

DIALIGHT

A North American Philips Company

98 DE 2812672 0003165 9

T-1 3/4 LED Lamps

- Red, Green and Yellow LEDs in Popular T-1 3/4 Package Size.
- Solid State Reliability and Cost Savings.
- Introducing Super efficient LEDs, Producing Full Light Output at Only 2 mA.
- Superbright LEDs.
- For Circuit Board or Panel Mounting.

T-1 3/4 Standard Efficiency

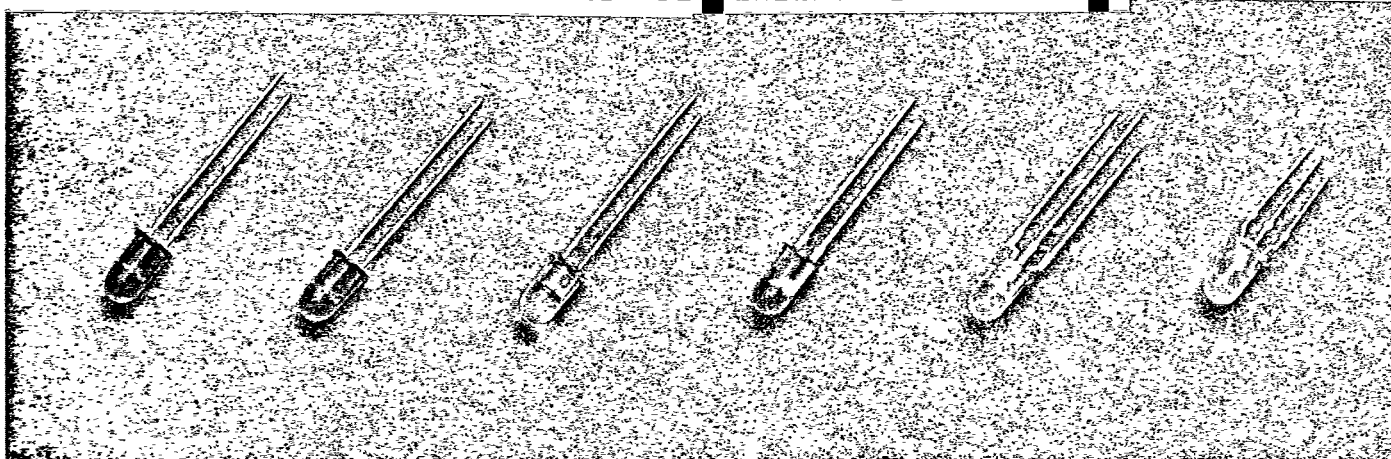
LED color/lens	wavelength meas. @ peak	Vf typ.	min. lum. intensity	typ. lum. intensity	test conditions	remarks	part numbers	fig. no.
red/diff	665 nm	1.7 V	0.8 mcd	2.0 mcd	20 mA	low profile	521-9165 *	1
red/white diff	665 nm	1.7 V	0.8 mcd	2.0 mcd	20 mA	low profile	521-9166 *	1
red/diff	665 nm	1.7 V	0.7 mcd	1.7 mcd	20 mA	flangeless	521-9180 *	2
red/diff	655 nm		0.8 mcd		5 V	integral resistor	521-9183 †	3
red/diff	665 nm	1.7 V	0.8 mcd	2.0 mcd	20 mA	low profile	521-9200 *	1
red/diff	655 nm	1.7 V	1.0 mcd	2.0 mcd	20 mA		521-9240 †	4
red/diff	650 nm	1.7 V	1.0 mcd	2.0 mcd	10 mA		521-9502-001	5
green/diff	565 nm	2.3 V	1.6 mcd	3.2 mcd	20 mA	low profile	521-9173 *	1
green/diff	565 nm	2.3 V	1.6 mcd	3.2 mcd	20 mA		521-9175 †	4
green/diff	565 nm	2.1 V	1.6 mcd	3.0 mcd	10 mA		521-9504-001	5
yellow/diff	585 nm	2.3 V	1.6 mcd	3.2 mcd	20 mA	low profile	521-9174 *	1
yellow/diff	585 nm	2.3 V	1.6 mcd	3.2 mcd	20 mA		521-9176 †	4
yellow/diff	590 nm	2.1 V	1.6 mcd	3.0 mcd	10 mA		521-9506-001	5

