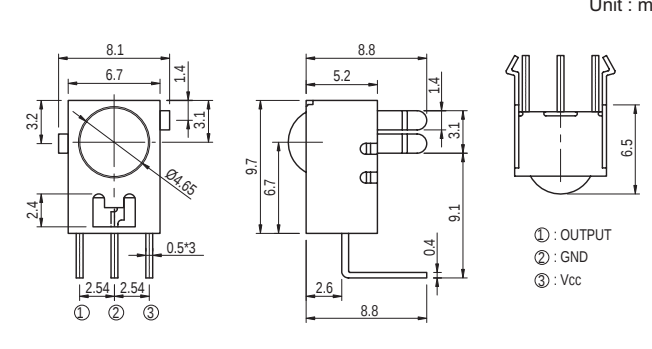
Package Dimensions



Infrared Remote Control Receiver Module

Package	Product Type	B. P. F	Supply Voltage Typ. (V)	Transmission Distance Min. (m)	Supply Current Typ. (mA)	Angle θ_h (°)	Pin Configuration
		Center Frequency (KHz)					
 Fig.1	OS 13B7	38	5	12	1.3	±45	① OUTPUT ② GND ③ Vcc
 Fig.2	OS 14T7	38	3 ~ 5	12	1.3	±45	① OUTPUT ② GND ③ Vcc
 Fig.3	OS 11N7	38	5	8	1.3	±45	① OUTPUT ② GND ③ Vcc
 Fig.4	OS 11D7	38	5	8	1.3	±45	① OUTPUT ② GND ③ Vcc
	OS 21D7	38	5	8	1.3	±45	① OUTPUT ② Vcc ③ GND

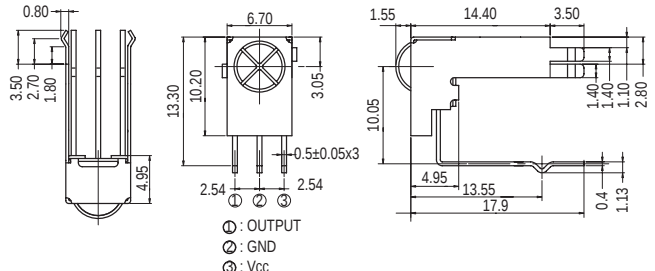
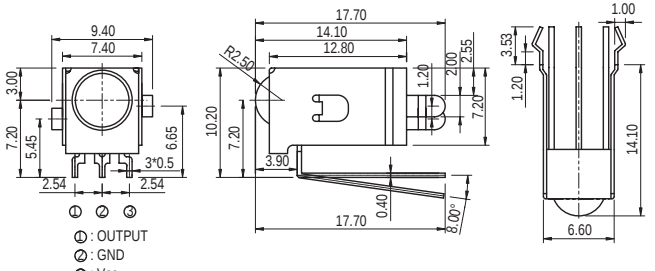
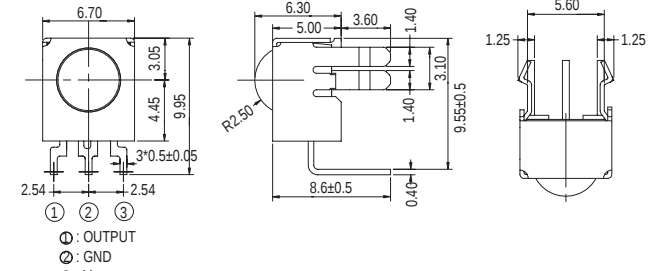
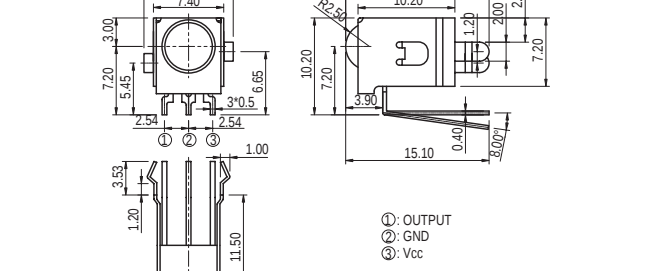
Package Dimensions

 Unit : mm ① OUTPUT ② GND ③ Vcc Fig.1	 Unit : mm ① : OUTPUT ② : GND ③ : Vcc Fig.2
 Unit : mm ① OUTPUT ② GND ③ Vcc Fig.3	 Unit : mm ① : OUTPUT ② : GND ③ : Vcc Fig.4

Infrared Remote Control Receiver Module

Package	Product Type	B. P. F	Supply Voltage Typ. (V)	Transmission Distance Min. (m)	Supply Current Typ. (mA)	Angle θ_h (°)	Pin Configuration
		Center Frequency (KHz)					
 Fig.1	OS 11E7	38	5	8	1.3	± 45	① OUTPUT ② GND ③ Vcc
	OS 21E7	38	5	8	1.3	± 45	① OUTPUT ② Vcc ③ GND
	OS 22E7	38	3 ~ 5	8	1.3	± 45	① OUTPUT ② Vcc ③ GND
 Fig.2	OS 11L7	38	5	8	1.2	± 45	① OUTPUT ② GND ③ Vcc
	OS 12L7	38	3 ~ 5	8	0.7	± 45	① OUTPUT ② GND ③ Vcc
 Fig.3	OS 11G7	38	5	8	1.3	± 45	① OUTPUT ② GND ③ Vcc
 Fig.4	OS 11M7	38	5	8	1.3	± 45	① OUTPUT ② GND ③ Vcc

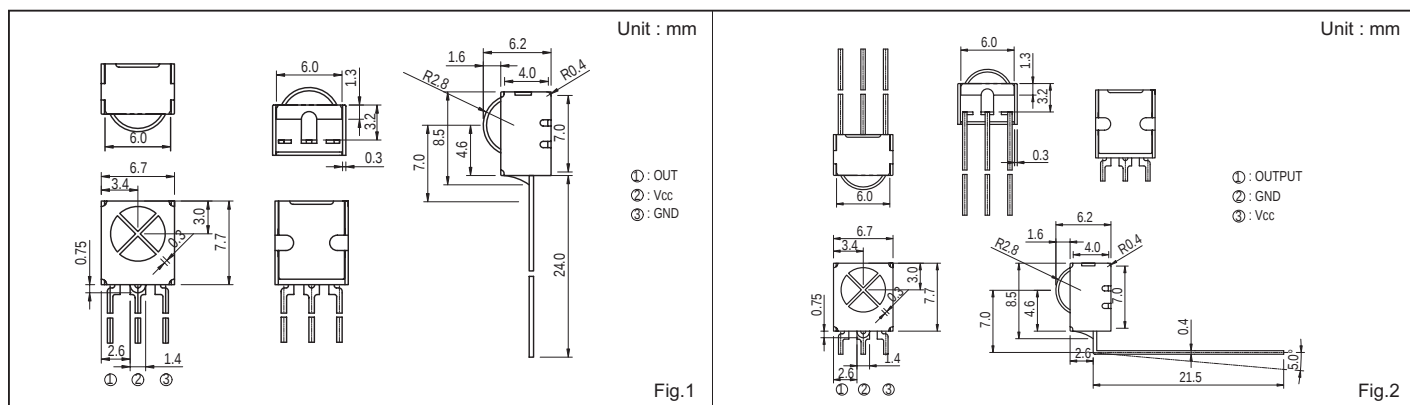
Package Dimensions

Unit : mm  ① : OUTPUT ② : GND ③ : Vcc Fig.1	Unit : mm  ① : OUTPUT ② : GND ③ : Vcc Fig.2
Unit : mm  ① : OUTPUT ② : GND ③ : Vcc Fig.3	Unit : mm  ① : OUTPUT ② : GND ③ : Vcc Fig.4

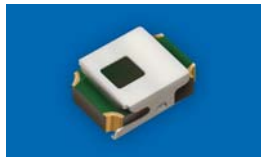
Infrared Remote Control Receiver Module

Package	Product Type	B. P. F	Supply Voltage Typ. (V)	Transmission Distance Min. (m)	Supply Current Typ. (mA)	Angle θ_h (°)	Pin Configuration
		Center Frequency (KHz)					
 Fig.1	OS 11J7	38	5	8	1.2	±45	① OUTPUT ② GND ③ Vcc
	OS 22J7	38	3 ~ 5	8	0.7	±45	① OUTPUT ② Vcc ③ GND
 Fig.2	OS 11K7	38	5	8	1.2	±45	① OUTPUT ② GND ③ Vcc
	OS 12K7	38	3 ~ 5	8	0.7	±45	① OUTPUT ② GND ③ Vcc

