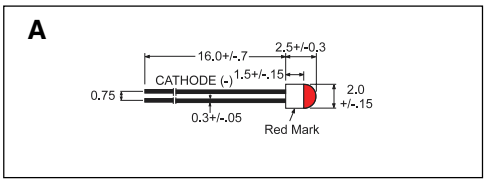
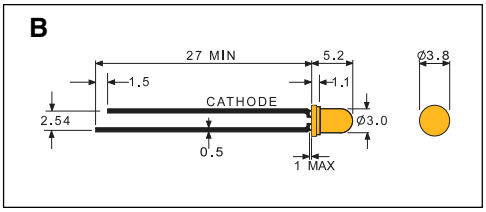


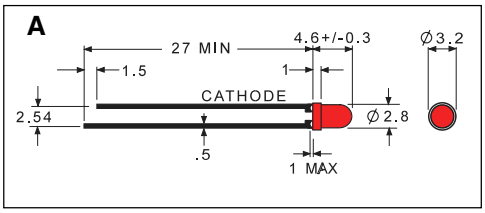
Miniature LEDs (2.0mm Diameter)

	Line No.	Part No.	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Typical	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● RED	1	E3	Translucent	0.5mcd	3.0mcd	45°	2.1V	2.7V	700nm	A
● GREEN	2	E5	Translucent	0.5mcd	3.0mcd	45°	2.1V	2.7V	560nm	A



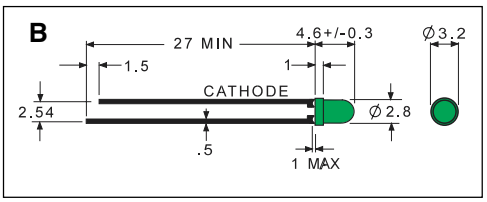
T-1 LEDs (Very Bright)

	Line No.	Part No.	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● RED	3	E100	Clear	90mcd	200mcd	50°	2.1V	3.0V	625nm	B
● ORANGE	4	E102	Clear	90mcd	200mcd	50°	2.1V	3.0V	610nm	B
	5	E103	Translucent	56mcd	160mcd	50°	2.1V	3.0V	610nm	B
● YELLOW	6	E104	Clear	90mcd	200mcd	50°	2.2V	3.0V	585nm	B
	7	E105	Translucent	56mcd	160mcd	50°	2.2V	3.0V	585nm	B
● GREEN	8	E106	Clear	90mcd	200mcd	50°	2.2V	3.0V	565nm	B
● RED	9	E112	Diffused	36mcd	100mcd	60°	2.1V	3.0V	625nm	B
● ORANGE	10	E113	Diffused	36mcd	100mcd	60°	2.1V	3.0V	610nm	B
● YELLOW	11	E114	Diffused	36mcd	100mcd	60°	2.2V	3.0V	585nm	B
● GREEN	12	E116	Diffused	36mcd	100mcd	60°	2.2V	3.0V	565nm	B



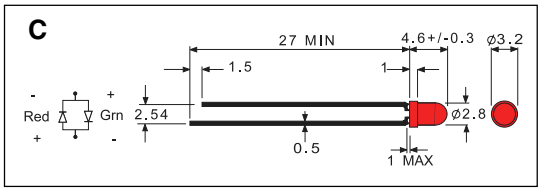
T-1 LEDs with Resistor - 5V

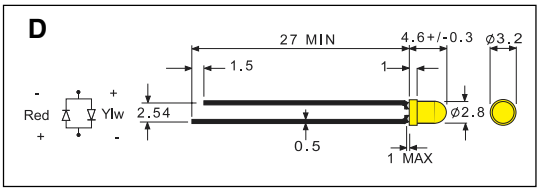
	Line No.	Part No.	Lens	Voltage Range Minimum	Voltage Range Maximum	Luminous Intensity at 5VDC Minimum	Luminous Intensity at 5VDC Maximum	Viewing Angle 2θ½	Current Range at 5VDC Minimum	Current Range at 5VDC Maxiumum	Peak Wave Length at 5VDC	Drawing
● RED	1	E404-5V	Diffused	4.0VDC	6.0VDC	70mcd	200mcd	60°	8mA	15.5mA	660nm	A
● YELLOW	2	E449-5V	Diffused	4.0VDC	6.0VDC	8mcd	15mcd	60°	8mA	15.5mA	590nm	A
● GREEN	3	E451-5V	Diffused	4.0VDC	6.0VDC	12mcd	20mcd	60°	8mA	15.5mA	565nm	A

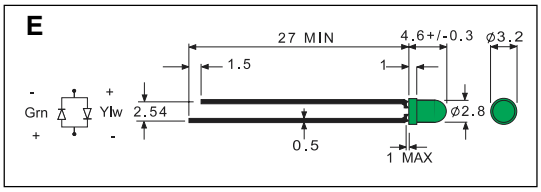


T-1 Low Current LEDs (2mA)

	Line No.	Part No.	Lens	Luminous Intensity at 2mA Minimum	Luminous Intensity at 2mA Typical	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● RED	4	E28	Diffused	8.0mcd	20.0mcd	60°	1.85V	2.50V	660nm	B
● RED	5	E30	Diffused	0.8mcd	2.00mcd	60°	2.00V	2.50V	625nm	B
● YELLOW	6	E31	Diffused	0.8mcd	2.00mcd	60°	2.10V	2.50V	590nm	B
● GREEN	7	E32	Diffused	0.8mcd	2.00mcd	60°	2.20V	2.50V	565nm	B

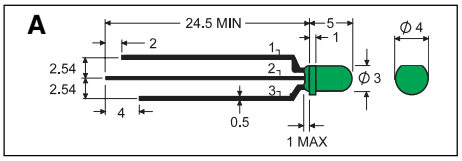






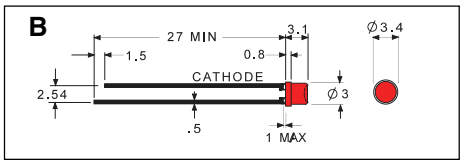
T-1 Bi-Color LEDs (Two Leads)

	Line No.	Part No.	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● RED & ● GREEN	8	E207	White Diffused	8mcd 8mcd	40mcd 40mcd	60° 60°	2.0V 2.2V	2.5V 2.5V	625nm 565nm	C
● RED & ● YELLOW	9	E208	White Diffused	8mcd 5mcd	40mcd 20mcd	60° 60°	2.0V 2.1V	2.5V 2.5V	625nm 590nm	D
● GREEN & ● YELLOW	10	E209	White Diffused	8mcd 5mcd	40mcd 20mcd	60° 60°	2.2V 2.1V	2.5V 2.5V	565nm 590nm	E