T-1 3/4 High Efficiency

LED color/lens	wavelength meas. @ peak	Vf typ.	min. lum. intensity	typ. lum. intensity	test conditions	remarks	part numbers	fig. no.
red/diff	650 nm	1.75 V	3.0 mcd	5.0 mcd	10 mA	contact factory	521-9501-001	5
red/diff	650 nm	1.75 V	5.0 mcd	9.0 mcd	10 mA	contact factory	521-9501-002	5
red/diff	630 nm	2.1 V	3.0 mcd	6.0 mcd	10 mA		521-9531-001	5
red/diff	635 nm	2.2 V	4.0 mcd	7.0 mcd	10 mA		521-9246 †	6
red/nbn-diff	635 nm	2.2 V	20 mcd	30 mcd	10 mA		521-9247 †	6
green/diff	565 nm	2.1 V	3.0 mcd	6.0 mcd	10 mA		521-9504-002	5
green/diff	565 nm	2.4 V	2.2 mcd	3.0 mcd	20 mA		521-9250 †	6
green/non-diff	565 nm	2.4 V	30 mcd	50 mcd	20 mA		521-9251 †	6
yellow/diff	590 nm	2.1 V	3.0 mcd	5.0 mcd	10 mA		521-9506-002	5
yellow/diff	583 nm	2.2 V	4.0 mcd	8.0 mcd	10 mA		521-9248 †	6
yellow/non-diff	583 nm	2.2 V	20 mcd	30 mcd	10 mA		521-9249 †	6

* See page 10 for 515-0005 Snap-In Mount.

† See page 10 for 515-0004 Snap-In Mount.



T-1 ³/₄ Superbright

LED color/lens	wavelength meas. @ peak	Vf typ.	min. lum. intensity	typ. lum. intensity	test conditions	remarks	part numbers	fig. no.
red/clear	650 nm	1.75 V	16 mcd	25 mcd	10 mA	contact factory	521-9500-001	5
red/clear	650 nm	1.75 V	30 mcd	50 mcd	10 mA	contact factory	521-9500-002	5
red/clear	650 nm	1.75 V	50 mcd	75 mcd	10 mA	contact factory	521-9500-003	5
green/clear	565 nm	2.1 V	16 mcd	25 mcd	10 mA		521-9503-001	5
green/clear	565 nm	2.1 V	30 mcd	50 mcd	10 mA		521-9503-002	5
yellow/clear	590 nm	2.1 V	16 mcd	25 mcd	10 mA		521-9505-001	5
yellow/clear	590 nm	2.1 V	30 mcd	50 mcd	10 mA		521-9505-002	5

T-1 ³/₄ Super Efficiency

LED color/lens	wavelength meas. @ peak	Vf typ.	min. lum. intensity	typ. lum. intensity	test conditions	remarks	part numbers	fig. no.
red/diff	635 nm	1.8 V	1.2 mcd	2.0 mcd	2 mA	super high eff.	521-9320	7
yellow/diff	583 nm	1.9 V	1.2 mcd	1.8 mcd	2 mA	super high eff.	521-9321	7

T-1 ³/₄ Standard Efficiency - Bi & Tri Color

LED color/lens	wavelength meas. @ peak	Vf typ.	min. lum. intensity	typ. lum. intensity	test conditions	remarks	part numbers	fig. no.
red-green/white diff	RED 650 nm	2.3 V	2.0 mcd	6.0 mcd	20 mA	bicolor	521-9177 †	15
	GRN 565 nm	2.3 V	2.0 mcd	6.0 mcd	20 mA			
red-green/white diff	RED 695 nm	1.9 V	0.5 mcd	1.5 mcd	10 mA	bicolor (3 leads)	521-9178	16
	GRN 555 nm	2.0 V	0.5 mcd	1.5 mcd	20 mA			
red-green/white diff	RED 700 nm	1.9 V	0.5 mcd	1.5 mcd	5 mA	tricolor (3 leads)	521-9294	17
	GRN 565 nm	2.0 V	0.5 mcd	1.5 mcd	10 mA			

† See page 10 for 515-0004 Snap-In Mount.

