

Section 21: Mini Lamps, LEDs

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Mini Lamps, LEDs



Discrete LED Indicators

IV - Typical Luminous Intensity (mcd) VF - Typical Forward Voltage Drop (Volts) VR - Maximum Reverse Breakdown Voltage (Volts) IF - Maximum DC Forward Current (mA) PD - Maximum Power Dissipation (mW).

Discrete Blue and White LED Indicators

Part #	Typical Viewing Angle °	Viewed Color	Type	Lens Type	IV	VR	IF	PD
NTE3139	24°	Super blue	T-3/4 (1.8mm)	Water clear	3.5	4	25	120
NTE30036	15°	Super blue	T-1 (3mm)	Water clear	3.5	5	30	120
NTE3184	20°	Blue	T-1 (3mm)	Clear blue	4.5	5	30	105
NTE3183	60	Blue	T-1 (3mm)	Blue diffused	4.5	5	30	105
NTE30044	30	Super white	T-1 (3mm)	Water clear	3.6	5	30	120
NTE3185	50	White	T-1 (3mm)	Clear white	3.8	5	30	105
NTE30043	12	Super blue	T-1 3/4 (5mm)	Water clear	3.5	5	30	120
NTE3187	16	Blue	T-1 3/4 (5mm)	Water clear	4.5	5	30	105
NTE3186	60	Blue	T-1 3/4 (5mm)	Blue diffused	4.5	5	30	105
NTE30045	22	Super white	T-1 3/4 (5mm)	Water clear	3.6	5	30	120
NTE3188	50	White	T-1 3/4 (5mm)	Water clear	3.8	5	30	105
NTE30058	35	Super blue	8mm	Water clear	3.5	4	25	120
NTE30059	30	Super white	8mm	Water clear	3.5	4	25	120
NTE30070	40	Super blue	T-3 1/4 (10mm)	Water clear	3.5	4	25	120
NTE30071	40	Super white	T-3 1/4 (10mm)	Water clear	3.5	4	25	120

Discrete Super Bright LED Indicators

Part #	Typical Viewing Angle °	Viewed Color	Type	Lens Type	IV	VF	VR	IF	PD
NTE3137	24	Super red	T-3/4 (1.8mm)	Water clear	1500	2.0	5	25	100
NTE3138	24	Super red	T-3/4 (1.8mm)	Water clear	1200	1.66	5	25	110
NTE3136	24	Super orange	T-3/4 (1.8mm)	Water clear	1300	2.0	5	25	100
NTE3134	24	Super yellow	T-3/4 (1.8mm)	Water clear	1300	2.0	5	25	100
NTE30009	20	Super green	T-3/4 (1.8mm)	Water clear	100	2.2	5	25	105
NTE3133	24	Super yellow/green	T-3/4 (1.8mm)	Water clear	900	2.2	5	25	100
NTE3132	24	Super High-eff yellow/green	T-3/4 (1.8mm)	Water clear	500	2.15	5	25	84
NTE3139	24	Super blue	T-3/4 (1.8mm)	Water clear	1500	3.5	4	25	120
NTE30034	19	Super deep red	T-1 (3mm)	Water clear	2000	1.86	5	25	110
NTE30035	10	Super amber	T-1 (3mm)	Water clear	2500	2.0	5	25	100
NTE30033	10	Super orange	T-1 (3mm)	Water clear	2500	2.0	5	25	100
NTE30032	10	Super yellow	T-1 (3mm)	Water clear	2500	2.0	5	25	100
NTE30031	14	Super pure green	T-1 (3mm)	Water clear	5000	3.5	5	30	120
NTE30030	14	Super yellow/green	T-1 (3mm)	Water clear	1600	2.2	5	25	100
NTE30036	15	Super blue	T-1 (3mm)	Water clear	3000	3.5	5	30	120
NTE30044	30	Super white	T-1 (3mm)	Water clear	7000	3.6	5	30	120
NTE30041	12	Super deep red	T-1 3/4 (5mm)	Water clear	3500	1.86	5	25	110
NTE30040	12	Super orange	T-1 3/4 (5mm)	Water clear	5500	2.0	5	25	100
NTE30042	12	Super amber	T-1 3/4 (5mm)	Water clear	5500	2.0	5	25	100
NTE30039	12	Super yellow	T-1 3/4 (5mm)	Water clear	7000	2.25	5	30	100
NTE30038	15	Super pure green	T-1 3/4 (5mm)	Water clear	10500	3.5	5	30	120
NTE30037	12	Super yellow/green	T-1 3/4 (5mm)	Water clear	2500	2.2	5	25	100
NTE30043	12	Super blue	T-1 3/4 (5mm)	Water clear	3500	3.5	5	30	120
NTE30045	22	Super white	T-1 3/4 (5mm)	Water clear	16000	3.6	5	30	120
NTE30056	25	Super light red	8mm	Water clear	3600	2.0	5	25	100
NTE30057	30	Super deep red	8mm	Water clear	2200	1.86	5	25	110
NTE30055	25	Super orange	8mm	Water clear	3600	2.0	5	25	100
NTE30054	30	Super light green	8mm	Water clear	4500	3.5	4	25	120
NTE30053	25	Super yellow green	8mm	Water clear	1600	2.2	5	25	100
NTE30058	35	Super blue	8mm	Water clear	1500	3.5	4	25	120
NTE30059	30	Super white	8mm	Water clear	4000	3.5	4	25	120
NTE30068	40	Super light red	T-3 1/4 (10mm)	Water clear	2000	2.0	5	25	100
NTE30069	40	Super deep red	T-3 1/4 (10mm)	Water clear	3000	1.86	5	25	110
NTE30067	40	Super orange	T-3 1/4 (10mm)	Water clear	2000	2.0	5	25	100