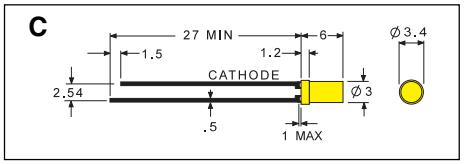
T-1 Bi-Color LEDs (Three Leads)

	Line No.	Part No.	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Leads	Drawing
● RED & ● GREEN	1	E219	White Diffused	12.5mcd 12.5mcd	50mcd 50mcd	60° 60°	2.0V 2.2V	2.5V 2.5V	625nm 565nm	1.Red Anode 2.Cathode 3.Green Anode	A
● GREEN & ● YELLOW	2	E220	White Diffused	12.5mcd 12.5mcd	50mcd 50mcd	60° 60°	2.2V 2.1V	2.5V 2.5V	565nm 590nm	1.Green Anode 2.Cathode 3.Yellow Anode	A
● RED & ● GREEN	3	E293	White Diffused	90mcd 20mcd	300mcd 40mcd	60° 60°	1.85V 2.20V	2.5V 2.5V	660nm 565nm	1.Red Cathode 2.Anode 3.Green Cathode	A



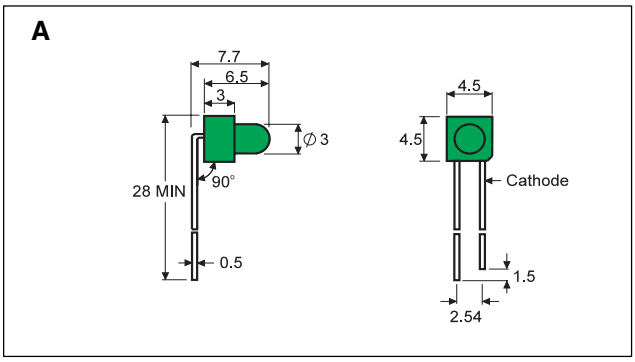
Mini LEDs

	Line No.	Part No.	Lens	Luminous Intensity at 10mA Minimum	Luminous Intensity at 10mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● ULTRA BRIGHT RED	4	E260	Translucent	20.0mcd	60.0mcd	130°	1.85V	2.5V	660nm	B
● HIGH EFFICIENCY RED	5	E261	Translucent	4.0mcd	7.0mcd	130°	2.0V	2.5V	625nm	B
● ORANGE	6	E262	Translucent	3.0mcd	7.0mcd	130°	2.0V	2.6V	610nm	B
● YELLOW	7	E263	Translucent	2.0mcd	3.5mcd	130°	2.1V	2.5V	590nm	B
● SUPER BRIGHT GREEN	8	E264	Translucent	10.0mcd	16.0mcd	130°	2.2V	2.5V	565nm	B



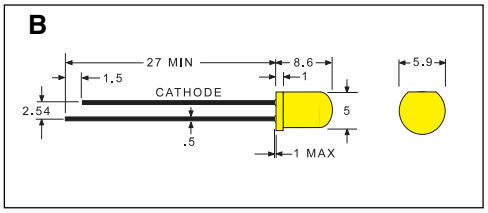
T-1 Flat Top LEDs

	Line No.	Part No.	Lens	Luminous Intensity at 10mA Minimum	Luminous Intensity at 10mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● RED	9	E265	Diffused	40.0mcd	80.0mcd	100°	1.85V	2.5V	660nm	C
● RED	10	E266	Diffused	3.2mcd	12.5mcd	100°	2.0V	2.5V	625nm	C
● ORANGE	11	E267	Diffused	3.2mcd	12.5mcd	100°	2.0V	2.6V	610nm	C
● YELLOW	12	E268	Diffused	1.3mcd	8.0mcd	100°	2.1V	2.5V	590nm	C
● GREEN	13	E269	Diffused	8.0mcd	20.0mcd	100°	2.2V	2.5V	565nm	C



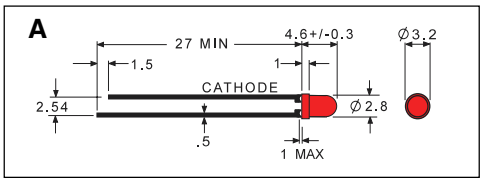
T-1, Right Angle LEDs (3mm)

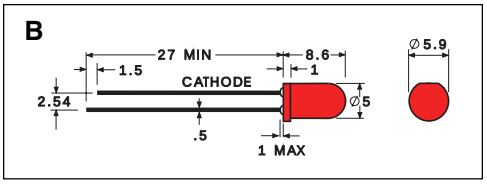
	Line No.	Part No.	Lens	Luminous Intensity at 10mA Typical	Luminous Intensity at 10mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● RED	1	E341	Diffused	12.5mcd	32.0mcd	60°	2.0V	2.5V	625nm	A
● YELLOW	2	E344	Diffused	5.0mcd	20.0mcd	60°	2.1V	2.5V	590nm	A
● GREEN	3	E346	Diffused	5.0mcd	20.0mcd	60°	2.2V	2.5V	565nm	A



T-1¾ LEDs (Very Bright)

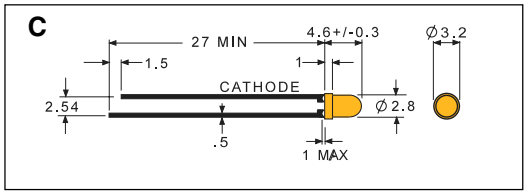
	Line No.	Part No.	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● RED	4	E118	Diffused	36mcd	100mcd	60°	2.1V	3.0V	625nm	B
● ORANGE	5	E119	Diffused	36mcd	100mcd	60°	2.1V	3.0V	610nm	B
● YELLOW	6	E120	Diffused	36mcd	100mcd	60°	2.2V	3.0V	585nm	B
● GREEN	7	E121	Diffused	36mcd	100mcd	60°	2.2V	3.0V	565nm	B

