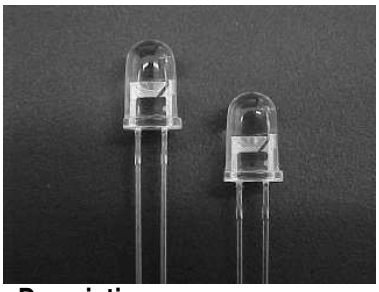
Data Sheet

Lx636D7Y, Lx546T7Y, Lx636T6Y

MediaVista™ High Brightness LED Lamps
T-1¾ (5mm) Oval
Red, Green, Blue and Amber



Description:

CAO MediaVista™ high brightness LED lamps are specially designed for outdoor signal and sign applications. Its precise optical design produces a high bright light source and well defined spatial radiation patterns. The lens was made with an advanced optical grade epoxy to produce superior high temperature and high moisture resistant performance in outdoor environments. It also contains UV inhibitors to reduce the effects of long term exposure to direct sunlight.

These LED lamps use a standard T 1¾ (5 mm) oval package and options of lens color can be water clear, color diffused, tinted and transparent. The chips of these LEDs are applied to the most up-to-date material technology to produce the most efficient light output and highest junction temperature limit, which enable it to operate under bright sunlight and other high temperature environment.

MediaVista™

Features:

- **Standard T-1¾ package**
- **Precise optical performance**
- **Lens options:**
  - Color diffused
  - Tinted and transparent
  - Water clear
- **Superior performance in outdoor environment**
  - UV resistant epoxy
  - Superior resistance to moisture
- **Outstanding LED material efficiency**
  - High luminous output
  - Low electrical power consumption
- **Choice of standoffs**: with or without
- **View angles:** 70º/40º or 70º/30º Parallel
- **Colors:**
  - Red 625 nm
  - Green 525 nm
  - Blue 470 nm
  - Amber 592 nm
- **Choice of packaging options:**
  - Bulk
  - Ammo pack
  - Tape and reel

Applications:

- **Outdoor message boards**
- **Dynamic message signs**
- **Commercial message centers**

CAUTION: LED lamps are ESD sensitive electronic devices. Please observe appropriate precautions during handling and processing. Refer to CAO Application Notes for additional details.

Device Selection Guide

Part Number	Typical View Angle 2θ½	Color and Dominant Wavelength	Intensity Range at 20 mA (mcd)		Stand-off	Lens	Package Drawing
			Min.	Max.			
LR636D7Y-BDKLT5T6B0	70º/40º	Red 625 nm	1300	2200	Yes	Diffused	A
LG636D7Y-GMMNG6G7BC	70º/40º	Green 525 nm	2200	3600	Yes	Diffused	A
LB636D7Y-GMGJB2B3BC	70º/40º	Blue 470 nm	580	1300	Yes	Diffused	A
LR546T7Y-BDLNT5T6B0	70º/30º	Red 625 nm	1700	3600	No	Tinted	B
LY546T7Y-BDMPY4Y8B0	70º/30º	Amber 592 nm	2200	4700	No	Tinted	B
LY546T7Y-BDNQY4Y8B0	70º/30º	Amber 592 nm	2800	6100	No	Tinted	B
LG636T6Y-GMNPG6G7BC	65º/35º	Green 525 nm	2800	4700	No	Tinted	C

Notes:
1. Tolerance of intensity limits is ±15%.
2. Tolerance of typical view angle $2\theta_{1/2}$ is ± 5º, measured at $Iv(\theta_{1/2})=50\%Iv(0)$.

Part Numbering System

L	R	6	3	6	D	7	Y	-	B	D	K	L	T	5	T	6	B	0
1	2	3	4	5	6	7	8		9	10	11	12	13	14	15	16	17	18

Special Requirements
0: No special requirements
C: Copper alloy lead frame

Mechanical Options
A: Ammo pack
B: Bulk
T: Tape and reel

Maximum Color Bin

Minimum Color Bin

Maximum Intensity Bin

Minimum Intensity Bin

Maximum Forward Voltage Bin

Minimum Forward Voltage Bin

Series Code

Typical View Angle
7: 70º/40º or 70º/30º
6: 65º/35º

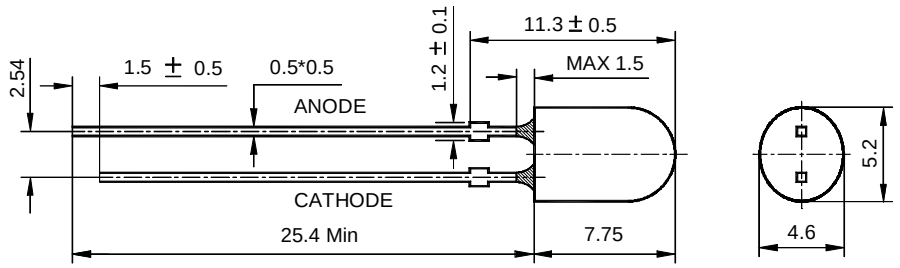
Lens and Standoff Options
D: Color diffused, with standoff
T: Tinted and Transparent, without standoff