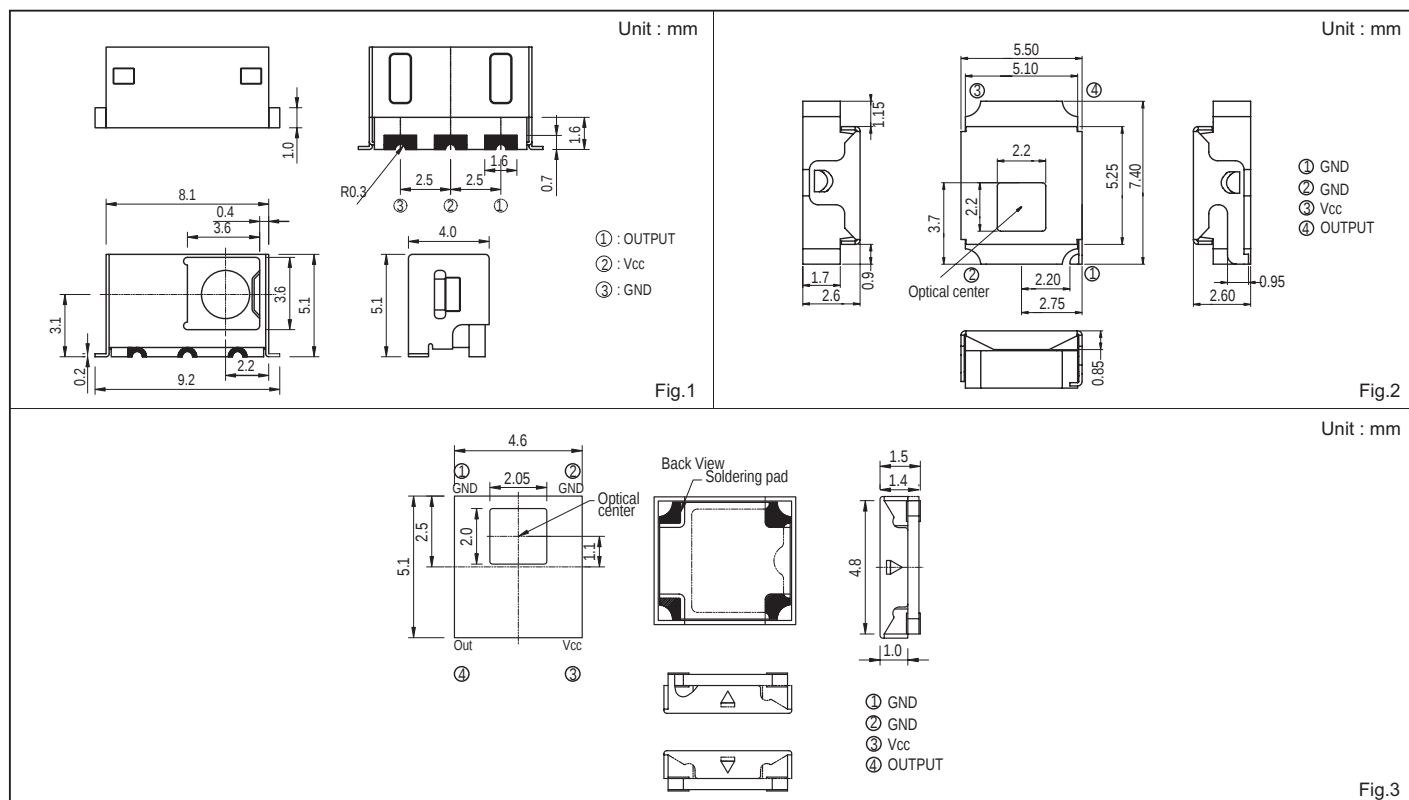
Package Dimensions



Infrared Remote Control Receiver Module

Package	Product Type	B. P. F	Supply Voltage Typ. (V)	Transmission Distance Min. (m)	Supply Current Typ. (mA)	Angle θ_h (°)	Pin Configuration
		Center Frequency (KHz)					
 Fig.1	OS 55H7	38	2.7 ~ 5.5	10	1.2	±45	① OUTPUT ② Vcc ③ GND
 Fig.2	OS 67A7	38	2.7 ~ 5.5	8	3	±45	① GND ② GND ③ Vcc ④ OUTPUT
 Fig.3	OS 68A7	38	2.7 ~ 5.5	8	3	±45	① GND ② GND ③ Vcc ④ OUTPUT

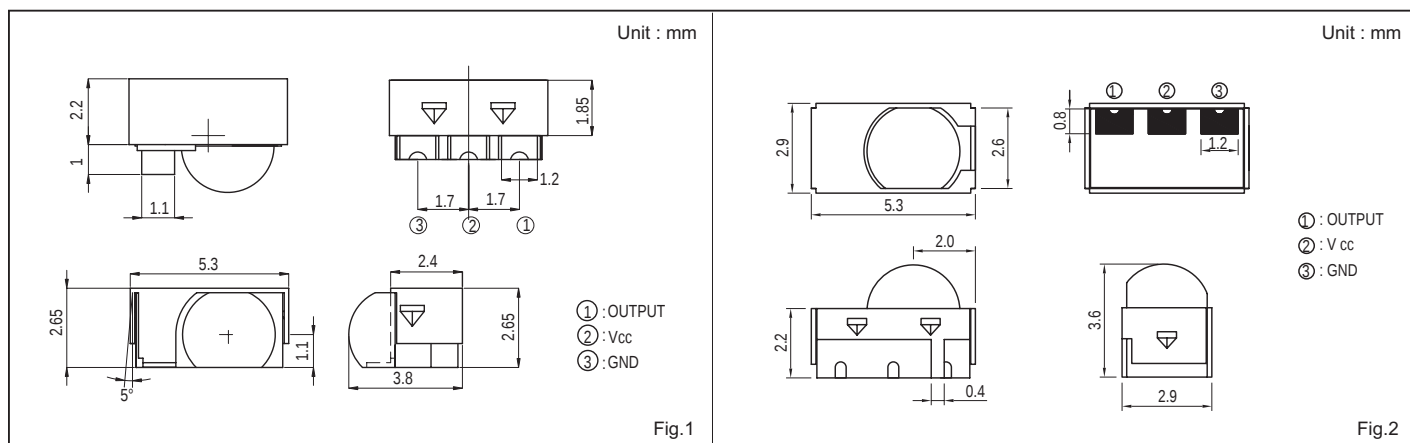
Package Dimensions



Infrared Remote Control Receiver Module

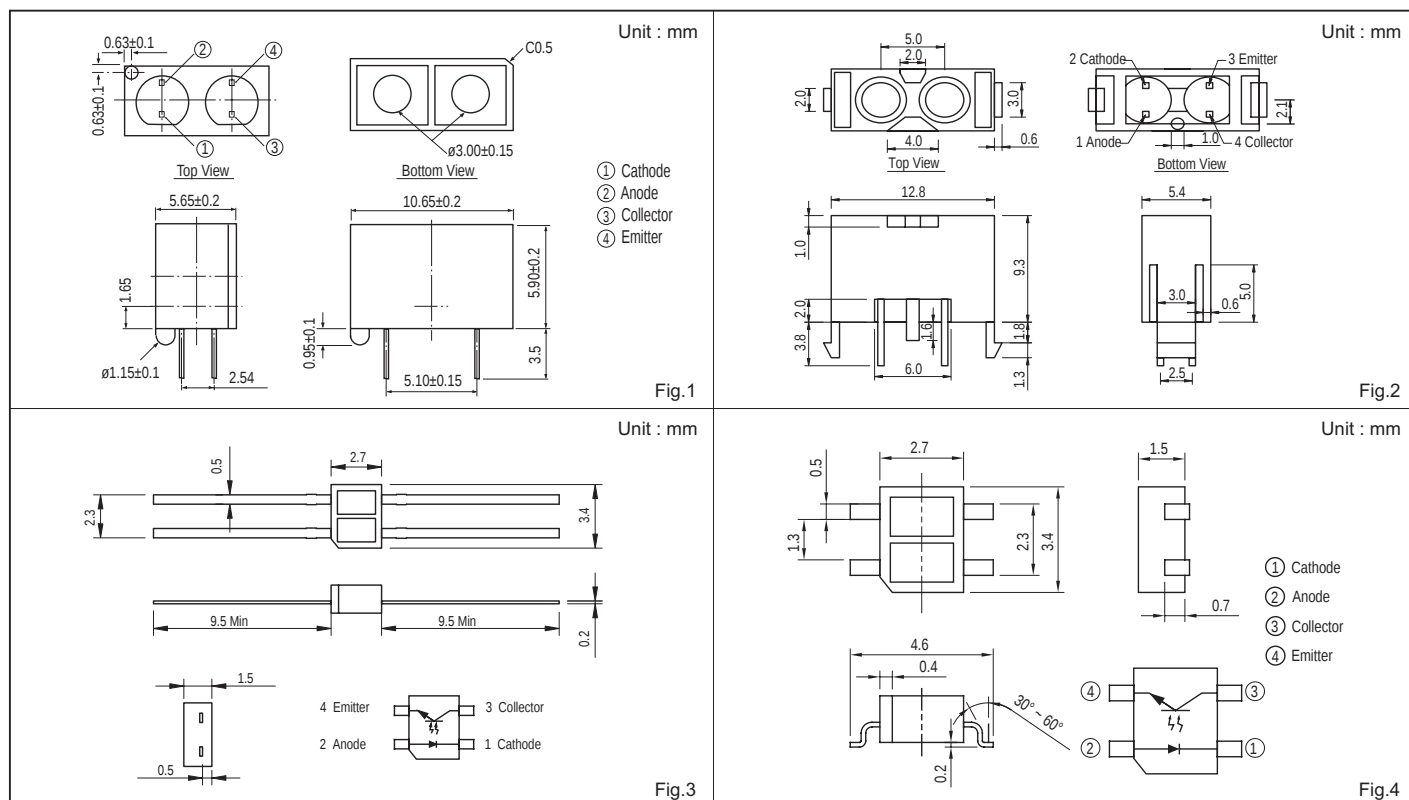
Package	Product Type	B. P. F	Supply Voltage Typ. (V)	Transmission Distance Min. (m)	Supply Current Typ. (mA)	Angle θ_h (°)	Pin Configuration
		Center Frequency (KHz)					
 Fig.1	OS 58S7	38	3 ~ 5	8	1.2	±45	① OUTPUT ② Vcc ③ GND
 Fig.2	OS 58R7	38	3 ~ 5	8	1.2	±45	① OUTPUT ② Vcc ③ GND

Package Dimensions



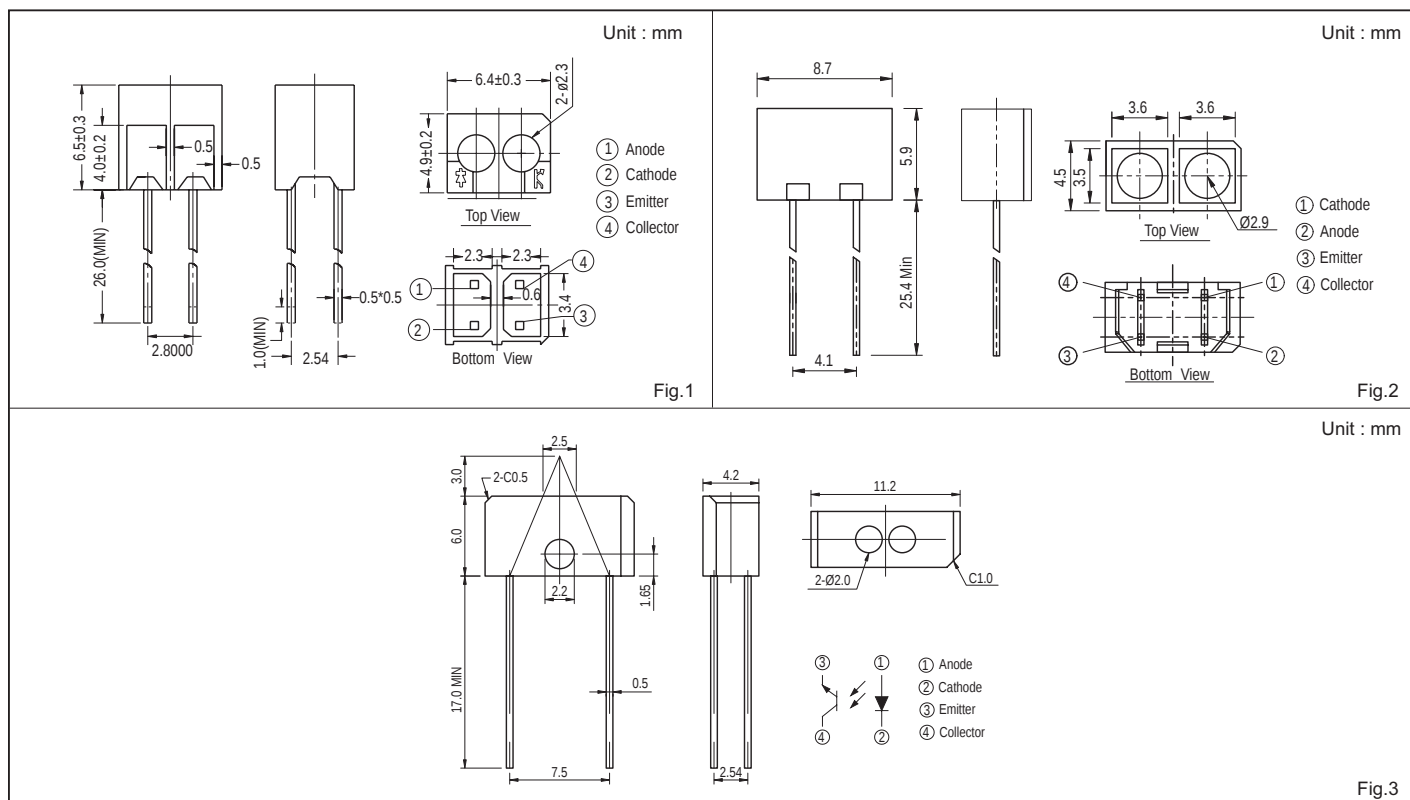
Package	Product Type	V_F (V) $I_F=20\text{mA}$ (Max.)	I_{CEO} (nA) (Max.)	$I_{C(ON)}$ (mA) (Min.)	I_R (μA) $V_R=5\text{V}$ (Max.)	T_R (μsec) (Typ.)	$V_{CE(SAT)}$ (V) (Max.)
 Fig.1	OI R11608	1.5	100	0.5	10	25	0.4
 Fig.2	OI R13938	1.5	100	0.4	10	20	0.4
 Fig.3	OI R27348	1.6	100	0.1	10	20	0.4
 Fig.4	OI R34278	1.6	100	0.1	10	20	0.4