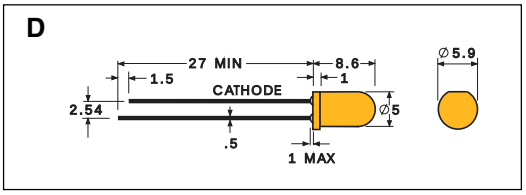




T-1 and T-1¾ ,Ultra Bright, Red GaAlAs LEDs

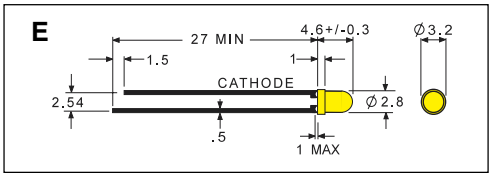
	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● RED	1	E169	T-1	Clear	360mcd	500mcd	50°	1.85V	2.50V	660nm	A
● RED	2	E170	T-1	Clear	500mcd	700mcd	50°	1.85V	2.50V	660nm	A
● RED	3	E171	T-1	Clear	700mcd	1000mcd	50°	1.85V	2.50V	660nm	A
● RED	4	E197	T-1	Clear	1200mcd	1400mcd	50°	1.85V	2.50V	660nm	A
● RED	5	E181	T-1¾	Clear	500mcd	1000mcd	30°	1.85V	2.5V	660nm	B
● RED	6	E183	T-1¾	Clear	1300mcd	1600mcd	30°	1.85V	2.5V	660nm	B
● RED	7	E184	T-1¾	Clear	2000mcd	3500mcd	30°	1.85V	2.5V	660nm	B
● RED	8	E301	T-1¾	Diffused	110mcd	200mcd	60°	1.85V	2.5V	660nm	B
● RED	9	E303	T-1¾	Diffused	200mcd	300mcd	60°	1.85V	2.5V	660nm	B
● RED	10	E304	T-1¾	Diffused	300mcd	500mcd	60°	1.85V	2.5V	660nm	B

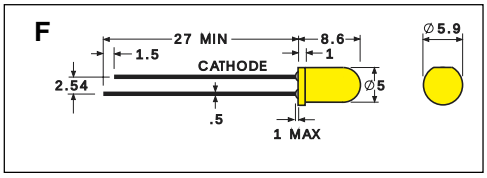




T-1 and T-1¾, Ultra Bright, Orange InGaAlP LEDs

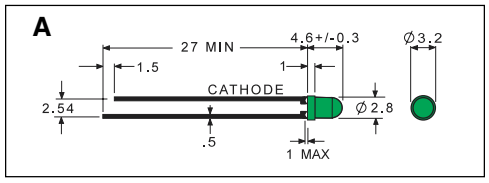
	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● ORANGE	11	E199	T-1	Orange Translucent	500mcd	1600mcd	50°	1.8V	2.3V	620nm	C
● ORANGE	12	E194	T-1¾	Orange Translucent	700mcd	3000mcd	30°	1.8V	2.3V	620nm	D

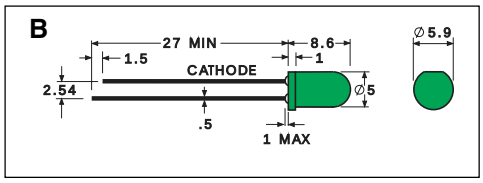




T-1 and T-1¾, Ultra Bright , Yellow InGaAlP LEDs

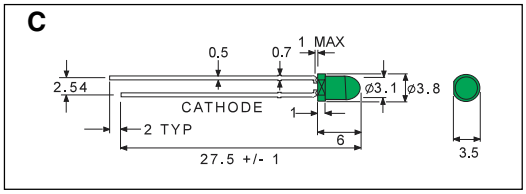
	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● YELLOW	13	E198	T-1	Yellow Translucent	300mcd	1000mcd	50°	2.0V	2.5V	595nm	E
● YELLOW	14	E195	T-1¾	Yellow Translucent	400mcd	1600mcd	30°	2.0V	2.5V	595nm	F

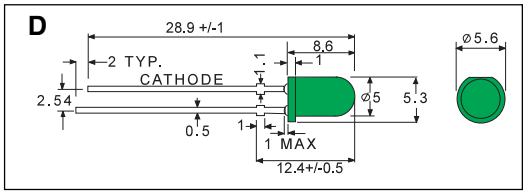




T-1 and T-1¾, Super Bright, Green GaP LEDs

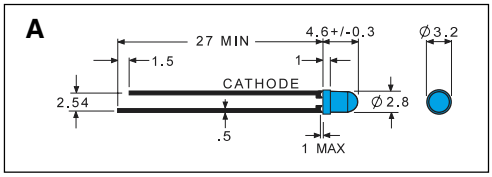
	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● GREEN	1	E166	T-1	Clear	100mcd	300mcd	50°	2.2V	2.5V	565nm	A
● GREEN	2	E196	T-1	Diffused	40mcd	60mcd	60°	2.2V	2.5V	565nm	A
● GREEN	3	E168	T-1¾	Clear	100mcd	200mcd	30°	2.2V	2.5V	565nm	B

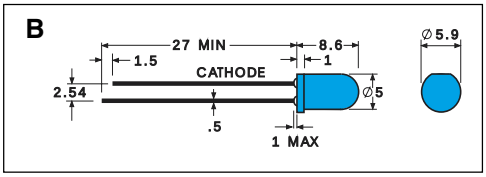




T-1 and T-1¾, Mega Bright Green, GaN LEDs

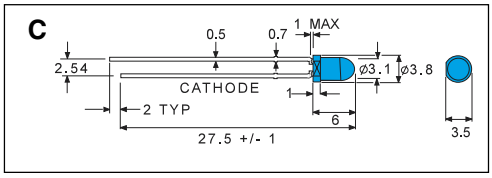
	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Typical	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Reverse Current (V_R=5.0V)	Peak Wave Length at 20mA	Drawing
● GREEN	4	E902	T-1	Clear	2000mcd	6800mcd	15°	3.5V	4.0V	50µA	525nm	C
● GREEN	5	E903	T-1¾	Clear	2500mcd	10,000mcd	15°	3.5V	4.0V	50µA	525nm	D

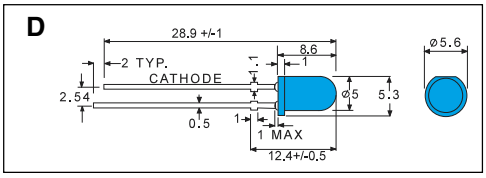




T-1 and T-1¾, Super Bright, Blue GaN LEDs

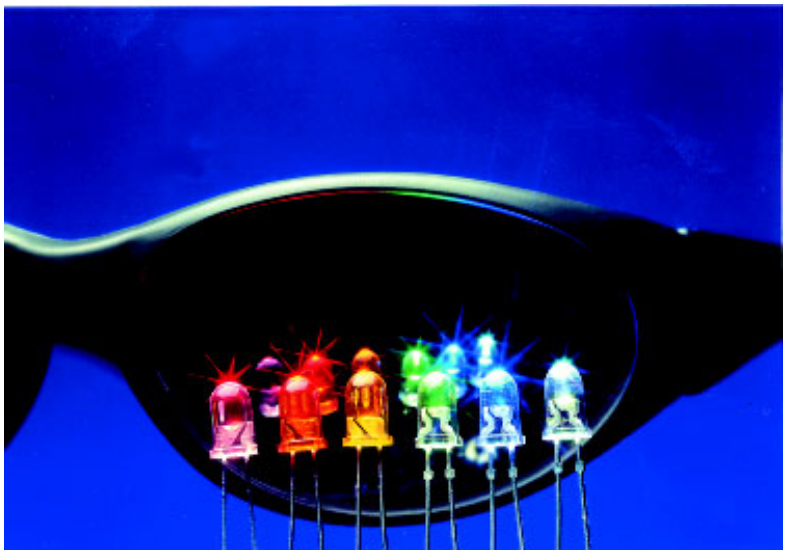
	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● BLUE	1	E472	T-1	Clear	20.0mcd	90.0mcd	20°	4.5V	5.5V	430nm	A
● BLUE	2	E474	T-1¾	Clear	60.0mcd	150.0mcd	16°	4.5V	5.5V	430nm	B

