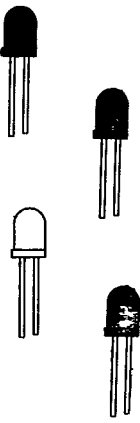
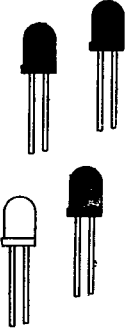


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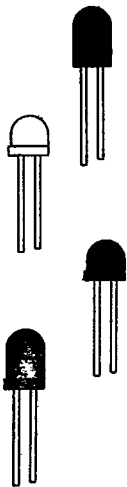
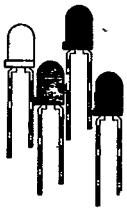
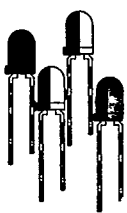
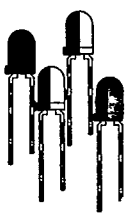
Package Type	Part Number	Lens Description	Viewing Angle (Typ.)	Luminous Intensity (Typ.) mcd	Peak Wavelength (Typ.) nm	V _F @ 20 mA (Typ.) V	I _F Max. (mA)	Pkg. Dim. Fig.
T 1 1/4 1800 SERIES Long Dome 1" Leads 	LED 1811	RED DIFFUSED	65°	1.5	655	1.7	50	3
	LED 1811G	RED DIFFUSED	65°	1.5	700	2.0*	50	3
	LED 1821	GREEN DIFFUSED	65°	1.5	555	2.0*	50	3
	LED 1831	YELLOW DIFFUSED	65°	1.5	585	2.0*	50	3
	LED 1841	ORANGE DIFFUSED	65°	1.5	635	2.0*	50	3
	LED 1841R	RED DIFFUSED (orange chip)	65°	1.5	635	2.0*	50	3
	LED 1812	CLEAR DIFF RED	65°	1.5	655	1.7	50	3
	LED 1812G	CLEAR DIFF RED	65°	1.5	700	2.0*	50	3
	LED 1822	CLEAR DIFF GREEN	65°	1.5	555	2.0*	50	3
	LED 1832	CLR DIFF YELLOW	65°	1.5	585	2.0*	50	3
	LED 1842	CLR DIFF ORANGE	65°	1.5	635	2.0*	50	3
	LED 1842R	CLEAR DIFF RED	65°	1.5	635	2.0*	50	3
	LED 1813	WATER CLEAR RED	24°	1.6	655	1.7	50	3
	LED 1813G	WATER CLEAR RED	24°	1.6	700	2.0*	50	3
	LED 1823	WATER CLR GREEN	24°	1.6	555	2.0*	50	3
	LED 1833	WTR CLR YELLOW	24°	1.6	585	2.0*	50	3
	LED 1843	WTR CLR ORANGE	24°	1.6	635	2.0*	50	3
	LED 1843R	WATER CLEAR RED	24°	1.6	635	2.0*	50	3
	LED 1814	RED CLEAR	28°	1.6	655	1.7	50	3
	LED 1814G	RED CLEAR	28°	1.6	700	2.0*	50	3
T 1 1/4 SDL SERIES Long Dome Wire Wrap Leads 	LED 1824	GREEN CLEAR	28°	1.6	555	2.0*	50	3
	LED 1834	YELLOW CLEAR	28°	1.6	585	2.0*	50	3
	LED 1844	ORANGE CLEAR	28°	1.6	635	2.0*	50	3
	LED 1844R	RED CLEAR	28°	1.6	635	2.0*	50	3
	SDL-5L	RED DIFFUSED	65°	1.5	655	1.7	50	4
	SDL-7L	RED DIFFUSED	65°	1.5	700	2.0*	50	4
	SDL-17L	GREEN	65°	1.5	555	2.0*	50	4
	SDL-37L	YELLOW	65°	1.5	585	2.0*	50	4
	SDL-57L	ORANGE	65°	1.5	635	2.0*	50	4
	SDL-47L	RED DIFFUSED (orange chip)	65°	1.5	635	2.0*	50	4
	SDL-5L-2	CLEAR DIFF RED	65°	1.5	655	1.7	50	4
	SDL-7L-2	CLEAR DIFF RED	65°	1.5	700	2.0*	50	4
	SDL-17L-2	CLEAR DIFF GREEN	65°	1.5	555	2.0*	50	4
	SDL-37L-2	CLR DIFF YELLOW	65°	1.5	585	2.0*	50	4
	SDL-57L-2	CLR DIFF ORANGE	65°	1.5	635	2.0*	50	4
	SDL-5L-3	WATER CLEAR RED	24°	1.6	655	1.7	50	4
	SDL-7L-3	WATER CLEAR RED	24°	1.6	700	2.0*	50	4
	SDL-17L-3	WATER CLR GREEN	24°	1.6	555	2.0*	50	4
	SDL-37L-3	WTR CLR YELLOW	24°	1.6	585	2.0*	50	4
	SDL-57L-3	WTR CLR ORANGE	24°	1.6	635	2.0*	50	4
	SDL-5L-1	RED CLEAR	28°	1.6	655	1.7	50	4
	SDL-7L-1	RED CLEAR	28°	1.6	700	2.0*	50	4
	SDL-17L-1	GREEN CLEAR	28°	1.6	555	2.0*	50	4
	SDL-37L-1	YELLOW CLEAR	28°	1.6	585	2.0*	50	4
	SDL-57L-1	ORANGE CLEAR	28°	1.6	635	2.0*	50	4
	SDL-47L-1	RED CLEAR	28°	1.6	635	2.0*	50	4