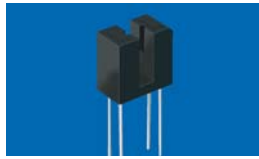
Package Dimensions



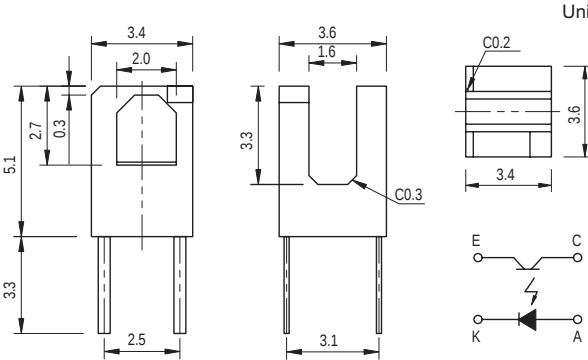
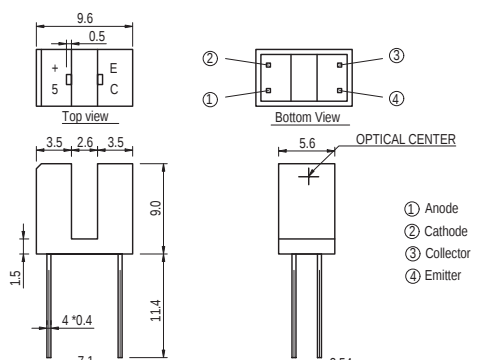
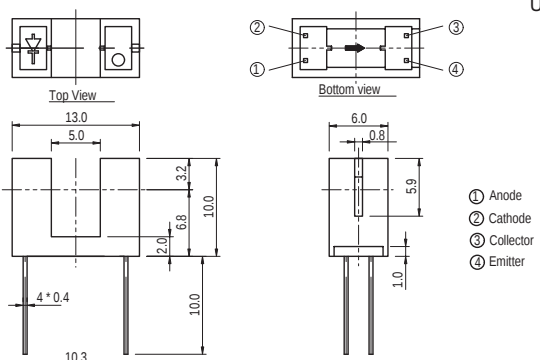
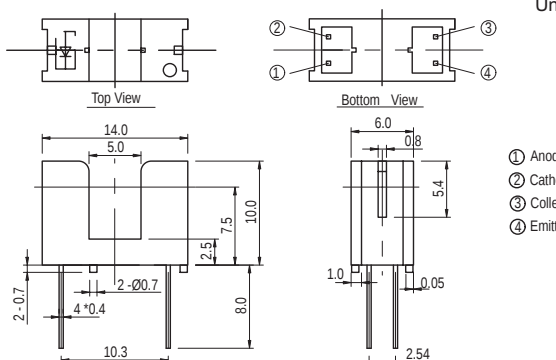
Package	Product Type	V_F (V) $I_F=20\text{mA}$ (Max.)	I_{CEO} (nA) (Max.)	$I_{C(ON)}$ (mA) (Min.)	I_R (μA) $V_R=5\text{V}$ (Max.)	T_R (μsec) (Typ.)	$V_{CE(SAT)}$ (V) (Max.)
 Fig.1	OI R64658	1.5	100	0.4	10	25	0.4
 Fig.2	OI R87598	1.5	100	0.2	10	15	0.4
 Fig.3	OI R60118	1.5	100	0.2	10	15	0.4

Package Dimensions



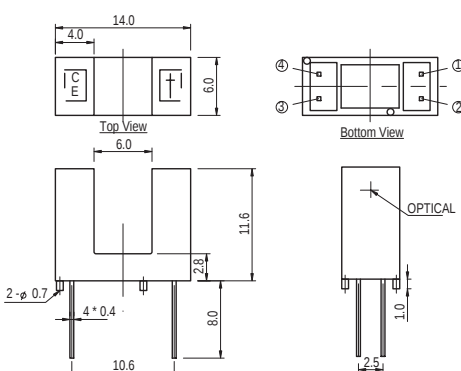
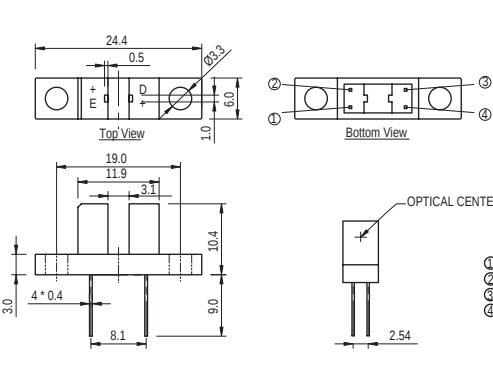
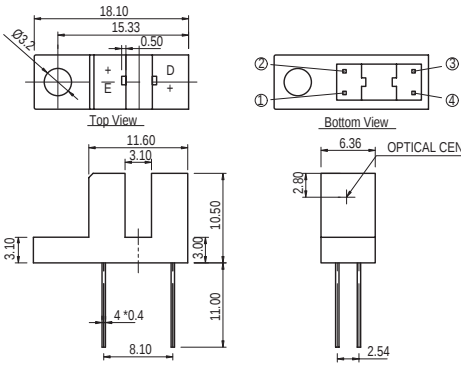
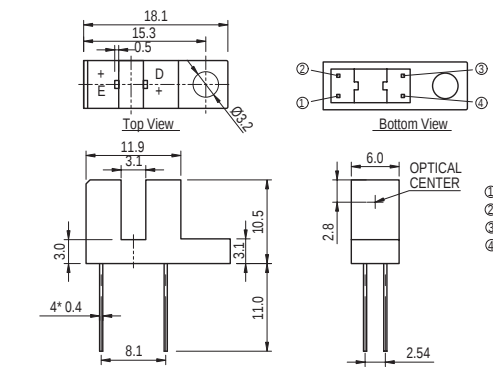
Package	Product Type	V_F (V) $I_F=20\text{mA}$ (Max.)	I_{CEO} (nA) (Max.)	$I_{C(ON)}$ (mA) (Min.)	I_R (μA) $V_R=5\text{V}$ (Max.)	T_R (μsec) (Typ.)	$V_{CE(SAT)}$ (V) (Max.)
 Fig.1	OI S36164	1.6	100	0.5	10	15	0.4
 Fig.2	OI S96264	1.6	100	1	10	20	0.4
 Fig.3	OI S13504	1.5	100	0.5	10	15	0.4
 Fig.4	OI S14504	1.5	100	0.5	10	15	0.4

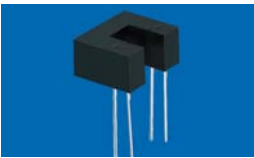
Package Dimensions

 Unit : mm Fig.1	 Unit : mm Fig.2
 Unit : mm Fig.3	 Unit : mm Fig.4

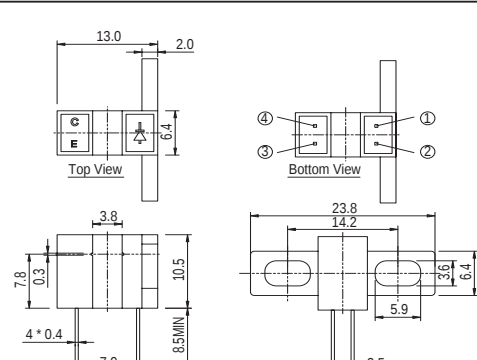
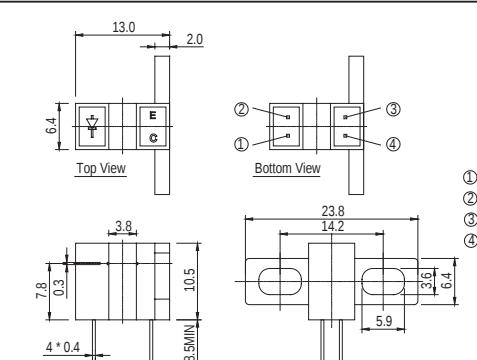
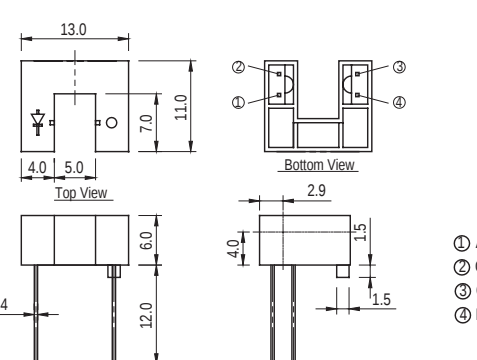
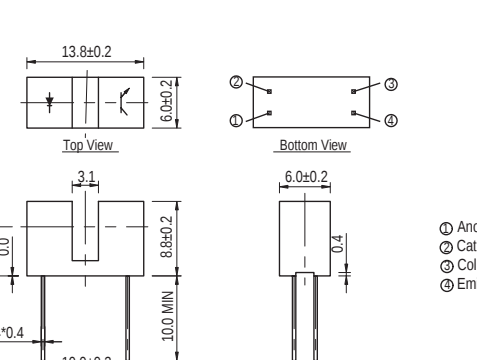
Package	Product Type	V_F (V) $I_F=20\text{mA}$ (Max.)	I_{CEO} (nA) (Max.)	$I_{C(ON)}$ (mA) (Min.)	I_R (μA) $V_R=5\text{V}$ (Max.)	T_R (μsec) (Typ.)	$V_{CE(SAT)}$ (V) (Max.)
 Fig.1	OI S60144	1.5	100	0.5	10	15	0.4
 Fig.2	OI S24315	1.6	100	0.9	10	20	0.4
 Fig.3	OI S18317	1.6	100	0.9	10	20	0.4
 Fig.4	OI S18316	1.6	100	0.9	10	20	0.4