Mini Lamps, LEDs



Discrete LED Indicators (cont.)

Discrete Super Bright LED Indicators

Part #	Typical Viewing Angle °	Viewed Color	Type	Lens Type	IV	VF	VR	IF	PD
NTE30066	40	Super light green	T-3 1/4 (10mm)	Water clear	3500	3.5	4	25	120
NTE30065	40	Super yellow green	T-3 1/4 (10mm)	Water clear	1300	2.2	5	25	100
NTE30070	40	Super blue	T-3 1/4 (10mm)	Water clear	1200	3.5	4	25	120
NTE30071	40	Super white	T-3 1/4 (10mm)	Water clear	4000	3.5	4	25	120
NTE30006	120	Super bright green	0.8mm x 1.6mm (SMT)	Water clear	10	2.2	5	25	105
NTE30003	120	Super bright green	1.2mm x 2mm (SMT)	Water clear	12	2.2	5	25	105
NTE30011	120	Super bright red	2.8mm x 3.5mm (SMT)	Water clear	150	1.85	5	30	105
NTE30012	120	Super bright green	2.8mm x 3.5mm (SMT)	Water clear	25	2.2	5	25	105

Discrete Surface Mount LED Indicators

Part #	Typical Viewing Angle °	Viewed Color	Type	Lens Type	IV	VF	VR	IF	PD
NTE30005	120	High-eff red	0.8mm x 1.6mm (SMT)	Water clear	12	2.0	5	30	105
NTE30006	120	Super bright green	0.8mm x 1.6mm (SMT)	Water clear	10	2.2	5	25	105
NTE30007	120	Yellow	0.8mm x 1.6mm (SMT)	Water clear	8	2.1	5	30	105
NTE30002	120	High-eff red	1.2mm x 2mm (SMT)	Water clear	12	2.0	5	30	105
NTE30003	120	Super bright green	1.2mm x 2mm (SMT)	Water clear	12	2.2	5	25	105
NTE30004	120	Yellow	1.2mm x 2mm (SMT)	Water clear	8	2.1	5	30	105
NTE30011	120	Super bright red	2.8mm x 3.5mm (SMT)	Water clear	150	1.85	5	30	105
NTE30012	120	Super bright green	2.8mm x 3.5mm (SMT)	Water clear	25	2.2	5	25	105
NTE30013	120	Yellow	2.8mm x 3.5mm (SMT)	Water clear	15	2.1	5	30	105

Phototransistor Detectors

BVCBO - Collector to Base Voltage (Volts) IC - Maximum Collector current (mA) ID - Maximum Collector Dark Current at 25°C (nA) LL - Minimum Light current (mA) PD - Maximum Power Dissipation at 25°C (mW).

Part #	Description	BVCBO	IC	ID	LL	PD	Typ Response Time (µs)
NTE3031	NPN,Si,Visible and IR	30 (VCEO)	40	100 @ 10V VCE	1	150	6
NTE3032	NPN,Si,Visible and IR	80	40	20 @ 5V VCE	12	200	2
NTE3034A	NPN, Si, Photo/Light Detector	30 (VCEO)	-	100 @ 10V VCE	100µA @ 5V	150	-
NTE3036	NPN, Si, Darlington Visible & Near IR	50	250	100	12	250	151
NTE3037	NPN, Si, Visible and IR	50	50	200 @ 30V Vce	10 @ 3V	150	2
NTE3120	NPN, Si, Phototransistor	20 (VCEO)	30	1µA @ 10 V VCE	1 typ	100	10 Max
NTE3121	NPN, Si, Darlington Visible & IR	20 (VCEO)	30	500 @ 10V VCE	0.2	100	100
NTE3122	NPN, Si, Darlington, IR, Visible Cut-Off, Narrow Acceptance	35 (VCEO)	50	10µA @ 10V VCE	1.5	75	80
NTE3123	NPN, Si, Darlington, IR, Visible Cut-Off	35 (VCEO)	50	10µA @ 10V VCE	0.2	75	400

TTL Compatible Photo Coupled Logic Gate Outputs

Viso - 3000 PT - Total Power (mW) IF - Forward Current (mA) VF - Forward Voltage (Volts) VR - Reverse Voltage (Volts) Vcc - Supply Voltage (Volts) VE - Enable Voltage (Volts) Io - Output Current (mA) tPLH/tPHL - Propagation Delay Time (ns) VISO - 3000