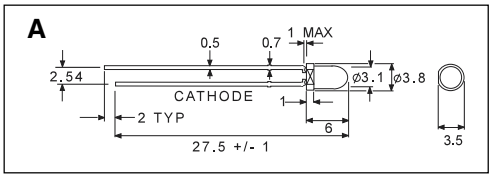


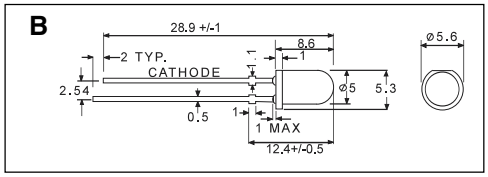


T-1 and T-1¾, Mega Bright Blue GaN LEDs

	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Typical	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Reverse Current (V_R=5.0V)	Peak Wave Length at 20mA	Drawing
● BLUE	3	E482	T-1	Clear	500mcd	2000mcd	15°	3.6V	4.0V	50µA	470nm	C
● BLUE	4	E484	T-1¾	Clear	750mcd	3000mcd	15°	3.6V	4.0V	50µA	470nm	D

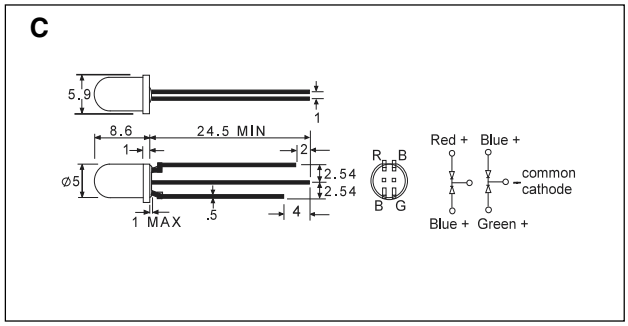






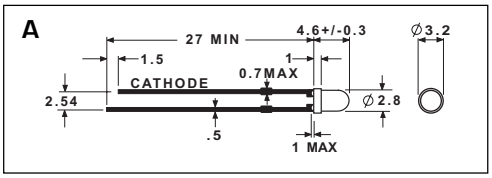
T-1 and T-1¾, Mega Bright White LEDs

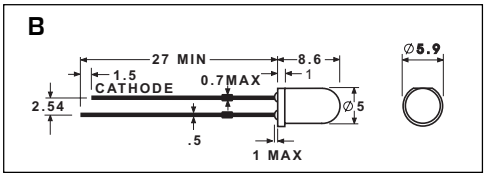
	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Typical	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Reverse Current (V_R=5.0V)	Chromaticity Coordinates X Typ.	Chromaticity Coordinates Y Typ.	Drawing
○ WHITE	1	E1004	T-1	Clear	700mcd	2800mcd	25°	3.6V	4.0V	50µA	0.31	0.32	A
○ WHITE	2	E1003	T-1¾	Clear	1400mcd	5600mcd	15°	3.6V	4.0V	50µA	0.31	0.32	B

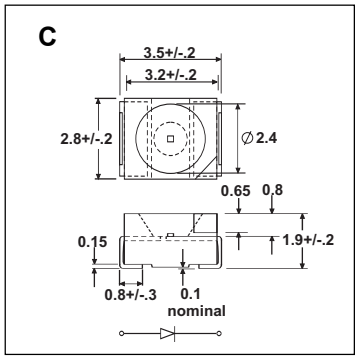


T-1¾ Full Color LEDs

	Line No.	Part No.	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
O WHITE	3	E1000	Clear	90mcd	200mcd	15°	2.0V	2.5V	625nm	C
				50mcd	90mcd	15°	2.2V	2.5V	565nm	
				12.5mcd	40mcd	15°	4.5V	5.5V	430nm	
O WHITE	4	E1001	Diffused White	20.0mcd	90.0mcd	30°	2.0V	2.5V	625nm	C
				20.0mcd	70.0mcd	30°	2.2V	2.5V	565nm	
				3.2mcd	12.5mcd	30°	4.5V	5.5V	430nm	







T-1, T-1¾ and SMT Bright White LEDs

	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Typical	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Reverse Current (V_R=5.0V)	Chromaticity Coordinates X Typ.	Chromaticity Coordinates Y Typ.	Drawing
○ WHITE	1	E1007	T-1	Clear	50mcd	180mcd	50°	3.8V	4.5V	10µA	0.31	0.32	A
○WHITE	2	E1006	T-1¾	Clear	80mcd	200mcd	30°	3.8V	4.5V	10µA	0.31	0.32	B
○ WHITE	3	E1008	SMT	Clear	90mcd	150mcd	120°	3.5V	4.0V	10µA	0.31	0.32	C

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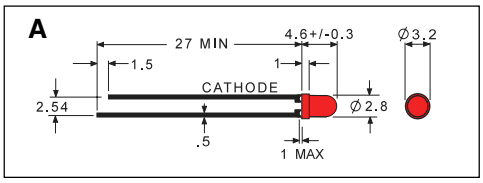
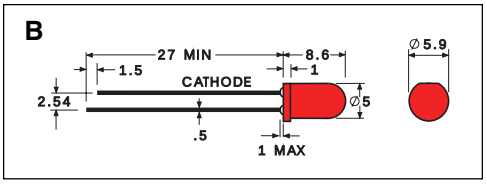
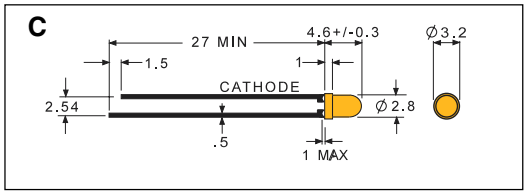
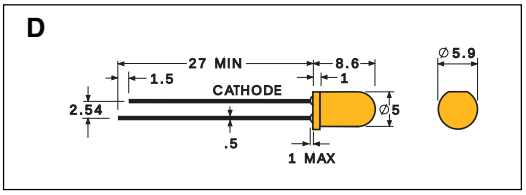