* @ 10 mA

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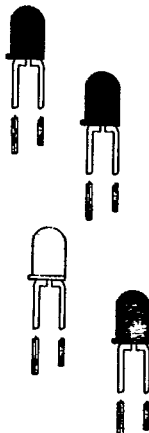
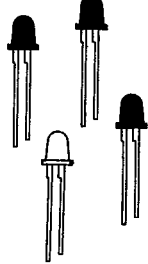
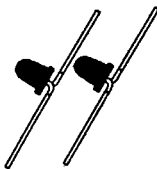
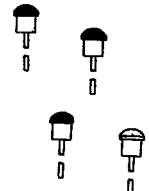
Package Type	Part Number	Lens Description	Viewing Angle (Typ.)	Luminous Intensity (Typ.) mcd	Peak Wavelength (Typ.) nm	V _F @ 20 mA (Typ.) V	I _F Max. (mA)	Pkg. Dim. Fig.
T 1 OPL SERIES 	OPL-209A	RED DIFFUSED	150°	1.0	690	2.2	50	5
	OPL-1209A	RED DIFFUSED	150°	1.0	690	2.2	50	6
	OPL-409	RED DIFFUSED	150°	2.0	635	2.5	50	5
	OPL-1409	RED DIFFUSED	150°	2.0	635	2.5	50	6
	OPL-309	RED DIFFUSED	150°	1.0	635	2.5	50	7
	OPL-211	GREEN DIFFUSED	150°	1.0	565	2.5	50	5
	OPL-1211	GREEN DIFFUSED	150°	1.0	565	2.5	50	6
	OPL-311	GREEN DIFFUSED	150°	1.0	565	2.5	50	7
	OPL-213	YELLOW DIFFUSED	150°	2.0	585	2.5	50	5
	OPL-1213	YELLOW DIFFUSED	150°	2.0	585	2.5	50	6
	OPL-312	YELLOW DIFFUSED	150°	2.0	585	2.5	50	7
	OPL-270	RED DIFFUSED	80°	3.0	690	2.1*	50	5
	OPL-1270	RED DIFFUSED	80°	3.0	690	2.1*	50	6
	OPL-470	RED DIFFUSED	80°	4.0	635	2.5	50	5
	OPL-1470	RED DIFFUSED	80°	4.0	635	2.5	50	6
T 1 OPL-72 SERIES Long Leads 	OPL-271	GREEN DIFFUSED	80°	2.5	565	2.5	50	5
	OPL-1271	GREEN DIFFUSED	80°	2.5	565	2.5	50	6
	OPL-273	YELLOW DIFFUSED	80°	4.0	585	2.5	50	5
	OPL-1273	YELLOW DIFFUSED	80°	4.0	585	2.5	50	6
T 1 OPL SERIES Bi-Color 	OPL-509	ORANGE DIFFUSED	150°	2.0	610	2.5	50	5
	OPL-570	ORANGE DIFFUSED	80°	4.0	610	2.5	50	5
	OPL-71	GREEN DIFFUSED	80°	2.5	565	2.5	50	8
	OPL-72	RED DIFFUSED	80°	4.0	635	2.5	50	8
T 1 OPL SERIES Bi-Color 	OPL-73	YELLOW DIFFUSED	80°	4.0	585	2.2	50	8
	OPL-74	SOFT ORANGE	80°	4.0	600	2.2	50	8
	OPL-700	RED/RED	80°	1.0	690/690	2.2	40	8
	OPL-710	GREEN/RED	80°	1.0	565/690	2.5	40	8
	OPL-711	GREEN/GREEN	80°	2.0	565/565	2.5	40	8
	OPL-712	GREEN/ORANGE	80°	2.0	565/635	2.5	40	8
	OPL-713	GREEN/YELLOW	80°	2.0	565/585	2.5	40	8
	OPL-722	ORANGE/ORANGE	80°	2.0	635/635	2.5	40	8
	OPL-733	YELLOW/YELLOW	80°	2.0	585/585	2.5	40	8
	OPL-743	RED/YELLOW	80°	2.0	635/585	2.5	40	8