Part #	Output Configuration	PD	IF	VF	VR	Vcc	tPLH/tPHL
NTE3087	High Speed, Open Collector, NAND Gate	100	10	1.75	5	5	75
NTE3092	Open Collector, NPN Transistor	100	25	1.70	5	15	0.8µs
NTE3093	NPN Split Darlington	100	20	1.70	5	18	5µs
NTE3094	Dual High Speed Open Collector, NAND Gate	60	15 (Per Ch)	1.75	5 (Per Ch)	5	75
NTE3095	Dual Open Collector, NPN Transistor	35 (Per Ch)	25 (Per Ch)	1.70	5 (Per Ch)	15	0.8µs

5-Lamp LED Arrays

VF - Typical Forward Voltage (Volts) VR - Maximum Reverse Voltage (Volts) IF - Maximum Forward Current (mA) Iv - Typical Luminous Intensity (mcd) p - Peak Emission Wavelength (nm) PD - Power Dissipation (Watts)

Part #	Viewed Color	VF	VR	IF	Iv	p	PD
NTE3150	Diffused Red	1.9	3	25	0.4	700	70
NTE3151	Diffused Green	2.1	3	5	0.7	565	70

5-Lamp LED Arrays (cont.)

Part #	Viewed Color	VF	VR	IF	Iv	p	PD
NTE3152	Diffused Yellow	2.1	3	25	1.5	585	70
NTE3154	Diffused Green	2.1	3	25	0.7	565	70
NTE3155	Diffused Yellow	2.1	3	25	1.5	585	70



Mini Lamps, LEDs



LED Display

IF - maximum DC Forward Current (mA). VR - Maximum Reverse Breakdown Voltage (Volts). PT - Total Power (mW). LHDP - Left Hand Decimal Point. RHDP - Right Hand Decimal Point.

Part #	Description	Color	IF	VR	PT
NTE3050	0.270 Inch Seven Segment, Common Anode, LHDP	Red	30	10	750
NTE3051	0.270 Inch Polarity and Overflow, Common Anode	Red	30	0	480
NTE3052	0.300 Inch Seven Segment, Common Anode, RHDP	Red	30	5	700
NTE3053	0.300 Inch Seven Segment, Common Anode, RHDP	Orange	20	3	400
NTE3054	0.300 Inch Seven Segment, Common Anode, RHDP	Green	20	3	400
NTE3055	0.300 Inch Seven Segment, Common Cathode, RHDP	Yellow	20	3	400
NTE3056	0.300 Inch Seven Segment, Common Cathode, RHDP	Red	30	6	480
NTE3057	0.300 Inch Seven Segment, Common Cathode, RHDP	Red	25	3	700
NTE3058	0.300 Inch Seven Segment, Common Cathode, RHDP	Orange	20	6	600
NTE3059	0.300 Inch Seven Segment, Common Cathode, RHDP	Green	20	6	480
NTE3060	0.300 Inch Seven Segment, Common Cathode, RHDP	Red	30	6	480
NTE3061	0.300 Inch Seven Segment, Common Anode, LHDP	Red	30	6	480
NTE3062	0.300 Inch Seven Segment, Common Anode, LHDP	Orange	20	6	600
NTE3063	0.300 Inch Seven Segment, Common Anode, LHDP	Green	20	6	480
NTE3064	0.300 Inch Seven Segment, Common Anode, LHDP	Yellow	20	6	600
NTE3065	0.300 Inch Polarity and Overflow Common Anode	Red	30	6	300
NTE3068	0.400 Inch, Seven Segment, Common Anode, RHDP	Red	30	6	480
NTE3069	0.400 Inch, Seven Segment, Common Cathode, RHDP	Red	30	6	480
NTE3070	0.400 Inch, Seven Segment, Common Anode, RHDP	Orange	30	6	600
NTE3071	0.400 Inch, Seven Segment, Common Cathode, RHDP	Orange	30	6	600
NTE3074	0.560 Inch 2 Digit Common Anode, RHDP	Red	30	6	960
NTE3075	0.560 Inch, 2 digit Common Cathode	Red	30	6	960
NTE3076	0.560 Inch Seven Segment 1 Digit w/ Overflow and + Common Anode, RHDP	Red	30	6	840
NTE3077	0.560 Inch Seven Segment 1 Digit w/ Overflow and + Common Cathode, RHDP	Red	30	6	840
NTE3078	0.560 inch, seven segment, Common Anode, RHDP	Red	30	6	480
NTE3079	0.560 Inch Seven Segment, Common Cathode, RHDP	Red	30	6	480
NTE3080	0.800 Inch Seven Segment, Common Anode, RHDP	30	6	600	

Incandescent Panel Lamps

Grain of Wheat Lamps

These miniature lamps have many uses. They are used as dial lights in many consumer products. They are available in several voltages with 15 cm wire leads attached.