T-1 and T-1¾ ,Ultra Bright, Red GaAlAs LEDs

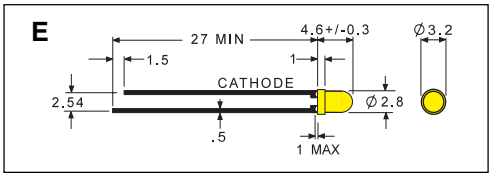
	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● RED	1	E169	T-1	Clear	360mcd	500mcd	50°	1.85V	2.50V	660nm	A
● RED	2	E170	T-1	Clear	500mcd	700mcd	50°	1.85V	2.50V	660nm	A
● RED	3	E171	T-1	Clear	700mcd	1000mcd	50°	1.85V	2.50V	660nm	A
● RED	4	E197	T-1	Clear	1200mcd	1400mcd	50°	1.85V	2.50V	660nm	A
● RED	5	E181	T-1¾	Clear	500mcd	1000mcd	30°	1.85V	2.5V	660nm	B
● RED	6	E183	T-1¾	Clear	1300mcd	1600mcd	30°	1.85V	2.5V	660nm	B
● RED	7	E184	T-1¾	Clear	2000mcd	3500mcd	30°	1.85V	2.5V	660nm	B
● RED	8	E301	T-1¾	Diffused	110mcd	200mcd	60°	1.85V	2.5V	660nm	B
● RED	9	E303	T-1¾	Diffused	200mcd	300mcd	60°	1.85V	2.5V	660nm	B
● RED	10	E304	T-1¾	Diffused	300mcd	500mcd	60°	1.85V	2.5V	660nm	B

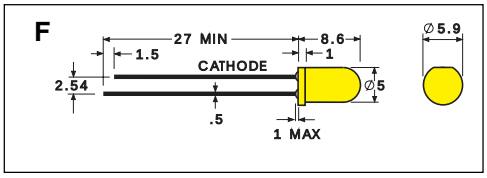




T-1 and T-1¾, Ultra Bright, Orange InGaAlP LEDs

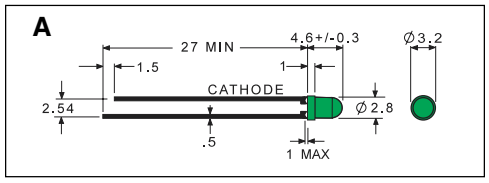
	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● ORANGE	11	E199	T-1	Orange Translucent	500mcd	1600mcd	50°	1.8V	2.3V	620nm	C
● ORANGE	12	E194	T-1¾	Orange Translucent	700mcd	3000mcd	30°	1.8V	2.3V	620nm	D

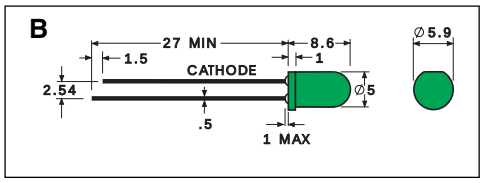




T-1 and T-1¾, Ultra Bright , Yellow InGaAlP LEDs

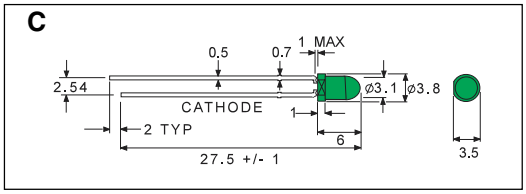
	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● YELLOW	13	E198	T-1	Yellow Translucent	300mcd	1000mcd	50°	2.0V	2.5V	595nm	E
● YELLOW	14	E195	T-1¾	Yellow Translucent	400mcd	1600mcd	30°	2.0V	2.5V	595nm	F

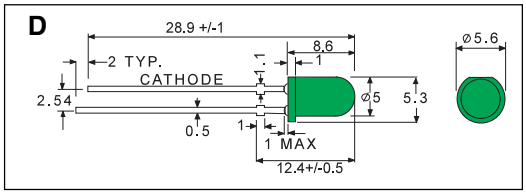




T-1 and T-1¾, Super Bright, Green GaP LEDs

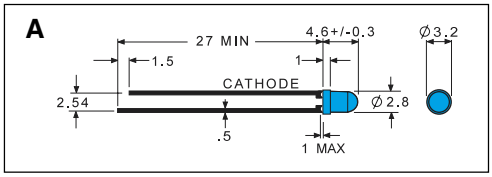
	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● GREEN	1	E166	T-1	Clear	100mcd	300mcd	50°	2.2V	2.5V	565nm	A
● GREEN	2	E196	T-1	Diffused	40mcd	60mcd	60°	2.2V	2.5V	565nm	A
● GREEN	3	E168	T-1¾	Clear	100mcd	200mcd	30°	2.2V	2.5V	565nm	B

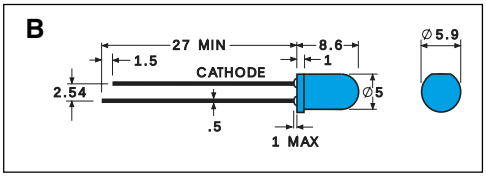




T-1 and T-1¾, Mega Bright Green, GaN LEDs

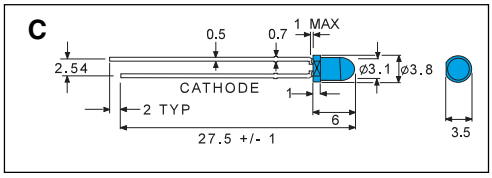
	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Typical	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Reverse Current (V_R=5.0V)	Peak Wave Length at 20mA	Drawing
● GREEN	4	E902	T-1	Clear	2000mcd	6800mcd	15°	3.5V	4.0V	50µA	525nm	C
● GREEN	5	E903	T-1¾	Clear	2500mcd	10,000mcd	15°	3.5V	4.0V	50µA	525nm	D