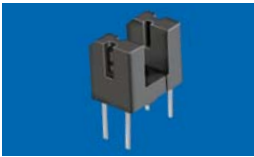
Package Dimensions

Unit : mm  ① Anode ② Cathode ③ Collector ④ Emitter Fig.1	Unit : mm  ① Anode ② Cathode ③ Collector ④ Emitter Fig.2
Unit : mm  ① Anode ② Cathode ③ Collector ④ Emitter Fig.3	Unit : mm  ① Anode ② Cathode ③ Collector ④ Emitter Fig.4

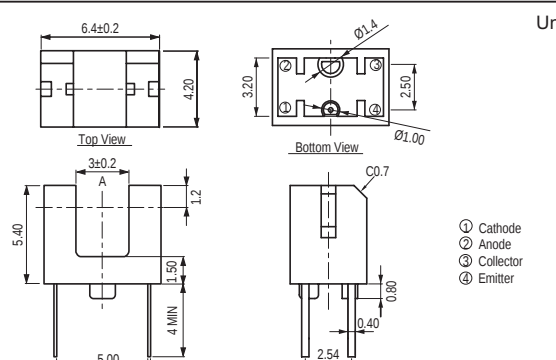
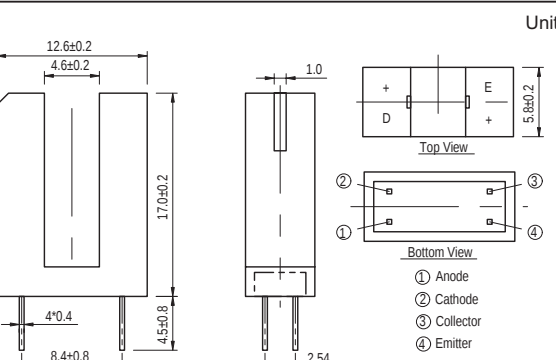
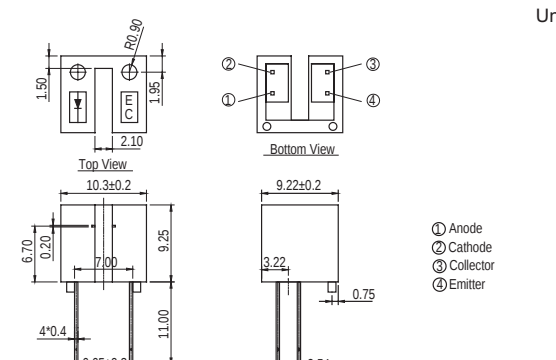
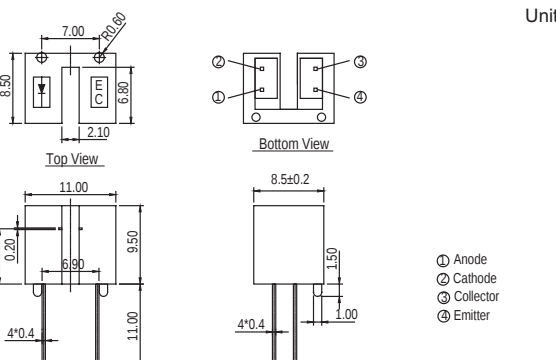
Package	Product Type	V_F (V) $I_F=20\text{mA}$ (Max.)	I_{CEO} (nA) (Max.)	$I_{C(ON)}$ (mA) (Min.)	I_R (μA) $V_R=5\text{V}$ (Max.)	T_R (μsec) (Typ.)	$V_{CE(SAT)}$ (V) (Max.)
 Fig.1	OI S38244	1.6	100	0.5	10	20	0.4
 Fig.2	OI S24384	1.6	100	0.5	10	20	0.4
 Fig.3	OI S50138	1.6	100	0.5	10	20	0.4
 Fig.4	OI S31144	1.6	100	0.5	10	20	0.4

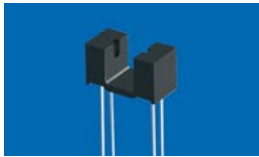
Package Dimensions

 Unit : mm Fig.1	 Unit : mm Fig.2
 Unit : mm Fig.3	 Unit : mm Fig.4

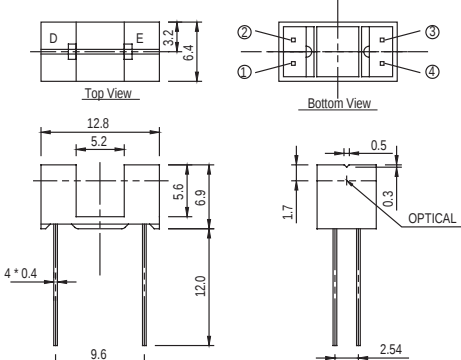
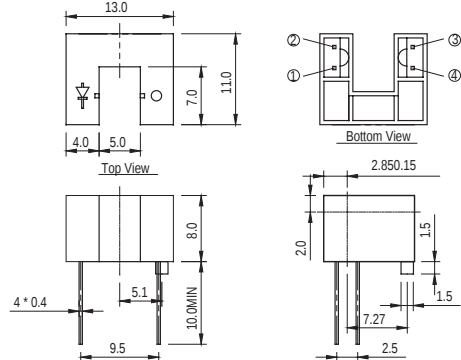
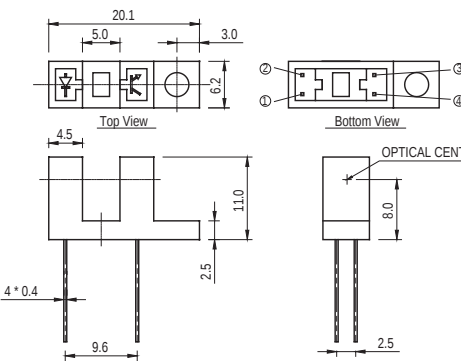
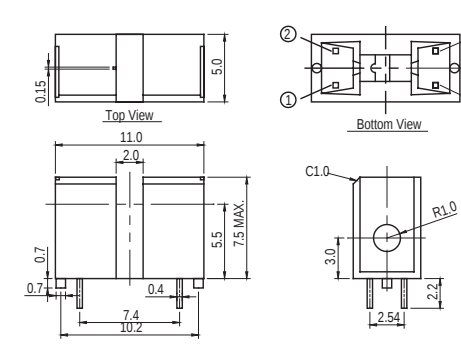
Package	Product Type	V_F (V) $I_F=20\text{mA}$ (Max.)	I_{CEO} (nA) (Max.)	$I_{C(ON)}$ (mA) (Min.)	I_R (μA) $V_R=5\text{V}$ (Max.)	T_R (μsec) (Typ.)	$V_{CE(SAT)}$ (V) (Max.)
 Fig.1	OI S30644	1.6	100	0.2	10	15	0.4
 Fig.2	OI S46134	1.5	100	0.25	10	15	0.4
 Fig.3	OI S10218	1.6	100	0.9	10	20	0.4
 Fig.4	OI S11218	1.6	100	0.9	10	20	0.4

Package Dimensions

 Unit : mm Fig.1	 Unit : mm Fig.2
 Unit : mm Fig.3	 Unit : mm Fig.4

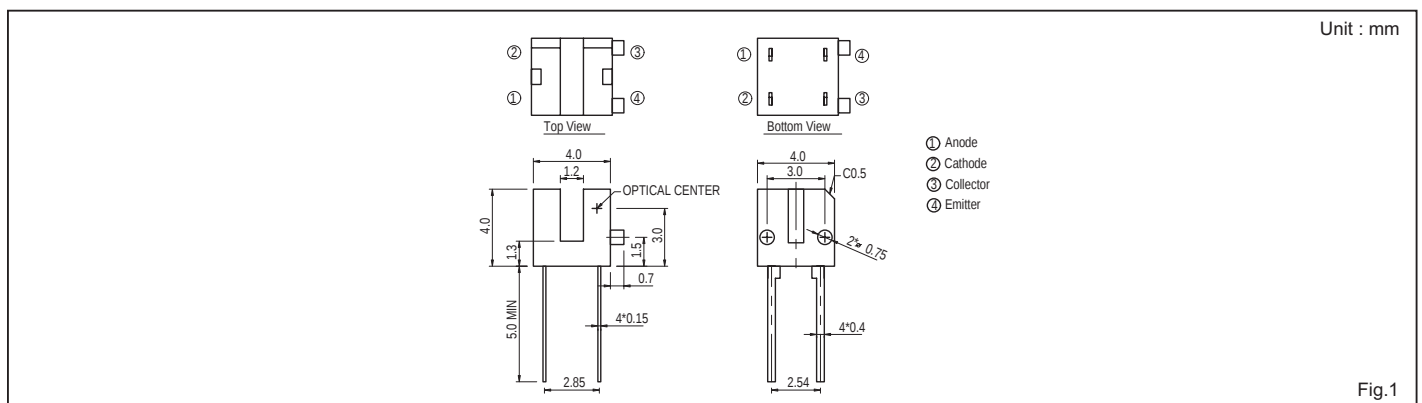
Package	Product Type	V_F (V) $I_F=20\text{mA}$ (Max.)	I_{CEO} (nA) (Max.)	$I_{C(ON)}$ (mA) (Min.)	I_R (μA) $V_R=5\text{V}$ (Max.)	T_R (μsec) (Typ.)	$V_{CE(SAT)}$ (V) (Max.)
 Fig.1	OI S13524	1.5	100	0.5	10	20	0.4
 Fig.2	OI S13508	1.5	100	0.5	10	20	0.4
 Fig.3	OI S20506	1.6	1000	4.0	10	50	1.0
 Fig.4	OI S11204	1.5	100	0.4	10	80	0.4

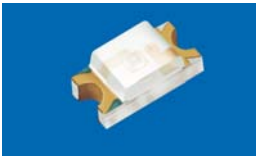
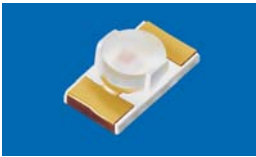
Package Dimensions

 Unit : mm ① Anode ② Cathode ③ Collector ④ Emitter Fig.1	 Unit : mm ① Anode ② Cathode ③ Collector ④ Emitter Fig.2
 Unit : mm ① Anode ② Cathode ③ Collector ④ Emitter Fig.3	 Unit : mm ① Anode ② Cathode ③ Collector ④ Emitter Fig.4