Part #	Voltage
11-706	6V AC/DC
11-712	12V AC/DC
11-724	24V AC/DC

12V High Flat-Top Indicator

These panel lamps have a 9 mm high X 12.5 mm diameter lens, a 12V lamp, and wire leads. The indicator will operate on AC or DC voltages and snaps into a 14 mm diameter hole.



Part #	Color
11-202	Red
11-203	Orange
11-205	Green

Square Snap-in Indicator

The indicators have a 16.3 mm square lens and mount into a 14 mm round hole. They have an incandescent lamp and operate at 12V AC/DC with wire leads.



Part #	Color
11-242	Red
11-244	Orange
11-245	Green

12V High Dome Indicator

Panel lamps with a 13 mm high X 12.7 mm dome lens, a 12V incandescent lamp, and wire leads. They snap into a 14 mm diameter hole. Lamps work on either AC or DC voltages.



Part #	Color
11-222	Red
11-223	Amber
11-225	Green

12V Flat-Top Snap-in Indicator

These panel lamps are 8.6 mm in diameter with a 5 mm high flat lens, a 12V incandescent lamp, and wire leads. They mount into a 8 mm hole and will work on either AC or DC voltages.



Part #	Color
11-282	Red
11-283	Orange
11-285	Green

12V Flush Snap-in Indicator

These snap-in panel lamps are constructed to operate at 12V AC or DC with wire leads. The lens is flush with the chrome bezel. The mounting hole is 14 mm in diameter.



Part #	Color
11-212	Red
11-213	Orange
11-215	Green

Mini Lamps, LEDs



LED Panel Lamps

Miniature Snap-in Indicator

Miniature snap-in panel lamps with a LED lamp and a built-in resistor for 12V DC operation. The device is 8.6 mm in diameter and snaps into a 8 mm hole.



Part #	Color
11-382	Red
11-383	Orange
11-385	Green

3mm LED in Dome Chrome Bezel

These panel lamps are made to operate on 2V DC and need a resistor for any other voltage. They have a chrome dome shaped bezel which hold a 3 mm LED. The lamp mounts into a 6.5 mm mounting hole with a hex nut.



Part #	Color
11-362	Red
11-363	Orange
11-365	Green

3mm LED in Recessed Chrome Bezel

These panel lamps are made to operate on 2V DC and need a resistor for any other voltage. They have a chrome recessed shaped Bezel which holds a 3mm LED. The lamp mounts into a 6.5mm mounting hole with a hex nut.



Part #	Color
11-302	Red
11-303	Orange
11-304	Yellow
11-305	Green

3mm LED Lamp Holder

The holders hold a 3 mm LED (T-1). They are a chrome recessed style holder which mounts in a 6.2 mm hole with a hex nut.



Part # 11-450

5mm LED in Dome Chrome Bezel

These panel lamps are made to operate on 2V DC and need a resistor for any other voltage. They have a chrome dome shaped bezel which holds a 5 mm LED. The lamp mounts into a 8.5 mm mounting hole with a hex nut.



Part #	Color
11-372	Red
11-373	Orange
11-375	Green

5mm LED in Recessed Chrome Bezel

These panel lamps are made to operate on 12V DC and has a built-in resistor. They have a chrome dome shaped bezel which holds a 5 mm LED. The lamp mounts into a 6.2 mm mounting hole with a hex nut.



Part #	Color
11-312	Red
11-314	Yellow
11-315	Green



LED Panel Lamps (cont.)

5mm LED in Dome Chrome Bezel

These panel lamps are made to operate on 2V DC and need a resistor for any other voltage. They have a chrome dome shaped bezel which holds a 5 mm LED. The lamp mounts into a 8.5 mm mounting hole with a hex nut.



Part #	Color
11-306	Red
11-307	Orange
11-308	Green

Miniature Screw Base Lamp Holder

These lamp holders can house a standard miniature screw based lamp. They have a dome lens and mount into a 16 mm mounting hole.



Part #	Color
11-522	Red
11-523	Orange
11-525	Green

Midget Screw Base Lamp Holder-Flat Lens

Lamp holders for midget screw based lamps. They have a 9 mm high flat lens and mount into a 10 mm hole.



Part #	Color
11-512	Red
11-513	Orange
11-515	Green

Midget Screw Base Lamp Holder-Dome Lens

Lamp holders for midget screw based lamps. They have a 9 mm high dome lens and mount into a 10 mm hole.



Part #	Color
11-552	Red
11-553	Orange
11-555	Green

Neon Panel Lamps

Rectangular Indicators

These neon indicators have built-in resistors and are designed to operate on 120V AC and have wire leads. The mounting hole is 11.2 mm X 25.7 mm.



Part #	Color
11-162	Red
11-163	Orange
11-165	Green

Rectangular Indicator with Metal Bezel

These panel lamps have a built-in resistor and are made to operate on 120V AC and have wire leads. The panel cutout is 6.5 mm X 29.3 mm.



Part #	Color
11-172	Red
11-173	Orange
11-175	Green

Mini Lamps, LEDs



Neon Panel Lamps (cont.)