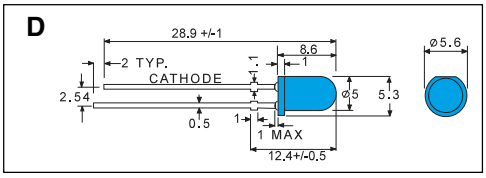




T-1 and T-1¾, Super Bright, Blue GaN LEDs

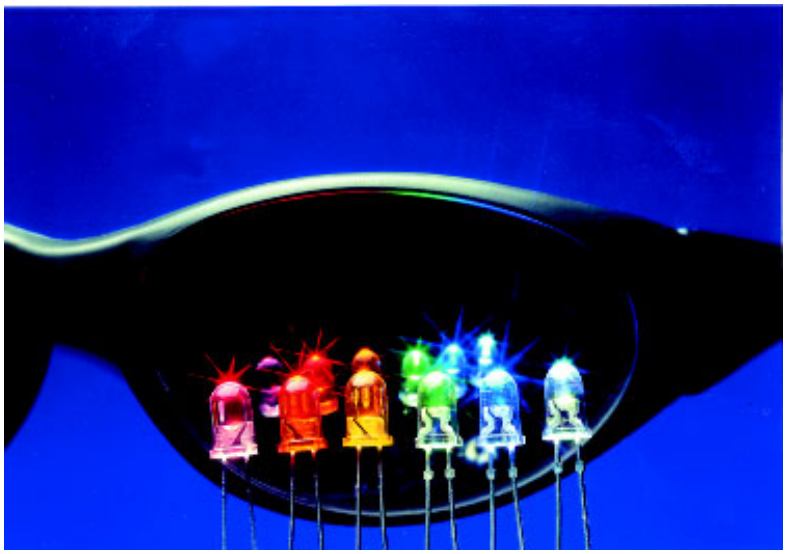
	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● BLUE	1	E472	T-1	Clear	20.0mcd	90.0mcd	20°	4.5V	5.5V	430nm	A
● BLUE	2	E474	T-1¾	Clear	60.0mcd	150.0mcd	16°	4.5V	5.5V	430nm	B

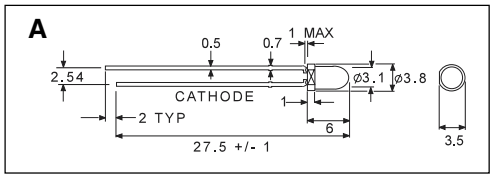


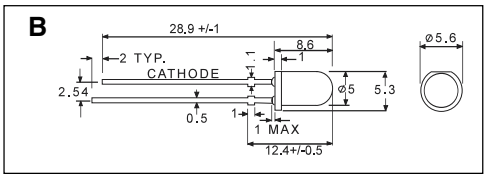


T-1 and T-1¾, Mega Bright Blue GaN LEDs

	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Typical	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Reverse Current (V_R=5.0V)	Peak Wave Length at 20mA	Drawing
● BLUE	3	E482	T-1	Clear	500mcd	2000mcd	15°	3.6V	4.0V	50µA	470nm	C
● BLUE	4	E484	T-1¾	Clear	750mcd	3000mcd	15°	3.6V	4.0V	50µA	470nm	D

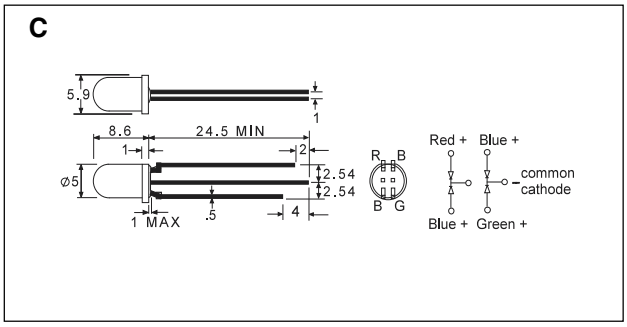






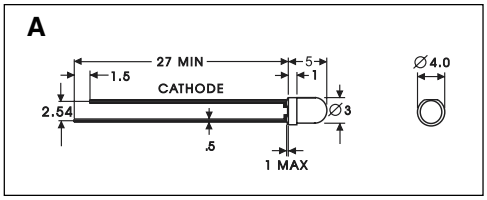
T-1 and T-1¾, Mega Bright White LEDs

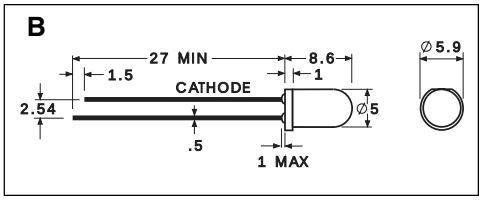
	Line No.	Part No.	Size	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Typical	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Reverse Current (V_R=5.0V)	Chromaticity Coordinates X Typ.	Chromaticity Coordinates Y Typ.	Drawing
○ WHITE	1	E1004	T-1	Clear	700mcd	2800mcd	25°	3.6V	4.0V	50µA	0.31	0.32	A
○ WHITE	2	E1003	T-1¾	Clear	1400mcd	5600mcd	15°	3.6V	4.0V	50µA	0.31	0.32	B



T-1¾ Full Color LEDs

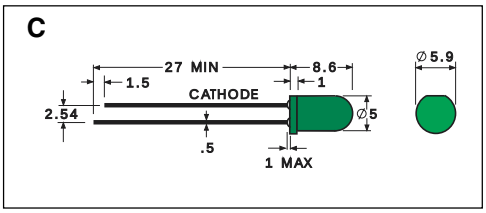
	Line No.	Part No.	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
O WHITE	3	E1000	Clear	90mcd	200mcd	15°	2.0V	2.5V	625nm	C
				50mcd	90mcd	15°	2.2V	2.5V	565nm	
				12.5mcd	40mcd	15°	4.5V	5.5V	430nm	
O WHITE	4	E1001	Diffused White	20.0mcd	90.0mcd	30°	2.0V	2.5V	625nm	C
				20.0mcd	70.0mcd	30°	2.2V	2.5V	565nm	
				3.2mcd	12.5mcd	30°	4.5V	5.5V	430nm	





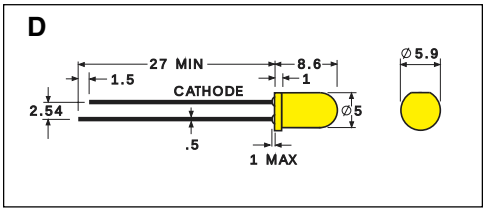
T-1 and T-1¾, Infrared LEDs: 880nm, 940nm

	Line No.	Part No.	Size	Lens	Radiant Power at 20mA Minimum	Radiant Power at 20mA Typical	Vewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
INFRARED	1	E21	T-1	Clear	2.0mW/sr	10.0mW/sr	30°	1.2V	1.5V	940nm	A
INFRARED	2	E22	T-1	Trans.Blue	2.0mW/sr	4.0mW/sr	30°	1.4V	1.7V	880nm	A
INFRARED	3	E23	T-1¾	Clear	8.0mW/sr	20.0mW/sr	30°	1.2V	1.5V	940nm	B
INFRARED	4	E24	T-1¾	Trans.Blue	5.0mW/sr	20.0mW/sr	30°	1.4V	1.7V	880nm	B