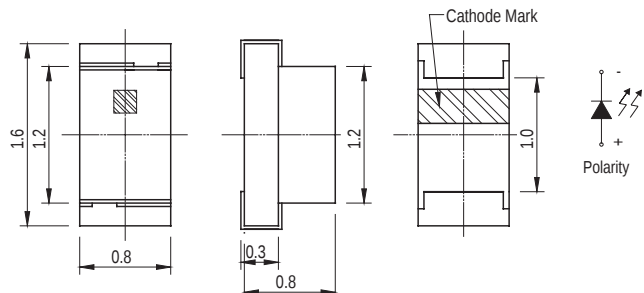
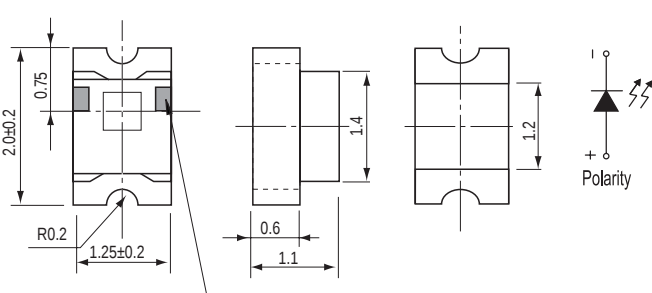
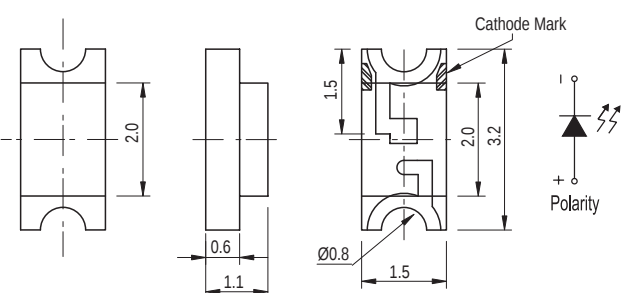
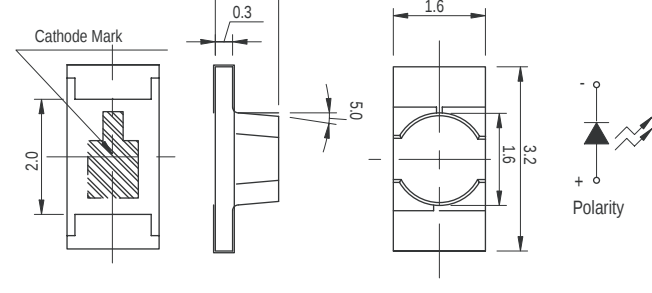
Package	Product Type	V_F (V) $I_F=20\text{mA}$ (Max.)	I_{CEO} (nA) (Max.)	$I_{C(ON)}$ (mA) (Min.)	I_R (μA) $V_R=5\text{V}$ (Max.)	T_R (μsec) (Typ.)	$V_{CE(SAT)}$ (V) (Max.)
 Fig.1	OI S40124	1.5	100	0.5	10	20	0.4

Package Dimensions



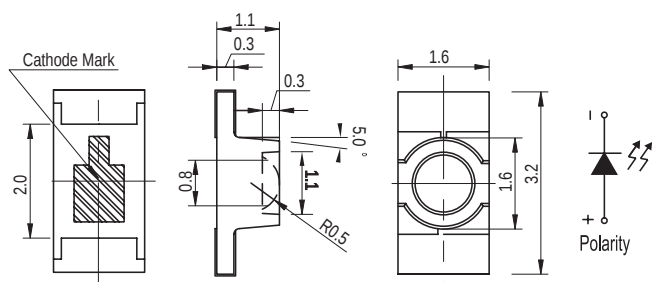
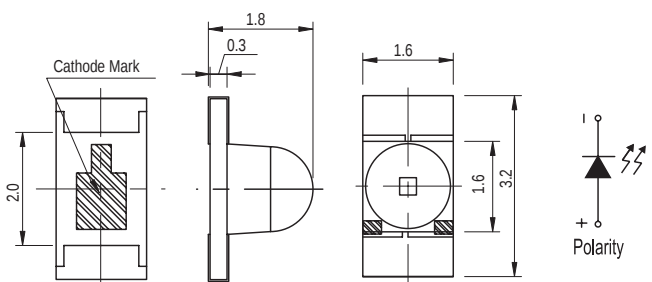
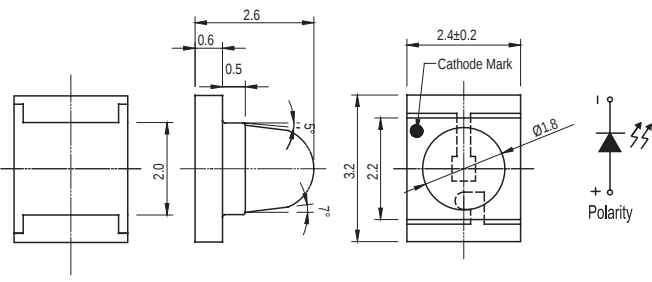
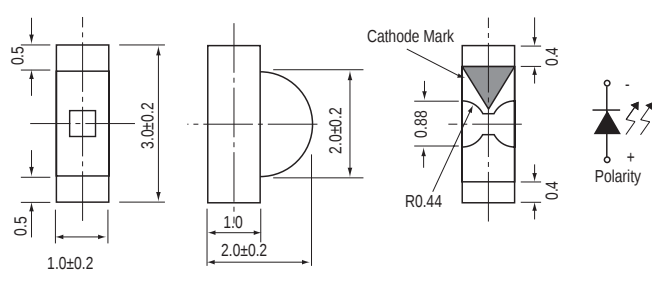
Package Unit : mm (L x W x H)	Product Type	Wavelength (nm)	IF (mA) = 20mA					I _R (μA) Max. @ V _R = 5V	Lens Color
			Power (mW/sr)		VF		Directivity 2θ 1/2 (degree)		
			Min.	Typ.	Typ.	Max.			
• 1.6 x 0.8 x 0.8  Fig.1	US 26H8	940	0.4	0.9	1.2	1.5	150	10	Water Clear
	US 25H8	875	0.5	0.8	1.3	1.6	145		
	US 24H8	850	0.5	1.1	1.45	1.65	145		
• 2.0 x 1.25 x 1.1  Fig.2	US 46C8	940	0.4	1.0	1.2	1.5	120	10	
	US 45C8	875	0.2	0.8	1.3	1.6	150		
	US 44C8	850	0.8	1.6	1.45	1.65	120		
• 3.2 x 1.5 x 1.1  Fig.3	US 56H8	940	0.4	1.0	1.2	1.5	160	10	
	US 54H8	850	0.8	1.8	1.45	1.65	150		
• 3.2 x 1.6 x 1.1  Fig.4	US 86H8	940	0.4	1.1	1.2	1.5	165	10	

Package Dimensions

Unit : mm  Fig.1	Unit : mm  Fig.2
Unit : mm  Fig.3	Unit : mm  Fig.4

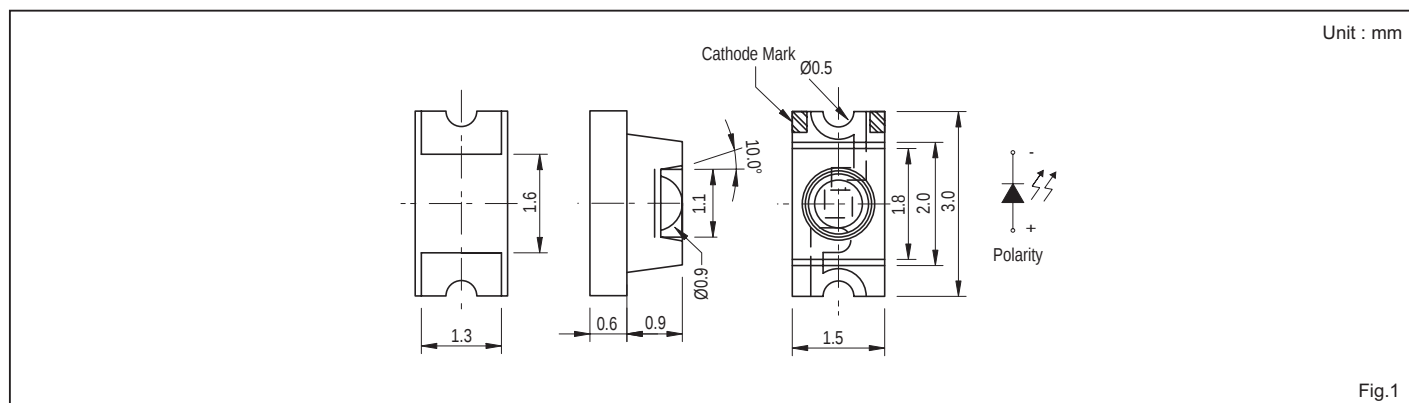
Package Unit : mm (L x W x H)	Product Type	Wavelength (nm)	IF (mA) = 20mA					I _R (μA) Max. @ V _R = 5V	Lens Color
			Power (mW/sr)		VF		Directivity 2θ 1/2 (degree)		
			Min.	Typ.	Typ.	Max.			
• 3.2 x 1.6 x 1.1  Fig.1	US 86F8	940	0.7	1.7	1.2	1.5	160	10	Water Clear
• 3.2 x 1.6 x 1.8  Fig.2	US 9628	940	1.5	4.0	1.2	1.5	20	10	
• 3.2 x 2.4 x 2.6  Fig.3	US 9648	940	1.5	3.5	1.2	1.5	30	10	
	US 9548	875	2.0	4.5	1.3	1.6	25		
	US 9448	850	2.5	5.5	1.45	1.65	20		
• 3.0 x 2.0 x 1.0  Fig.4	US 76H8	940	0.7	1.0	1.2	1.5	160	10	

Package Dimensions

 Unit : mm Fig.1	 Unit : mm Fig.2
 Unit : mm Fig.3	 Unit : mm Fig.4

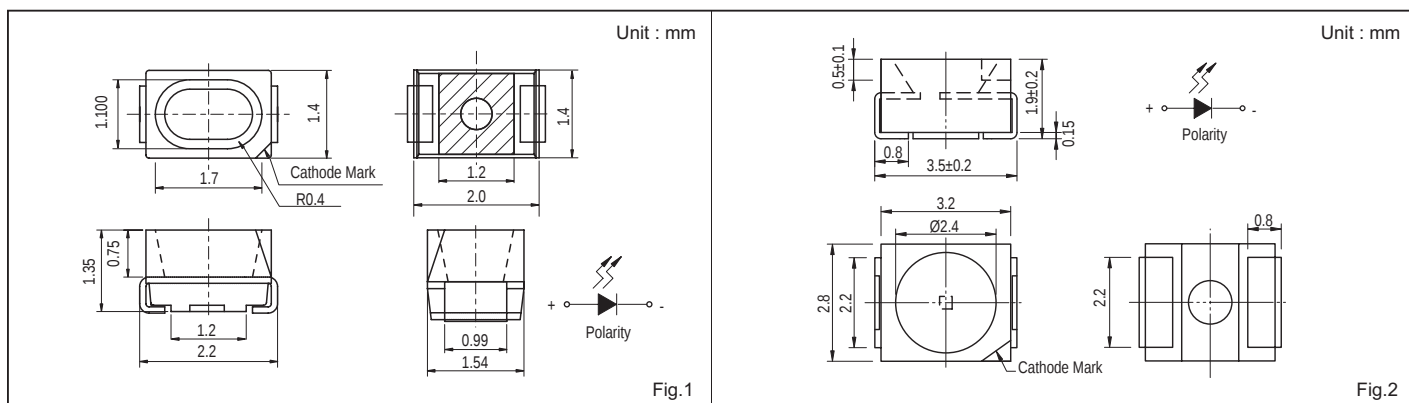
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			Power (mW/sr)		VF		Directivity 2θ 1/2 (degree)		
			Min.	Typ.	Typ.	Max.			
• 3.0 x 1.5 x 1.5  Fig.1	US 66A8	940	0.8	1.8	1.2	1.5	100	10	Water Clear
	US 65D8	875	2.0	2.4	1.3	1.7	130		
	US 6498	850	1.5	2.5	1.45	1.65	75		