Square Snap-in Indicator

These indicators have a 16.3 mm square lens and mount into a 14 mm round hole. These have a built-in resistor and operate at 120V AC with wire leads.



Part #	Color
11-143	Orange
11-146	Green

Large Rectangular Indicator

These panel lamps have a large rectangular 15.5 mm X 19.5 mm lens, a 120V AC neon lamp (with resistor) and solder terminals. They mount into a 16.2 mm hole with a mounting nut.



Part #	Color
11-142	Red
11-144	Amber
11-145	Green

Flat-Top Snap-in Indicator

These panel lamps have a built-in resistor and are made to operate on 120V AC. The lens is 12.5 mm in diameter with a chrome bezel. The mounting hole is 14 mm and they have wire leads.



Part #	Color
11-102	Red
11-103	Orange
11-105	Green

Flush Snap-in Indicator

These are snap-in panel lamps with a built-in resistor and constructed to operate at 120V AC with wire leads. The lens is flush with the chrome bezel. The mounting hole is 14 mm.



Part #	Color
11-112	Red
11-113	Orange
11-115	Green

High Dome Indicator

Panel lamps with a 13 mm high dome shaped lens, wire leads, and a built-in resistor for operation at 120V AC. The mounting hole is 14 mm in diameter.



Part #	Color
11-122	Red
11-123	Orange
11-125	Green

High Dome Indicator

Panel lamps with a 13 mm high dome shaped lens, .187" quick connect tabs, and a built-in resistor for operation at 120V AC. The mounting hole is 14 mm in diameter.



Part #	Color
11-132	Red
11-133	Orange
11-135	Green



Neon Panel Lamps (cont.)

Miniature Bayonet Lamp Holder

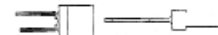
These lamp holders can house a standard miniature bayonet based lamp. They have a jeweled lens and mount into a 16 mm hole.



Part #	Color
11-542	Red
11-543	Orange
11-545	Green

Rectangular LED's - 2mm X 5mm X 7mm

Forward current is 20 ma. Viewing angle is 120°.



Part #	Max Forward Voltage	Typical Voltage	LED Color
11-642	2.0V	1.7V	Red
11-643	2.6V	2.0V	Orange
11-644	2.6V	2.1V	Yellow
11-645	2.6V	2.2V	Green

Square LED's - 8mm X 8mm X 12mm

Forward current is 20 ma. Max forward voltage is 2.6V. Viewing angle is 140°.



Part #	Typical Voltage	LED Color
11-632	2.2V	Bright Red
11-633	2.0V	Bright Orange
11-635	2.2V	Bright Green

Press In Holders

Press to fit holders hold LED's snugly into mounting hole.

Part #	Description
11-400	3mm LED (5.5mm hole)
11-401	5mm LED (6.2mm hole)
11-404	5mm LED (6.2mm hole) with lamp support

LED's

These LED's (light emitting diode) are without mounting hardware, or discrete devices. The LED consists of four components: a lead frame, a dice (or LED chip), and a fine wire bond which is encapsulated in an epoxy base. Depending on the chip used, the observer will see a monochromatic red, green, orange, yellow or blue light. There are no moving parts, so these devices are considered a "solid state device". The LED's operate on from 1.7V - 2.5V. If you need the lamp to operate at a higher voltage a current limiting resistor is needed. The value of the resistor will vary depending upon the desired voltage and whether it is AC or DC volts. Each color of LED works at a different operating current which will change the value of the resistor.



3mm (T-1) Round LED's

Forward current is 20 ma. Viewing angle is 35°.

Part #	Max Forward Voltage	Typical Voltage	LED Color
11-602	2.0V	1.7V	Red
11-604	2.6V	2.1V	Yellow
11-605	2.6V	2.2V	Green

Mini Lamps, LEDs



LED's (cont.)

5mm (T-1 3/4) Round LED's

Forward current is 20 ma. Viewing angle is 35°.

Part #	Max. Forward Voltage	Typical Voltage	LED Color
11-611	2.0V	1.7V	Red
11-612	2.6V	2.2V	Bright Red
11-614	2.6V	2.1V	Yellow
11-615	2.6V	2.2V	Green

12mm Round LED's

Forward current is 20 ma. Max forward voltage is 2.6V. Viewing angle is 50°.

Part #	Typical Voltage	LED Color
11-662	2.2V	Bright Red
11-663	2.0V	Orange
11-664	2.1V	Yellow
11-665	2.2V	Green

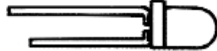
Blinking LED's - 5mm (T-1 3/4)

All of these devices operate @ 25 ma, 3 - 10V DC and are typically driven by TTL or C-MOS circuits with no external circuit needed. Pulse rate (VDD=5V) Hz is 2.4V. Viewing angle is 45°.