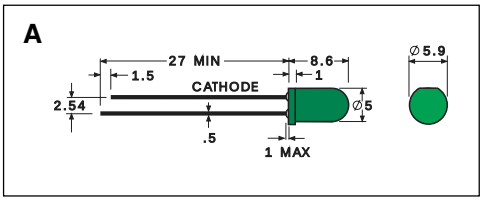
T-1¾ LEDs with Resistor - 5V

	Line No.	Part No.	Lens	Voltage Range Minimum	Voltage Range Maximum	Luminous Intensity at 5VDC Minimum	Luminous Intensity at 5VDC Maximum	Viewing Angle 2θ½	Current Range at 5VDC Minimum	Current Range at 5VDC Maxiumum	Peak Wave Length at 5VDC	Drawing
● RED	5	E304-5V	Diffused	4.0VDC	6.0VDC	100mcd	300mcd	60°	8mA	15.5mA	660nm	C
● RED	6	E148-5V	Diffused	4.0VDC	6.0VDC	5mcd	30mcd	60°	8mA	15.5mA	625nm	C
● YELLOW	7	E149-5V	Diffused	4.0VDC	6.0VDC	5mcd	20mcd	60°	8mA	15.5mA	590nm	C
● GREEN	8	E151-5V	Clear	4.0VDC	6.0VDC	20mcd	150mcd	30°	8mA	15.5mA	565nm	C
● GREEN	9	E150-5V	Diffused	4.0VDC	6.0VDC	5mcd	20mcd	60°	8mA	15.5mA	565nm	C



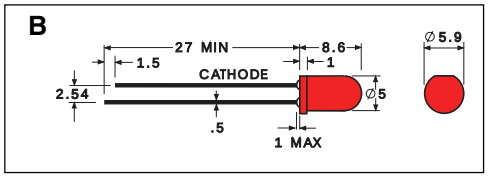
T-1¾ LEDs with Resistor - 12V

	Line No.	Part No.	Lens	Voltage Range Minimum	Voltage Range Maximum	Luminous Intensity at 12VDC Minimum	Luminous Intensity at 12VDC Maximum	Viewing Angle 2θ½	Current Range at 12VDC Minimum	Current Range at 12VDC Maximum	Peak Wave Length at 12VDC	Drawing
● RED	10	E304-12V	Diffused	9.5VDC	13.0VDC	100mcd	300mcd	60°	8mA	15.5mA	660nm	D
● YELLOW	11	E149-12V	Diffused	9.5VDC	13.0VDC	5mcd	15mcd	60°	8mA	15.5mA	590nm	D
● GREEN	12	E151-12V	Diffused	9.5VDC	13.0VDC	12mcd	20mcd	60°	8mA	15.5mA	565nm	D



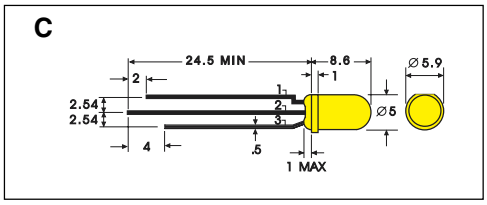
T-1¾ Low Current LEDs (2mA)

	Line No.	Part No.	Lens	Luminous Intensity at 2mA Minimum	Luminous Intensity at 2mA Typical	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● RED	1	E29	Diffused	8.0mcd	20.0mcd	60°	1.85V	2.5V	660nm	A
● RED	2	E33	Diffused	0.8mcd	2.0mcd	60°	2.0V	2.5V	625nm	A
● YELLOW	3	E34	Diffused	0.8mcd	2.0mcd	60°	2.1V	2.5V	590nm	A
● GREEN	4	E35	Diffused	0.8mcd	2.0mcd	60°	2.2V	2.5V	565nm	A



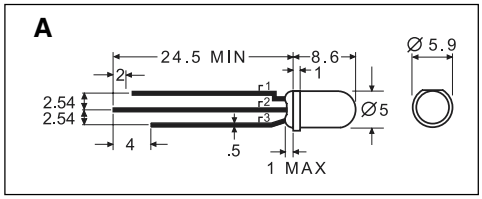
T-1¾ Flashing LEDs

	Line No.	Part No.	Lens	Forward D.C. Voltage Min	Forward D.C. Voltage Typical	Forward D.C. Voltage Max	Forward Current (mA) Min	Forward Current (mA) Typical	Forward Current (mA) Max	Luminous Intensity at 9.0 VDC Min	Luminous Intensity at 9.0 VDC Max	Viewing Angle 2θ½	Frequency (Hz)	Peak Wave Length	Drawing
● RED	5	E157	Diffused	3.5	12.0	13.0	38	56	70	100mcd	300mcd	60°	2.5 - 1.5	660nm	B
	6	E158	Clear	3.5	12.0	13.0	38	56	70	400mcd	900mcd	30°	2.5 - 1.5	660nm	B
	7	E159	Diffused	3.5	12.0	13.0	38	56	70	20mcd	80mcd	60°	2.5 - 1.5	625nm	B
● YELLOW	8	E160	Diffused	3.5	12.0	13.0	38	56	70	5mcd	32mcd	60°	2.5 - 1.5	590nm	B
● GREEN	9	E161	Diffused	3.5	12.0	13.0	38	56	70	5mcd	32mcd	60°	2.5 - 1.5	565nm	B



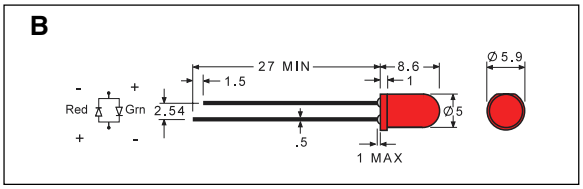
T-1¾ Bi-Color LEDs (Very Bright)