Dimensional Drawings

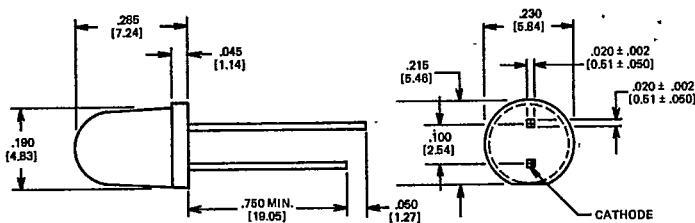
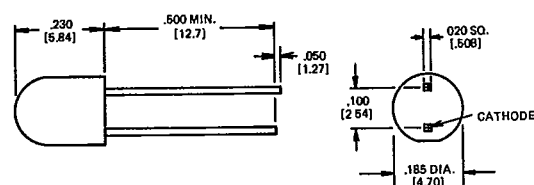
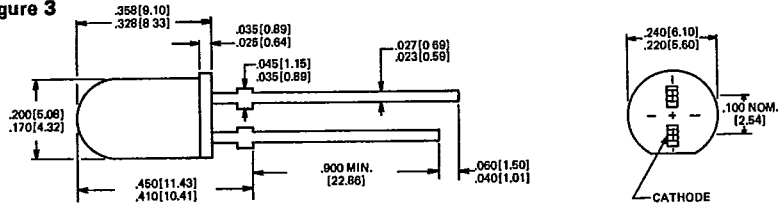
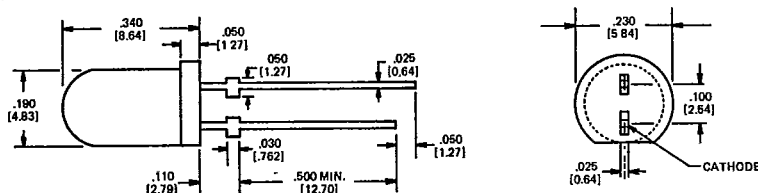
Figure 1**Figure 2****Figure 3****Figure 4**