Part #	LED Color	Luminous Intensity
11-672	Bright Red	12.0
11-674	Yellow	35.0
11-675	Green	40.0

Silicon Photo Transistors

These devices are an electronic switch. When this unit is activated current is allowed to flow through the device. These items are used in optical encoders, automatic control systems, photo detectors and others applications where an optical switch is needed.



3mm (T-1)

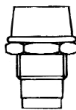
Part #	Max Breakdown Voltage	Typical Voltage	Typical Carry Current	Viewing Angle
11-690	30V	5V	20ma	30°

5mm (T-1 3/4)

Part #	Max Breakdown Voltage	Typical Voltage	Typical Carry Current	Viewing Angle
11-691	30V	5V	20ma	35°

5mm LED Lamp Holder

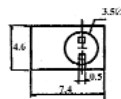
The holders hold a 5 mm LED (T-1 3/4). They are a chrome recessed style holder which mounts into a 8.2 mm hole with a hex nut.



Part # 11-480

90° Surface Mount Holders

Mount LED's at 90° to PC boards.



Part #	Description
11-409	3mm Single
11-410	5mm Single
11-412	5mm Dual

3mm LED's

Brightness rating @ 10mA.



Part #	Color	Brightness
55-532-0	Red	1.8MCD
55-533-0	Orange	3.5MCD
55-534-0	Yellow	2.7MCD
55-535-0	Green	3.2MCD

3mm Mounting Bezel

3mm Plastic mounting bezel (one piece). Bulk.



Part # 55-530-0

3mm R/A LED's

Brightness level @ 10mA.



Part #	Color	Brightness
55-542-0	Red	1.8MCD
55-545-0	Green	3.2MCD

Super Bright 3mm LED's

Brightness rating @ 20mA.



Part #	Color	MCD
55-532SB-0	Red	800-1000
55-534SB-0	Yellow	1000-1200
55-535SB-0	Green	2000-3000
55-536SB-0	White	1000-2000
55-537SB-0	Blue	800-1000

5mm Flashing LED

Requires no external circuitry. Easily drive by TTL or C-MOS (3-12VDC). Red, 1.6MCD.

Part # 55-572-0

5mm LED's

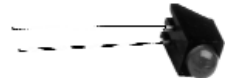
5mm LED's brightness rating @ 10mA.



Part #	Color	Brightness
55-552-0	Red	3.2MCD
55-553-0	Orange	6.5MCD
55-554-0	Yellow	5.0MCD
55-555-0	Green	5.7MCD
55-558-0	Blue	30MCD

5mm R/A LED's

Brightness rating @ 10mA.



Part #	Color	Brightness
55-562-0	Red	3.2MCD
55-564-0	Yellow	5.0MCD
55-565-0	Green	5.7MCD

Mini Lamps, LEDs



5mm LED Holder

For 5mm LED's. Packaging is in Bulk.

55-550-0



Part #	Description
55-550-0	Plastic 2 piece panel mount holder
55-550A-0	Plastic 1 piece panel mount holder, concave
55-550B-0	Plastic 1 piece panel mount holder, convex

Neon Indicators (Internal Resistor) 120VAC



Part #	Color
55-442-0	Red neon
55-443-0	Amber neon
55-445-0	Green neon

5mm High Brightness LED's

Brightness rating @ 20mA.



Part #	Description
55-555HB-0	Green, 900-1500MCD
55-558HB-0	Blue, 900-1000MCD
55-559HB-0	White, 900-1500MCD

5mm Super Bright LED's

Brightness rating @ 20mA.



Part #	Description
55-554SB-0	Yellow, 2000-2500MCD
55-555SB-0	Green, 3000-6000MCD
55-558SB-0	Blue, 1000-2000MCD
55-559SB-0	White, 2000-3000MCD
55-556-0	Red, 625MCD
55-557-0	Red, 2500MCD

Bi-Color LED's



Part #	Description
55-582-0	2-Lead Dual Color LED - Red/Green 2.2/3.5MCD
55-592-0	3-Lead Dual Color LED - Red/Green 2.2/2.5MCD

Rectangular LED's

2 x 5mm Rectangular LED's.



Part #	Color	Brightness
55-602-0	Red	2.2MCD
55-603-0	Orange	4.5MCD
55-604-0	Yellow	3.5MCD
55-605-0	Green	3.7MCD

High Brightness 3mm LED's

Brightness rating @ 20mA.



Part #	Color	Type
55-532HB-0	Red	400-500MCD
55-534HB-0	Yellow	400-600MCD
55-535HB-0	Green	600-1000MCD



LED Replacement Lamps - T3 1/4 (10mm) Bayonet Base

These LED lamps are suitable long life replacements for T3 1/4 bayonet base lamps. The bottom contact is the anode (+) and the bayonet sleeve is the cathode. With internal resistor for the specified voltage.