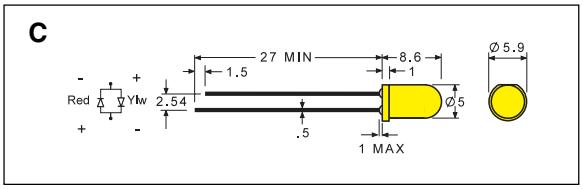
	Line No.	Part No.	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Leads	Drawing
● RED & ● GREEN	10	E203	White Diffused	20.0mcd 20.0mcd	90.0mcd 70.0mcd	60° 60°	2.0V 2.2V	2.5V 2.5V	625nm 565nm	1.Red Anode 2.Cathode 3.Green Anode	C
● RED & ● GREEN	11	E204	White Diffused	3.2mcd 3.2mcd	8.0mcd 8.0mcd	60° 60°	2.0V 2.2V	2.5V 2.5V	625nm 565nm	1.Red Cathode 2.Anode 3.Green Cathode	C
● RED & ● YELLOW	12	E205	White Diffused	20.0mcd 20.0mcd	90.0mcd 60.0mcd	60° 60°	2.0V 2.1V	2.5V 2.5V	625nm 590nm	1.Red Anode 2.Cathode 3.Yellow Anode	C
● GREEN & ● YELLOW	13	E206	White Diffused	20.0mcd 20.0mcd	70.0mcd 60.0mcd	60° 60°	2.2V 2.1V	2.5V 2.5V	565nm 590nm	1.Green Anode 2.Cathode 3.Yellow Anode	C

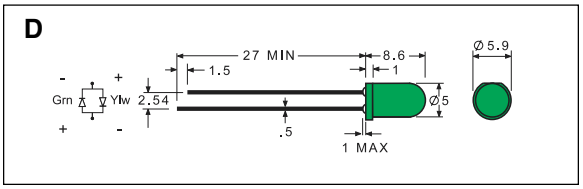


T-1¾ Bi-Color Ultra Bright LEDs

	Line No.	Part No.	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Leads	Drawing
● RED & ● GREEN	1	E231	White Diffused	100mcd 40mcd	300mcd 80mcd	60° 60°	1.85V 2.20V	2.5V 2.5V	660nm 565nm	1. Red Anode 2. Cathode 3. Green Anode	A
● RED & ● GREEN	2	E232	Clear	300mcd 80mcd	700mcd 200mcd	30° 30°	1.85V 2.20V	2.5V 2.5V	660nm 565nm	1. Red Anode 2. Cathode 3. Green Anode	A
● RED & ● GREEN	3	E291	Clear	300mcd 80mcd	700mcd 200mcd	24° 24°	1.85V 2.20V	2.5V 2.5V	660nm 565nm	1. Red Cathode 2. Anode 3. Green Cathode	A
● RED & ● GREEN	4	E292	White Diffused	100mcd 40mcd	300mcd 80mcd	24° 24°	1.85V 2.20V	2.5V 2.5V	660nm 565nm	1. Red Cathode 2. Anode 3. Green Cathode	A

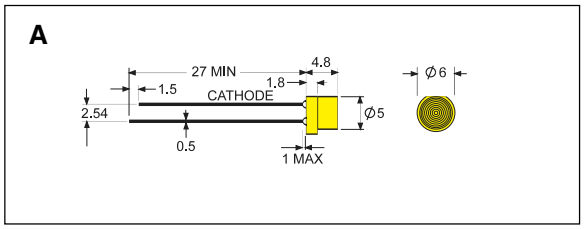






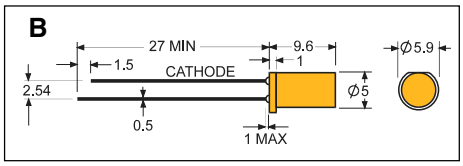
T-1¾ Bi-Color LEDs (Two Leads)

	Line No.	Part No.	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● RED & ● GREEN	5	E210	White Diffused	20.0mcd 12.5mcd	50mcd 40mcd	60° 60°	2.0V 2.2V	2.5V 2.5V	625nm 565nm	B
● RED & ● YELLOW	6	E211	White Diffused	20mcd 5mcd	50mcd 20mcd	60° 60°	2.0V 2.1V	2.5V 2.5V	625nm 590nm	C
● GREEN & ● YELLOW	7	E212	White Diffused	12.5mcd 5.0mcd	40mcd 20mcd	60° 60°	2.2V 2.2V	2.5V 2.5V	565nm 590nm	D



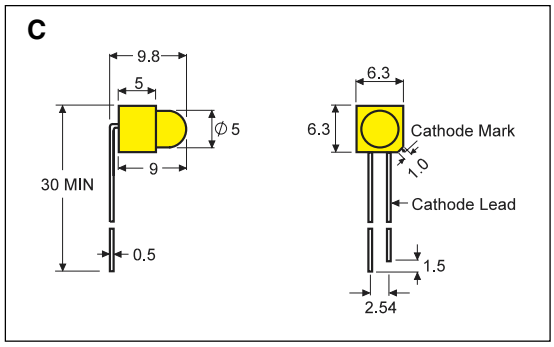
T-1¾ Fresnel LEDs

	Line No.	Part No.	Lens	Luminous Intensity at 20mA Minimum	Luminous Intensity at 20mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● RED	1	E276	Diffused	30.0mcd	50.0mcd	70°	1.85V	2.5V	660nm	A
● YELLOW	2	E277	Diffused	3.2mcd	5.0mcd	70°	2.1V	2.5V	590nm	A
● GREEN	3	E278	Diffused	3.2mcd	5.0mcd	70°	2.2V	2.5V	565nm	A



T-1¾ Flat Top LEDs

	Line No.	Part No.	Lens	Luminous Intensity at 10mA Minimum	Luminous Intensity at 10mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● RED	4	E270	Diffused	25.0mcd	60.0mcd	70°	1.85V	2.5V	660nm	B
● RED	5	E271	Diffused	3.2mcd	12.5mcd	70°	2.0V	2.5V	625nm	B
● ORANGE	6	E272	Diffused	3.2mcd	12.5mcd	70°	2.0V	2.6V	610nm	B
● YELLOW	7	E273	Diffused	1.3mcd	8.0mcd	70°	2.1V	2.5V	590nm	B
● GREEN	8	E274	Diffused	5.0mcd	20.0mcd	80°	2.2V	2.5V	565nm	B



T-1¾, Right Angle Leads, LEDs (5mm)

	Line No.	Part No.	Lens	Luminous Intensity at 10mA Minimum	Luminous Intensity at 10mA Maximum	Viewing Angle 2θ½	Forward Voltage at 20mA Typical	Forward Voltage at 20mA Maximum	Peak Wave Length at 20mA	Drawing
● RED	9	E241	Diffused	12.5mcd	32.0mcd	60°	2.0V	2.5V	625nm	C
● ORANGE	10	E242	Diffused	12.5mcd	32.0mcd	60°	2.0V	2.6V	610nm	C
● YELLOW	11	E244	Diffused	5.0mcd	20.0mcd	60°	2.1V	2.5V	590nm	C
● GREEN	12	E246	Diffused	5.0mcd	20.0mcd	60°	2.2V	2.5V	565nm	C