Package Dimensions



Package Unit : mm (L x W x H)	Product Type	Wavelength (nm)	I _F (mA)	Power (mW/sr)		VF		Directivity 2θ 1/2 (degree)	I _R (μA) Max. @ V _R = 5V	Lens Color
				Min.	Min.	Typ.	Max.			
• 2.2 x 1.4 x 1.35  Fig.1	UR E6D8	940	100	5.0	9.0	1.4	1.8	120	10	Water Clear
• 3.1 x 2.8 x 1.9  Fig.2	UR A6D8	940	20	1.1	1.5	1.2	1.5	120	10	
	UR A5D8	875	20	0.7	1.3	1.3	1.5			
	UR A4D8	850	20	1.5	2.5	1.45	1.65			

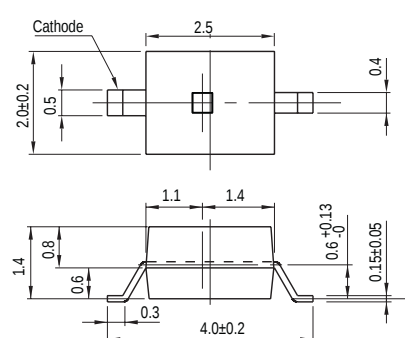
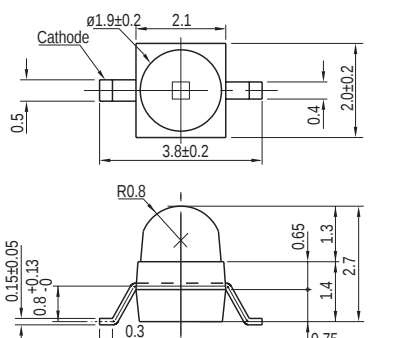
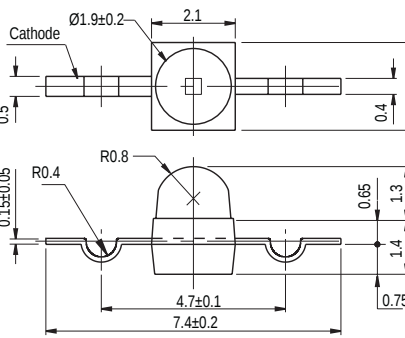
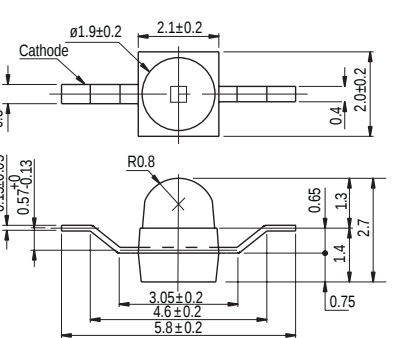
Package Dimensions



Package Unit : mm (L x W x H)	Product Type	Wavelength (nm)	IF (mA) = 20mA					I _R (μA) Max. @ V _R = 5V	Lens Color
			Power (mW/sr)		VF		Directivity 2θ 1/2 (degree)		
			Min.	Typ.	Typ.	Max.			

'Gull Wing' Lead  Fig.1	UL L5H8	875	0.5	0.9	1.3	1.6	160	10	Water Clear
'Gull Wing' Lead  Fig.2	UL H628	940	4.0	6.0	1.2	1.5	25	10	
	UL H528	875	2.5	4.0	1.3	1.6	25	10	
'Yoke' Lead  Fig.3	UL J628	940	4.0	6.0	1.2	1.5	25	10	
	UL J528	875	2.5	4.0	1.3	1.6	25	10	
'Z-Bend' Lead  Fig.4	UL K628	940	4.0	6.0	1.2	1.5	25	10	
	UL K528	875	2.5	4.0	1.3	1.6	25	10	

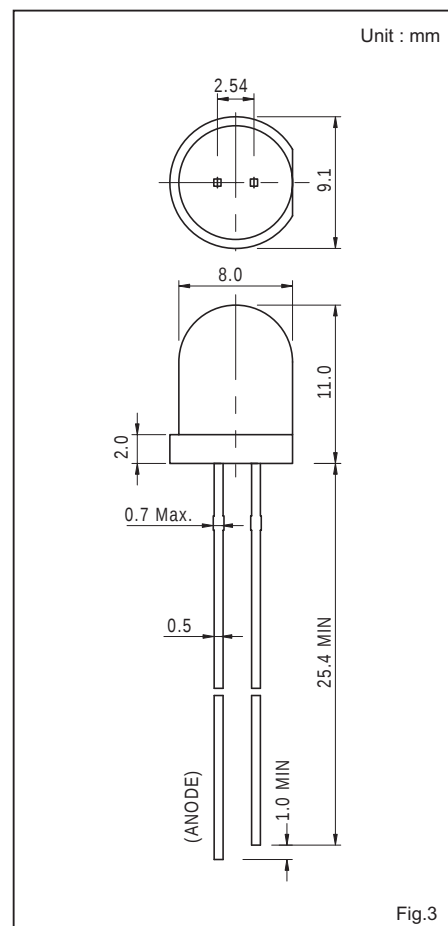
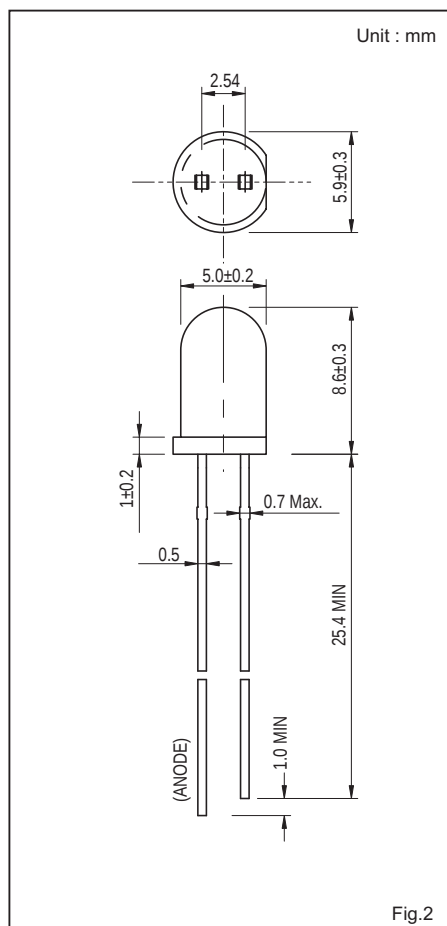
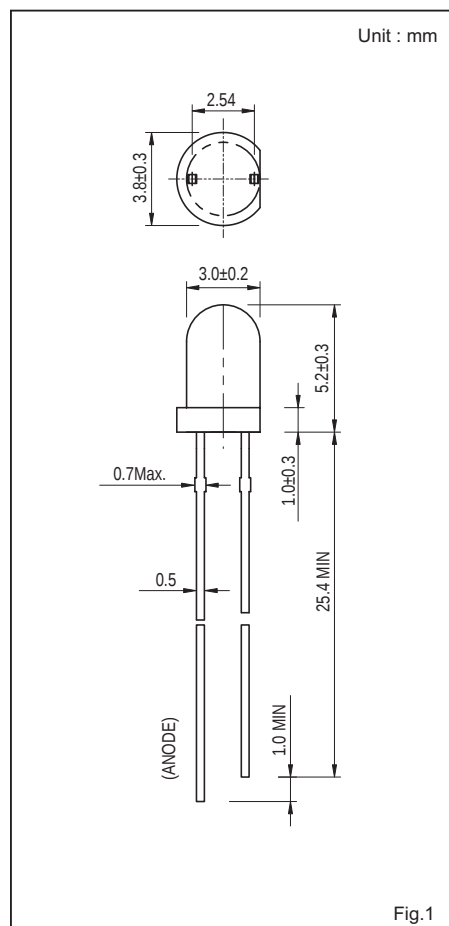
Package Dimensions