Part #	Color	Volts	MCD
55-110B-0	Blue	6VDC	2800
55-110G-0	Green	6VDC	1300
55-110R-0	Red	6VDC	2000
55-110Y-0	Yellow	6VDC	2000
55-110W-0	White	6VDC	2000
55-111B-0	Blue	12VDC	2800
55-111G-0	Green	12VDC	1300
55-111R-0	Red	12VDC	2000
55-111Y-0	Yellow	12VDC	2000
55-111W-0	White	12VDC	2000
55-112B-0	Blue	24VDC	2800
55-112G-0	Green	24VDC	1300
55-112R-0	Red	24VDC	2000
55-112Y-0	Yellow	24VDC	2000
55-112W-0	White	24VDC	2000

Super Bright 120VAC/DC LED Replacement Lamps

T3 1/4 (10mm) Bayonet Base

These LED lamps are suitable long life replacements for T3 1/4 bayonet base lamps. The bottom contact is the anode (+) and the bayonet sleeve is the cathode. With internal resistor for the specified voltage.



Part #	Color	Volts	MCD	If
55-214B-0	Blue	120	800	4.8mA
55-214G-0	Green	120	3000	4.8mA
55-214R-0	Red	120	3500	4.8mA
55-214Y-0	Yellow	120	3500	4.8mA
55-214W-0	White	120	1800	4.8mA
55-211B-0	Blue	12	4500	32mA
55-211G-0	Green	12	17000	32mA
55-211R-0	Red	12	21000	32mA
55-211Y-0	Yellow	12	21000	32mA
55-211W-0	White	12	1000	32mA
55-212B-0	Blue	24	4500	20mA
55-212G-0	Green	24	17000	20mA
55-212R-0	Red	24	21000	20mA
55-212Y-0	Yellow	24	21000	20mA
55-212W-0	White	24	10000	20mA

T3 1/4 (10mm) Screw Base

These LED lamps are suitable long life replacements for T3 1/4 screw base lamps. The bottom contact is the anode (+) and the screw sleeve is the cathode. With internal resistor for the specified voltage.



Part #	Color	Volts	MCD	If
55-221B-0	Blue	12	4500	32mA
55-221G-0	Green	12	17000	32mA
55-221R-0	Red	12	21000	32mA
55-221Y-0	Yellow	12	21000	32mA
55-221W-0	White	12	10000	32mA
55-222B-0	Blue	24	4500	20mA
55-222G-0	Green-0	24	17000	20mA
55-222R-0	Red	24	21000	20mA

Mini Lamps, LEDs



Super Bright 120VAC/DC LED Replacement Lamps (cont.)

T3 1/4 (10mm) Screw Base (cont.)



Part #	Color	Volts	MCD	If
55-222Y-0	Yellow	24	21000	20mA
55-222W-0	White	24	10000	20mA
55-224B-0	Blue	120	800	4.8mA
55-224G-0	Green	120	3000	4.8mA
55-224R-0	Red	120	3500	4.8mA
55-224Y-0	Yellow	120	3500	4.8mA
55-224W-0	White	120	1800	4.8mA



LEDs and Accessories

T1 (3mm) Size

Part #	Description
652551	Red Clear LED (12mcd, 697nm, 30P)
652560	Red Transparent LED (350mcd, 660nm, 30P)
624155	Orange Red Diffused LED (15.5mcd, 635nm)
624147	Orange Red Clear LED (52.9mcd, 635nm)
664464	Orange Red Dual LED (12mcd, 635nm, 50P)
80653	Green Diffused LED (1.5mcd, 560nm, 50P)
664472	Green Diffused LED (32mcd, 567nm)
664481	Green Clear LED (129mcd, 565nm, 30P)
34665	Yellow Diffused LED (15mcd, 585nm, 50P)
664499	Yellow Transparent LED (450mcd, 595nm, 30P)
664501	Red/Green Bi-Color LED (3/15mcd, 697/565nm, 36P)
205452	Infrared Diode (1.2V @ 20mA) 940nm
205461	Infrared Detector 940nm (used with TLN100JP)
99063	Plastic Clip for Mounting T1 LEDs
34649	Red Diffused LED (4.5mcd, 697nm, 36P)

T1-3/4 (5mm) Size

Part #	Description
34817	Red Diffused LED (3mcd, 697nm, 36P)
80741	Red Diffused LED (3mcd, 697nm, 36P)
664510	Red Transparent LED (660mcd, 550nm, 20P)
129197	Red Water Clear LED (7.5mcd, 697nm, 20P)
205479	Red Bright Water Clear LED (350mcd, 660nm)
664528	Red Super Clear LED (1000mcd, 660nm, 20P)
625377	Red Ultra Clear LED (2000mcd, 660nm)
664536	Red Diffused Right Angle LED (6.5mcd, 697nm, 46P)
34702	Red/Flash Blinking Diffused LED (2.8mcd, 697nm)
121494	Orange Red Diffused LED (12mcd, 635nm, 36P)
664544	Orange Red Diffused LED (23mcd, 635nm)
664552	Orange Red Ultra Clear LED (4650mcd, 634nm, 15P)
34788	Green Diffused LED (12mcd, 565nm, 36P)
664561	Green Diffused Hi-Output LED (96mcd, 567nm)
205487	Green Bright Water Clear LED (100mcd, 565nm, 20P)
34841	Yellow Diffused LED (12mcd, 585nm, 36P)
664579	Yellow Transparent LED (700mcd, 595nm, 20P)
200969	Yellow Super Bright Water Clear LED (1040mcd, 593nm)
664587	Yellow Ultra Clear LED (2800mcd, 592nm, 15P)
664595	Yellow Diffused Right Angle LED (25mcd, 585nm, 46P)
145947	Blue Diffused LED (10mcd, 430nm, 36P)
200977	Blue Bright Water Clear LED (160mcd, 430nm, 15P)
200951	White Super Bright Water Clear LED (3700mcd, 15P)
664608	White Ultra Clear LED (5000mcd, 15P)

LEDs and Accessories (cont.)