* @ 10 mA

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Package Type	Part Number	Lens Description	Viewing Angle (Typ.)	Luminous Intensity (Typ.) mcd	Peak Wavelength (Typ.) nm	V _F @ 20 mA (Typ.) V	I _F Max. (mA)	Pkg. Dim. Fig.
T 1 OPL SERIES Economy 	OPL-5	RED DIFFUSED	80°	1.5	655	1.7	50	9
	OPL-7	RED DIFFUSED	80°	1.5	700	2.0*	50	9
	OPL-17	GREEN DIFFUSED	80°	1.5	555	2.0*	50	9
	OPL-37	YELLOW DIFFUSED	80°	1.5	585	2.0*	50	9
	OPL-57	ORANGE DIFFUSED	80°	1.5	635	2.0*	50	9
	OPL-47	RED DIFF (orange chip)	80°	1.5	635	2.0*	50	9
	OPL-5-2	CLEAR RED DIFFUSED	80°	1.5	655	1.7	50	9
	OPL-7-2	CLEAR RED DIFFUSED	80°	1.5	700	2.0*	50	9
	OPL-17-2	CLEAR GREEN DIFF	80°	1.5	555	2.0*	50	9
	OPL-37-2	CLEAR YELLOW DIFF	80°	1.5	585	2.0*	50	9
	OPL-57-2	CLEAR ORANGE DIFF	80°	1.5	635	2.0*	50	9
	OPL-5-3	WATER CLEAR RED	24°	1.6	655	1.7	50	9
	OPL-7-3	WATER CLEAR RED	24°	1.6	700	2.0*	50	9
	OPL-17-3	WATER CLEAR GREEN	24°	1.6	555	2.0*	50	9
	OPL-37-3	WATER CLEAR YELLOW	24°	1.6	585	2.0*	50	9
	OPL-57-3	WATER CLR ORANGE	24°	1.6	635	2.0*	50	9
	OPL-5-1	RED CLEAR	28°	1.6	655	1.7	50	9
	OPL-7-1	RED CLEAR	28°	1.6	700	2.0*	50	9
	OPL-17-1	GREEN CLEAR	28°	1.6	555	2.0*	50	9
	OPL-37-1	YELLOW CLEAR	28°	1.6	585	2.0*	50	9
	OPL-57-1	ORANGE CLEAR	28°	1.6	635	2.0*	50	9
	OPL-47-1	RED CLEAR	28°	1.6	655	2.0*	50	9
T ¼ LLL SERIES 	LLL-7	RED DIFFUSED	30°	2.0	690	2.1**	40	10
	LLL-7A	RED DIFFUSED	30°	1.0	690	2.0***	40	10
	LLL-17	GREEN DIFFUSED	30°	2.0	565	2.4****	40	10
	LLL-27	YELLOW DIFFUSED	30°	2.0	585	2.4****	40	10
	LLL-37	YELLOW DIFFUSED	30°	4.0	585	2.4****	40	10
	LLL-47	RED DIFFUSED	30°	4.0	690	2.4****	40	10
	LLL-57	ORANGE DIFFUSED	30°	4.0	610	2.4	40	10
	LLL-9-1	RED CLEAR	18°	4.0	635	2.1**	40	10
	LLL-9-3	WATER CLEAR RED	18°	4.0	635	2.1**	40	10
	LLL-9A-1	RED CLEAR	18°	2.0	635	2.0***	40	10
	LLL-9A-3	WATER CLEAR RED	18°	2.0	635	2.0***	40	10
	LLL-49-1	RED CLEAR	18°	10	635	2.4****	40	10
	LLL-19-1	GREEN CLEAR	18°	4.0	565	2.4****	40	10
	LLL-29-1	YELLOW CLEAR	18°	4.0	585	2.4****	40	10
	LLL-39-1	YELLOW CLEAR	18°	10	585	2.4****	40	10
T ¼ MSL SERIES Axial Leads 	MSL-7	RED DIFFUSED	30°	2.0	690	2.1**	40	11
	MSL-7A	RED DIFFUSED	30°	1.0	690	2.0***	40	11
	MSL-17	GREEN DIFFUSED	30°	2.0	565	2.4****	40	11
	MSL-27	YELLOW DIFFUSED	30°	2.0	585	2.4****	40	11
	MSL-37	YELLOW DIFFUSED	30°	4.0	585	2.4****	40	11
	MSL-47	RED DIFFUSED	30°	4.0	690	2.4****	40	11
	MSL-57	ORANGE DIFFUSED	30°	4.0	610	2.4	40	11
	MSL-9-1	RED CLEAR	18°	4.0	635	2.1**	40	11
	MSL-9-3	WATER CLEAR RED	18°	4.0	635	2.1**	40	11
	MSL-9A-1	RED CLEAR	18°	2.0	635	2.0***	40	11
	MSL-9A-3	WATER CLEAR RED	18°	2.0	635	2.0***	40	11
	MSL-49-1	RED CLEAR	18°	10	635	2.4****	40	11
	MSL-19-1	GREEN CLEAR	18°	4.0	565	2.4****	40	11
	MSL-29-1	YELLOW CLEAR	18°	4.0	585	2.4****	40	11
	MSL-39-1	YELLOW CLEAR	18°	10	585	2.4****	40	11
Sub Miniature OSL SERIES 	OSL-1	RED	100°	1.1	690	2.1†	50	12
	OSL-1S	RED	100°	1.1	690	2.1†	50	13
	OSL-5	RED	100°	.55	690	2.2	50	13
	OSL-50	RED	100°	.55	690	2.2	50	12
	OSL-11	GREEN	100°	2.5	560	2.6*****	50	12
	OSL-11S	GREEN	100°	2.5	560	2.6*****	50	13
	OSL-31	YELLOW	100°	2.5	580	2.6*****	50	12
	OSL-31S	YELLOW	100°	2.5	580	2.6*****	50	13