Figure 5

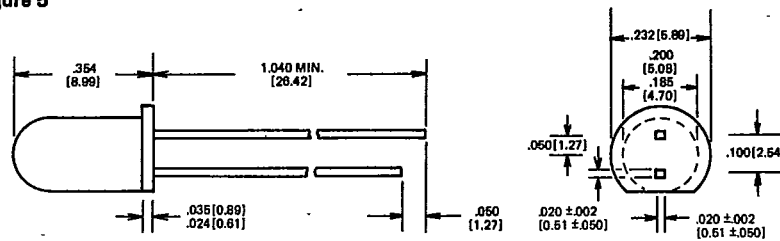


Figure 6

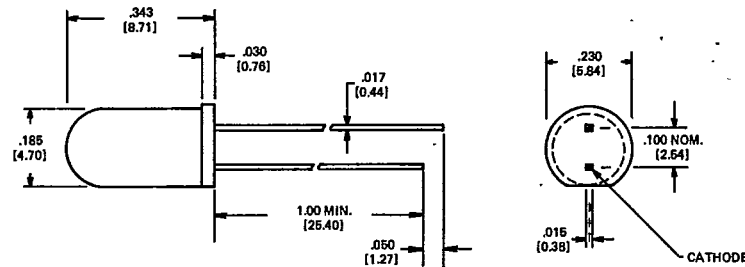


Figure 7

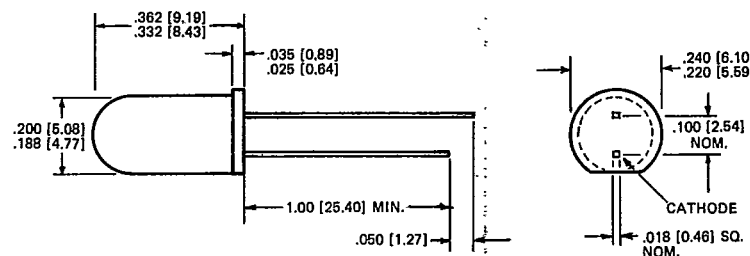


Figure 8

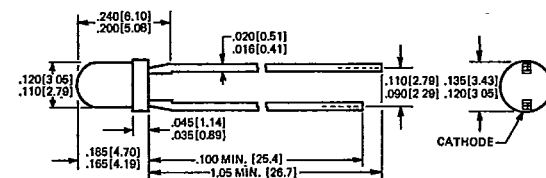


Figure 9

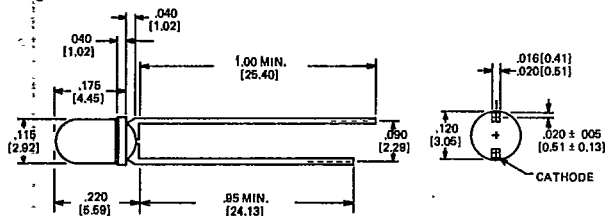
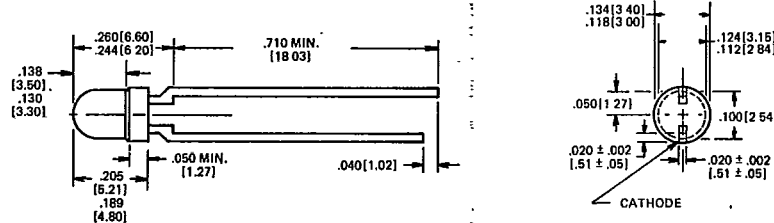


Figure 10



[] Metric dimensions in mm.

Figure 11

315[8.00]
290[7.37]

295[7.49]
276[6.99]

1.00 MIN.
[25.40]

.050
[1.27]

.100[2.54]
.090[2.29]

.025[0.64]
.014[0.36]

.100
[2.54]

.017[0.43]
.013[0.33]

Figure 12

Figure 12 shows two dimensional drawings of the cathode and anode assembly. The left drawing shows the cathode with dimensions: .390 [9.91] and .374 [9.50] for the main body, and .040 [1.02] for the protruding pins. The right drawing shows the anode with dimensions: .187 [6.00] and .185 [4.70] for the main body, .100 [2.54] for the protruding pins, .020 ± .002 [0.51 ± .050] for the top and bottom pins, .098 [2.49] and .093 [2.36] for the main body, and .050 [1.27] for the protruding pins. A label 'CATHODE' points to the left drawing.

Figure 13

Figure 13 shows two views of a cathode. The top view is a side elevation showing a central dome with a height of .010 (0.25). The base has a diameter of .020 (0.51). The distance from the base to the center of the dome is .120 (3.05). The bottom view is a top-down view showing a circular feature with a diameter of .025 (0.64) and a .020 (0.51) diameter. The overall diameter is .850 TYP. (21.59).

[illegible]

PANEL THICKNESS
7/64 (2.78) MAX.

RETAINING RING

DIM A
X
.025 (.64)
FLANGE

9/64
(3.57)

DIM B

- Recommended mounting hole — .265 (6.73)
- All dimensions $\pm .015$ (.38) unless otherwise specified.

* 515-0005 Snap-In Mount—	DIM A— .320 (8.13) O.D.
	DIM B— .210 (5.33)
† 515-0004 Snap-In Mount—	DIM A— .300 (7.62) O.D.
	DIM B— .245 (6.22)

1. snap mount into front of panel
2. snap LED lamp into mount from rear
3. snap retainer washer over mount from rear of panel

Figure 15

Technical drawing of a cathode assembly. The side view shows a cylindrical component with a hemispherical end. Dimensions include a total length of .340 [8.64], a small step of .040 [1.02], a central shaft diameter of $.020 \pm .003$ [0.51 $\pm$ 0.08], and a final length of .050 [1.27]. A minimum length of 1.00 MIN. [25.40] is indicated for the main body. The end view shows a circular cross-section with two rectangular features, one labeled 'GREEN CATHODE' and the other 'RED ANODE'. The distance between these features is .020 $\pm$.003 [0.51 $\pm$ 0.08], and the distance from the center to the outer edge is .100 [2.54].