T1-3/4 (5mm) Size (cont.)

Part #	Description
34681	Red/Green Diffused Bi-Color LED (3/12mcd, 697/565nm, 70P)
34729	Red/Green Diffused Bi-Color/Tri-State LED (7.5mcd, 635/565, 30P)
205508	Infrared Diode (1.2V @ 20mA) 940nm
121540	Infrared Detector 940nm (used with TLN110JP)
80987	Plastic Clip and Ring for Mounting T1-3/4 LEDs

Extra Jumbo T3-1/4 (10mm) Size

Part #	Description
99039	Red Bright Diffused LED (100mcd, 660nm, 32P)
99047	Green Diffused LED (40mcd, 565nm, 32P)
99055	Yellow Diffused LED (15mcd, 585nm, 42P)

7-Segment and Dot Matrix LED Displays

Part #	Description
81023	Red 7-Segment Common Anode Display .300" (RHDP) - 2 pack
24758	Red 7-Segment Common Anode Display .300" (LHDP) - 2 pack
24766	Red 7-Segment Common Anode Display .300" (LHDP) - 4 pack
24791	Red 7-Segment Common Cathode Display .300" (RHDP) - 2 pack
24803	Red 7-Segment Common Cathode Display .300" (RHDP) - 4 pack
17195	Red 7-Segment Common Cathode Display .500" (RHDP) - 2 pack
17216	Red 7-Segment Common Anode Display .500" (RHDP) - 2 pack
18745	Orange-Red 7-Segment Common Anode Display .800" (RHDP) - 2 pack
18761	Red 7-Segment Common Cathode Display .800" (LHDP) - 2 pack
81040	Red 7-Segment Common Anode Display (2 Digit) .560" (RHDP) - 2 pack
121443	Red 7-Segment Common Cathode Display (2 Digit) .560" (RHDP) - 2 pack
150068	Red Dot Matrix Display .700" (5x7 AC/CR)

This catalog represents a sampling of our inventory.

Please contact us if the product or part you are looking for is not included in this publication.



Mini Lamps, LEDs



.312" Press-to-Fit Indicator Lights

Fits into a .312" mounting hole and are available in several colors and voltages. They are made from Nylon material and have 18 AWG 6" wire leads.

Part #	Voltage	Current	Type	Life	Shape	Color
38-3540-50	125V	-	C2A-5 Neon	25,000	Flush	Clear
38-3540-12	12V/14V	.08A	#35	50,000	Flush	Clear
38-3542-06	6.3V	.04A	#32	50,000	Flush	Red
38-3542-50	125V	.08A	C2A-5 Neon	25,000	Flush	Red
38-3542-12	12V/14V	-	#35	50,000	Flush	Red
38-3543-06	6V	.08A	#32	50,000	Flush	Amber
38-3543-50	125V	-	C2A-5 Neon	25,000	Flush	Amber
38-3543-12	12V/14V	.08A	#35	50,000	Flush	Amber
38-3545-50	125V	-	C2A-5 Neon	25,000	Flush	Green
38-3545-12	12V/14V	.08A	#35	50,000	Flush	Green
38-3546-50	125V	-	C2A-5 Neon	25,000	Flush	Blue
38-3546-12	12V/14V	.08A	#35	50,000	Flush	Blue
38-3549-50	125V	-	C2A-5 Neon	25,000	Flush	White
38-3549-12	12V/14V	.08A	#35	50,000	Flush	White
38-3550-50	125V	-	C2A-5 Neon	25,000	High Flat	Clear
38-3550-12	12V/14V	.08A	#35	50,000	High Flat	Clear
38-3552-50	125V	-	C2A-5 Neon	25,000	High Flat	Red
38-3552-12	12V/14V	.08A	#35	50,000	High Flat	Red
38-3553-50	125V	-	C2A-5 Neon	25,000	High Flat	Amber
38-3553-12	12V/14V	.08A	#35	50,000	High Flat	Amber
38-3555-50	125V	-	C2A-5 Neon	25,000	High Flat	Green
38-3555-12	12V/14V	.08A	#35	50,000	High Flat	Green
38-3556-50	125V	-	C2A-5 Neon	25,000	High Flat	Blue
38-3556-12	12V/14V	.08A	#35	50,000	High Flat	Blue

NOTES