* @ 10mA ** @ 12mA *** @ 5mA **** @ 25mA ***** @ 40mA † @ 15mA

PACKAGE DIMENSIONS

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mm (in.)

Figure 1

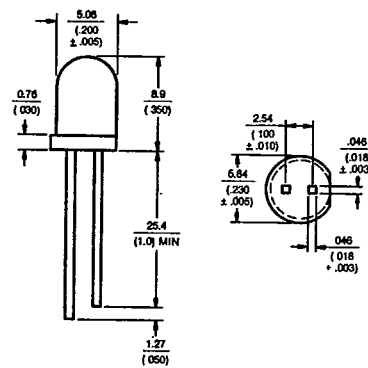


Figure 2

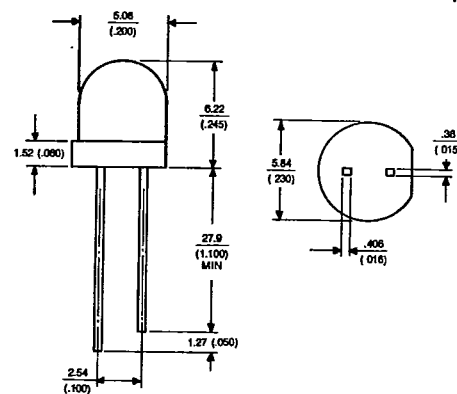


Figure 3

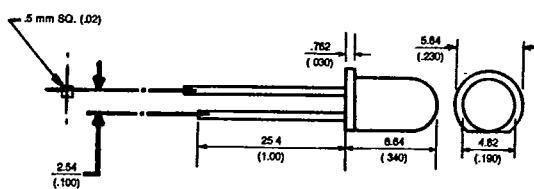


Figure 4

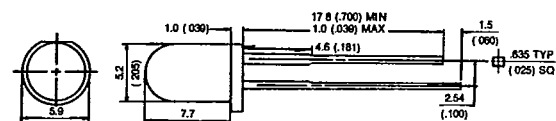


Figure 5

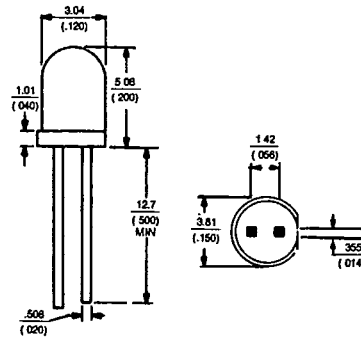


Figure 6

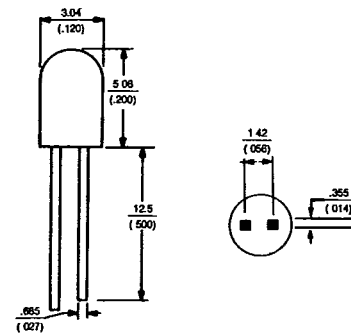


Figure 7

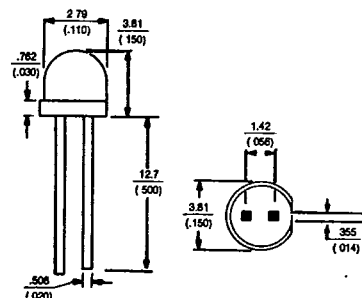
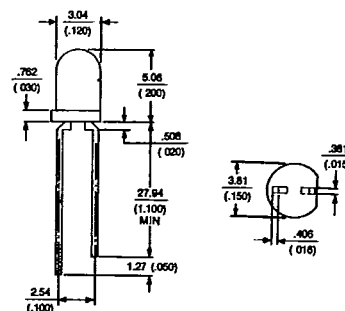


Figure 8



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