Unit : mm  Fig.1	Unit : mm  Fig.2
Unit : mm  Fig.3	Unit : mm  Fig.4

3mm & 5mm & 8mm Round Infrared LED Lamp

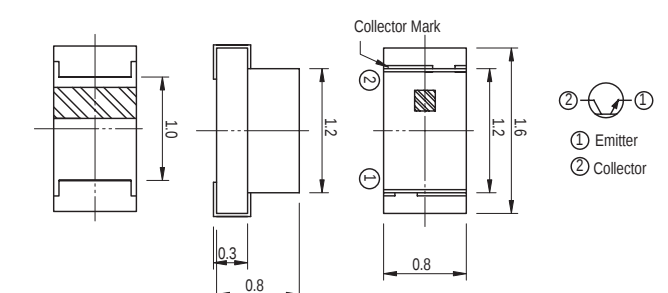
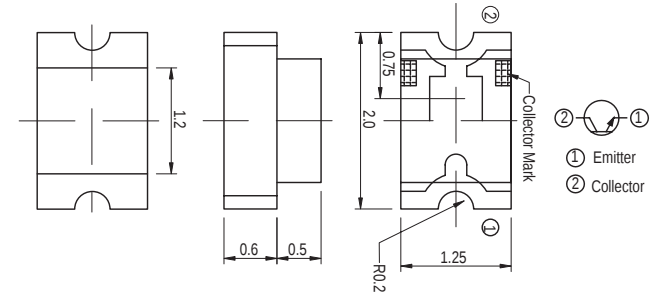
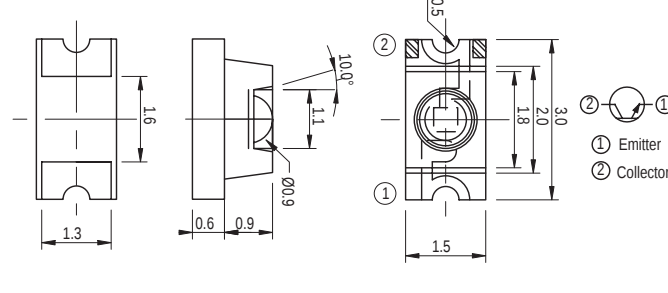
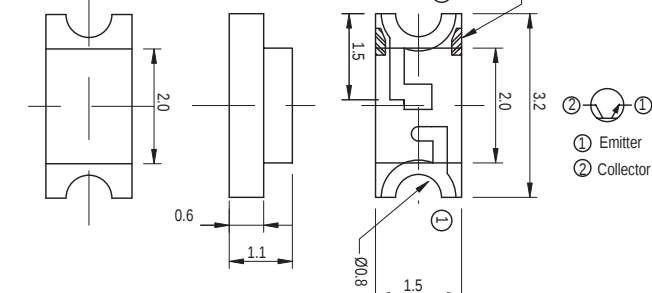
Package Unit : mm (L x W x H)	Product Type	Wavelength (nm)	IF (mA) = 20mA					I _R (μA) Max. @ V _R = 5V	Lens Color
			Power (mW/sr)		VF		Directivity 2θ 1/2 (degree)		
			Min.	Typ.	Typ.	Max.			
• 3mm Round  Fig.1	UT 3648	940	5.0	7.0	1.2	1.5	35	10	Water Clear
	UT 3645	940	5.0	7.0	1.2	1.5	35		Tinted Blue
	UT 3548	875	5.0	8.0	1.3	1.6	30		Water Clear
	UT 3448	850	9.0	19.0	1.45	1.65	25		
• 5mm Round  Fig.2	UT 5628	940	9.0	17.0	1.2	1.5	20	10	Water Clear
	UT 5648	940	7.5	9.5	1.2	1.5	40		
	UT 5428	850	9.0	17.0	1.45	1.65	20		
	UT 5668	940	7.0	10.0	1.2	1.5	50		
	UT 5468	850	9.0	17.0	1.45	1.65	40		
	UT 5678	940	5.0	7.5	1.2	1.5	60		
	UT 5478	850	9.0	17.0	1.45	1.65	50		
• 8mm Round  Fig.3	UT 8625	940	21.0	50.0	1.2	1.5	18	10	Tinted Blue
	UT 8428	850	30.0	50.0	1.45	1.65	15		Water Clear

Package Dimensions



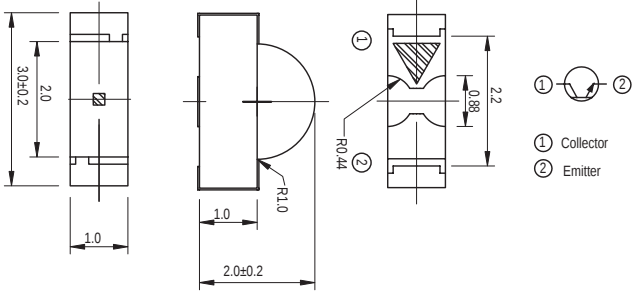
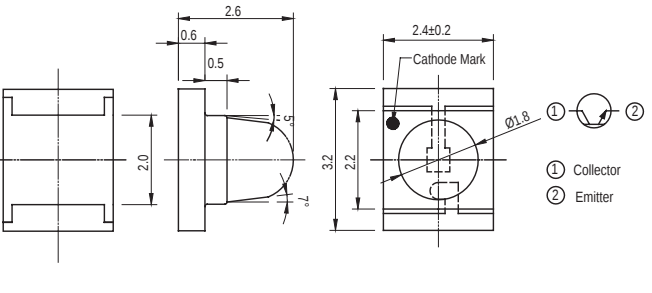
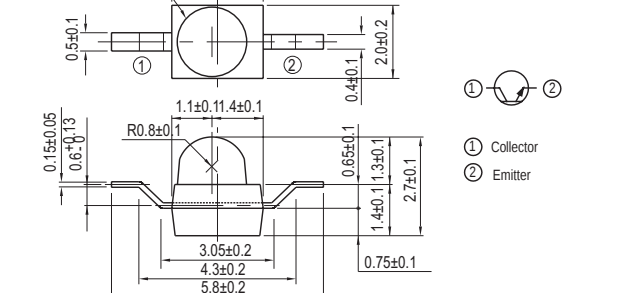
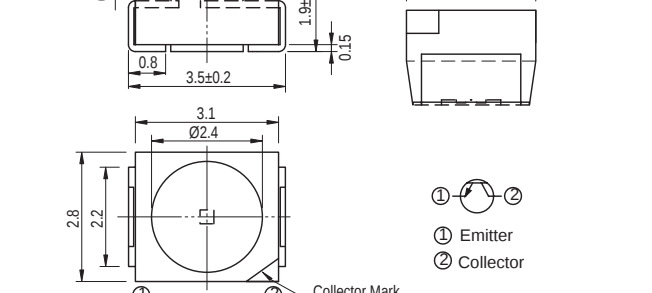
Package Unit : mm (L x W x H)	Product Type	Lens Color	Spectral Bandwidth	BV _{CEO} Min. (V)	Rise & Fall Time (μs)	V _{CE (SAT)} Max. (V)	I _{C(ON)} Min. (mA)
			$\lambda_{0.5}$ (nm)				
• 1.6 x 0.8 x 0.8  Fig.1	OP 2D38	Water Clear	400 ~ 1100	30	15/15	0.4	0.3
	OP 4D47	Black	730 ~ 1100	30	15/15	0.4	0.1
• 2.0 x 1.25 x 1.1  Fig.2	OP 4D38	Water Clear	400 ~ 1100	30	15/15	0.4	0.3
	OP 6D47	Black	730 ~ 1100	60	15/15	0.4	0.3
• 3.0 x 1.5 x 1.5  Fig.3	OP 6D38	Water Clear	400 ~ 1200	60	15/15	0.4	0.5
	OP 5D47	Black	730 ~ 1100	30	15/15	0.4	0.1
• 3.2 x 1.5 x 1.1  Fig.4	OP 5D38	Water Clear	400 ~ 1100	30	15/15	0.4	0.1

Package Dimensions

Unit : mm  Fig.1	Unit : mm  Fig.2
Unit : mm  Fig.3	Unit : mm  Fig.4

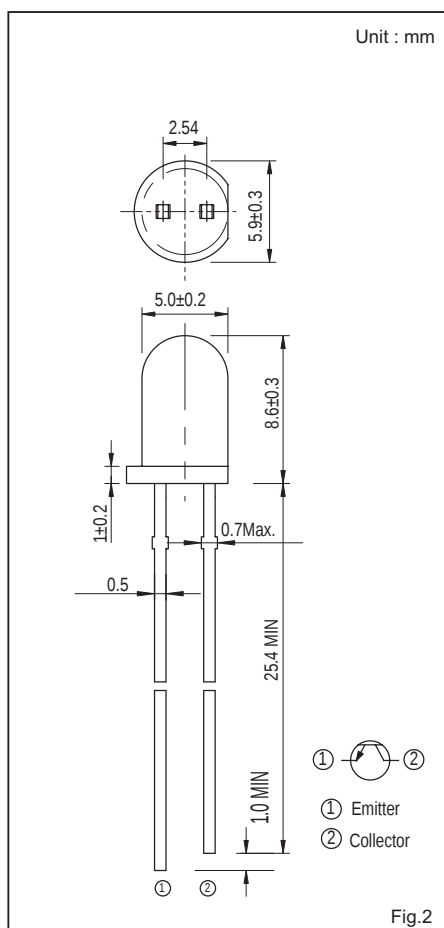
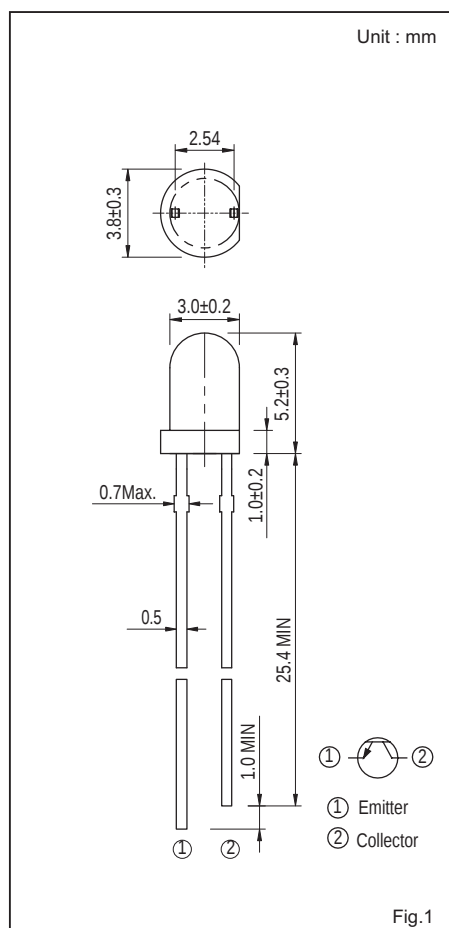
Package Unit : mm (L x W x H)	Product Type	Lens Color	Spectral Bandwidth	BV _{CEO} Min. (V)	Rise & Fall Time (μS)	V _{CE (SAT)} Max. (V)	I _{C(ON)} Min. (mA)
			$\lambda_{0.5}$ (nm)				
• 3.0 x 2.0 x 1.0  Fig.1	OP 7D47	Black	730 ~ 1100	30	15/15	0.4	0.3
	OP 7D38	Water Clear	400 ~ 1200	30	15/15	0.4	0.3
• 3.2 x 2.4 x 2.6  Fig.2	OP 9D47	Black	730 ~ 1100	30	15/15	0.4	1.5
	OP 9D38	Water Clear	400 ~ 1200	30	15/15	0.4	1.5
• 3.8 x 2.0 x 2.7  Fig.3	OP KD47	Black	730 ~ 1100	30	15/15	0.4	1.0
	OP KD38	Water Clear	400 ~ 1200	30	15/15	0.4	1.0
• 3.2 x 2.7 x 1.9  Fig.4	OP CD47	Black	840 ~ 1200	30	15/15	0.4	0.3
	OP CD38	Water Clear	400 ~ 1200	30	15/15	0.4	0.3