Figure 16

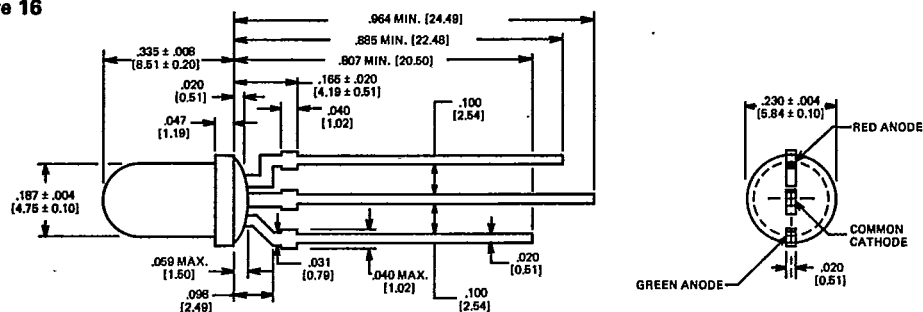


Figure 17

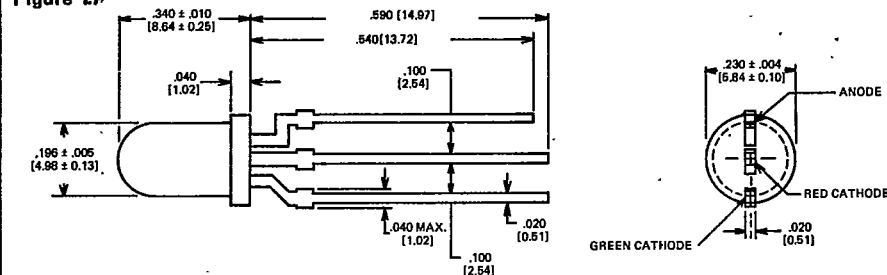


Figure 18

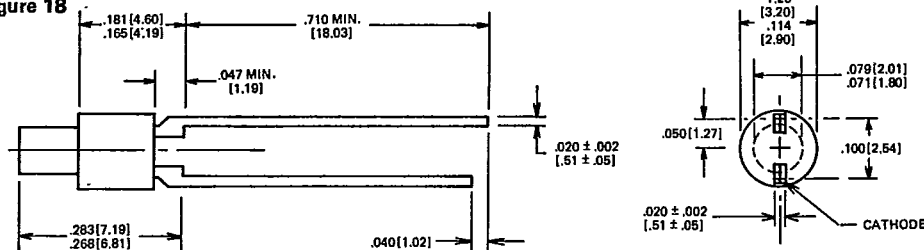


Figure 19

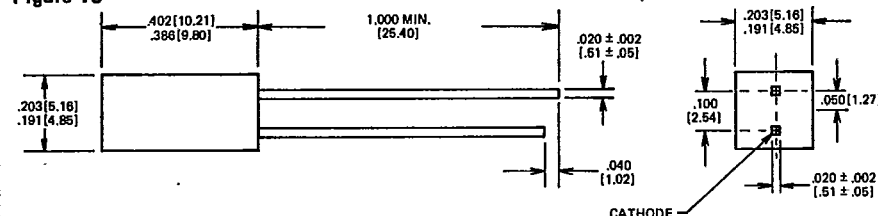
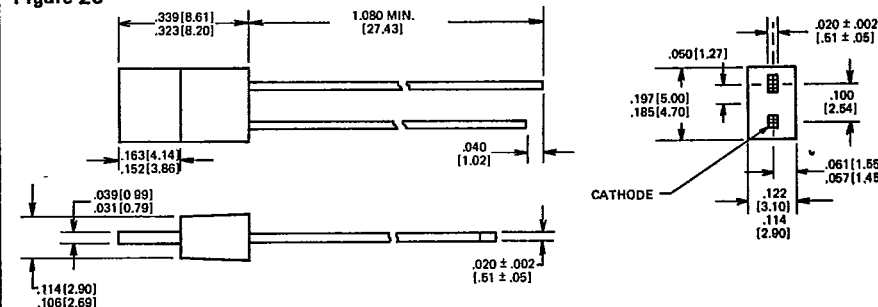


Figure 20



[] Metric dimensions in mm.