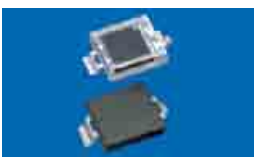
Package Dimensions

Unit : mm  Fig.1	Unit : mm  Fig.2
Unit : mm  Fig.3	Unit : mm  Fig.4

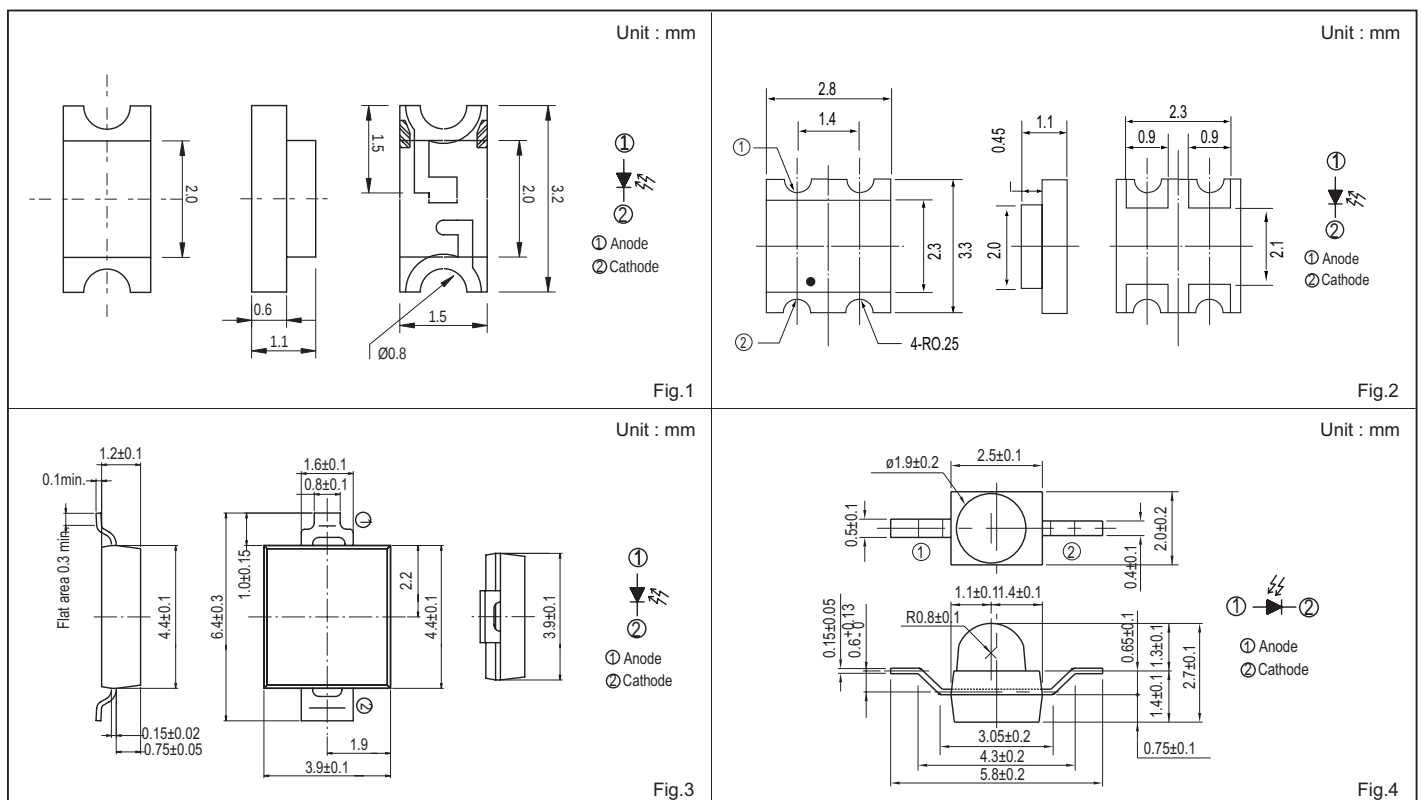
Package	Product Type	Lens Color	Spectral Bandwidth	BV _{CEO} Min. (V)	Rise & Fall Time (μS)	V _{CE (SAT)} Max. (V)	I _{C(ON)} Min. (mA)
			$\lambda_{0.5}$ (nm)				
• 3mm Round  Fig.1	OP T347	Black	840 ~ 1200	30	15/15	0.4	0.7
	OP T338	Water Clear	400 ~ 1200	30	15/15	0.4	0.7
• 5mm Round  Fig.2	OP T547	Black	840 ~ 1200	30	15/15	0.4	0.7
	OP T538	Water Clear	400 ~ 1200	30	15/15	0.4	1.77

Package Dimensions



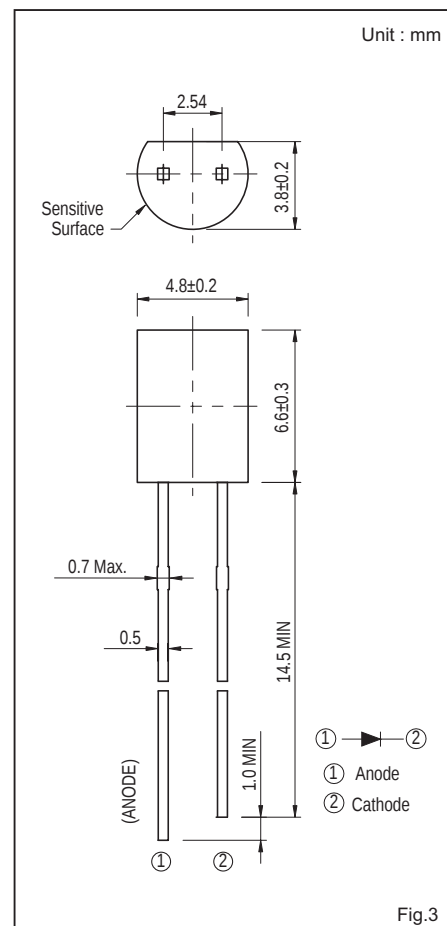
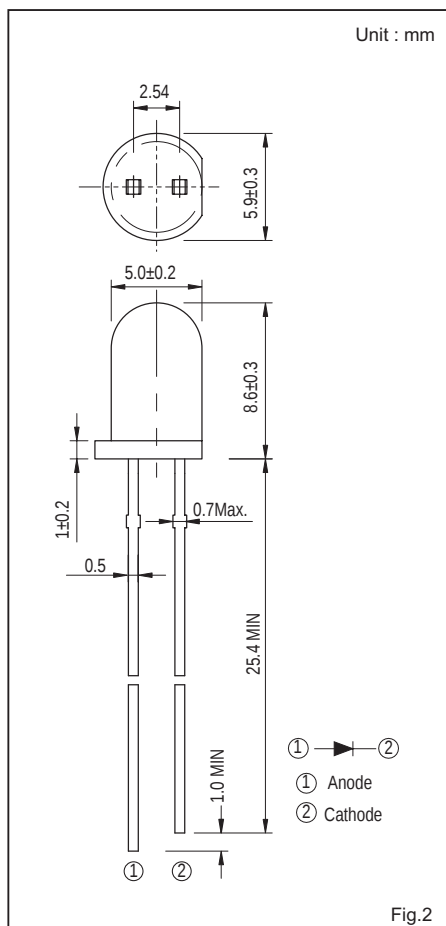
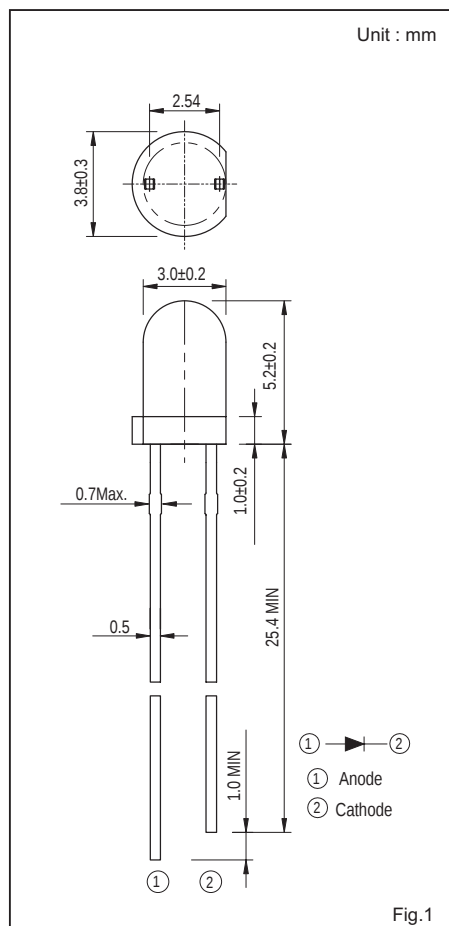
Package	Product Type	Lens Color	Spectral Bandwidth	Ee=1mW/cm ² V _R =5V		Ee=0mW/cm ² I _R =100μA	Rise & Fall Time (ns)	Ee=0mW/cm ² V _R =10V
			λ _{0.5} (nm)	λ _P (nm)	I _L Typ. (μA)	BV _R Min. (V)		I _D Max. (nA)
• 3.2 x 1.5 x 1.1  Fig.1	OD 5D38	Water Clear	400 ~ 1200	940	3	32	6/6	10
	OD 5A47	Black	730 ~ 1200	940	15	32	10/10	10
• 3.3 x 2.8 x 1.1  Fig.2	OD 5A38	Water Clear	400 ~ 1100	940	6.5	32	10/10	10
	OD LD47	Black	730 ~ 1100	870 940	25 37	32	50/50	30
• 6.4 x 3.9 x 1.2  Fig.3	OD LD38	Water Clear	400 ~ 1100	870 940	25 37	32	50/50	30
	OD KD47	Black	730 ~ 1200	940	15	32	6/6	10
• 2.5 x 2.0 x 2.8  Fig.4	OD KD38	Water Clear	400 ~ 1100	870	5	32	6/6	10

Package Dimensions



Package	Product Type	Lens Color	Spectral Bandwidth	Ee=1mW/cm ² V _R =5V		Ee=0mW/cm ² I _R =100μA	Rise & Fall Time (ns)	Ee=0mW/cm ² V _R =10V
			λ _{0.5} (nm)	λ _P (nm)	I _L Typ. (μA)	BV _R Min. (V)		I _D Max. (nA)
• 3mm Round 	OD T347	Black	840 ~ 1200	940	15	32	6/6	10
	OD T338	Water Clear	400 ~ 1100	940	3.5	32	6/6	10
• 5mm Round 	OD T547	Black	700 ~ 1100	940	22	32	10/10	10
	OD T538	Water Clear	400 ~ 1100	940	36	32	45/45	30
• Semi Lens 	OD T447	Black	840 ~ 1200	940	60	32	45/45	30
	OD T438	Water Clear	400 ~ 1200	940	60	32	45/45	30

Package Dimensions



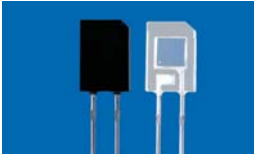
Package	Product Type	Lens Color	Spectral Bandwidth	Ee=1mW/cm ² V _R =5V		Ee=0mW/cm ² I _R =100μA	Rise & Fall Time (ns)	Ee=0mW/cm ² V _R =10V
			λ _{0.5} (nm)	λ _P (nm)	I _L Typ. (μA)	BV _R Min. (V)		I _D Max. (nA)
	OD T647	Black	840 ~ 1200	940	80	32	50/50	30
	OD T638	Water Clear	400 ~ 1200	940	150	33	50/50	30

Fig.1

Package Dimensions