LED Package Type
636/546: 5 mm Oval

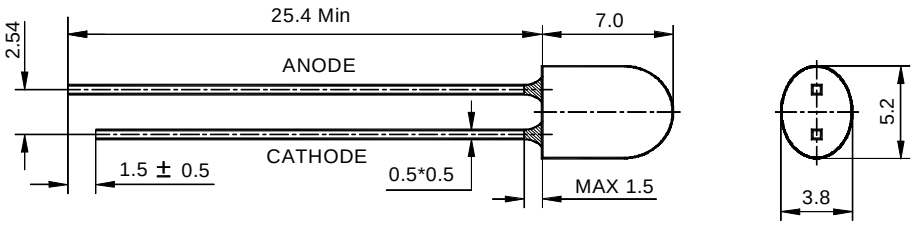
Emitting Color
R: Red 625 nm
G: Green 525 nm
B: Blue 470 nm
Y: Amber 592 nm

Package Dimensions

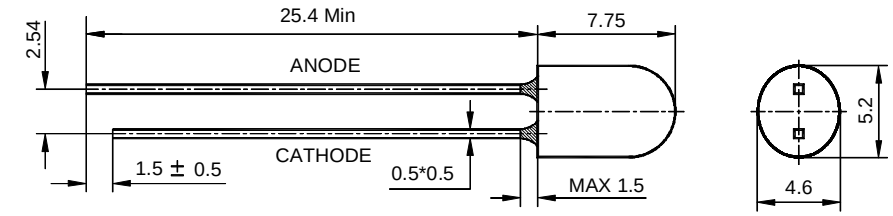
A



B



C



Notes :
1. All dimensions are in millimeters.
2. Tolerance is ±0.2mm unless otherwise noted.
3. Leads are mild steel or copper alloy, solder dipped.
4. Tapers shown at top of leads (bottom of lamp package) indicate an epoxy meniscus that may extend about 1.5 mm down the lead.

Absolute Maximum Rating at T_A = 25°C

Parameters	Red and Amber	Blue and Green
Power Dissipation	80 mW	100 mW
Forward Current	30 mA	30 mA
Pulse Forward Current [1]	100 mA	100 mA
Reverse Voltage	8 V	5 V
Operating Temperature Range	-40 °C to +100 °C	-30 °C to +85 °C
Storage Temperature Range	-40 °C to +100 °C	-40 °C to +100 °C
Lead Soldering Temperature[2]	260 °C for 5 Seconds	260°C for 5 Seconds

Notes:
1. Pulse forward current condition: 1/10 duty cycle, 0.1ms pulse width.
2. Soldering condition: 3 mm below body.

Electrical / Optical Characteristics T_A = 25°C

Parameter	Symbol	Min.	Typ.	Max.	Units	Test Condition
Forward Voltage						
Red and Amber		1.8	2.2	2.4	V	I_F=20 mA
Blue and Green	V_F	2.8	3.4	4.0		
Reverse Current						
Red and Amber	I_R			2	μA	V_R=5 V
Blue and Green				50		
Dominant Wavelength[1]						
Red		620	625	630		
Green	λ_D	520	525	535	nm	I_F=20 mA
Blue		465	470	475		
Amber		586	592	596		
View Angle						
Lx636D7Y	$2\theta_{1/2}$[2]		70/40		Deg.	I_F=20 mA
Lx546T7Y			70/30			
Lx636T6Y			65/35			
Luminous Intensity						
LR636D7Y		1300	1500	2200		
LG636D7Y		2200	2900	3600		
LB636D7Y	I_V	580	800	1300	mcd	I_F=20 mA
LR546T7Y		1700	2500	3600		
LY546T7Y		2200	4000	6100		
LG636T6Y		2800	3800	4700		

Notes:
1. The dominant wavelength λ_D is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.
2. $\theta_{1/2}$ is the off-axis angle at which luminous intensity is half of the axial luminous intensity, i.e. $Iv(\theta_{1/2})=Iv(0)$.
3. Tolerance of typical view angle $2\theta_{1/2}$ is ± 5°.

Typical Electrical / Optical Characteristic Curves T_A = 25°C

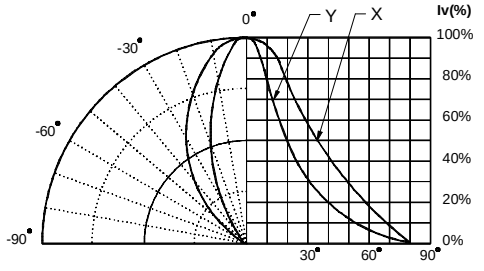


Figure 1-a: Spatial Radiation Pattern - 70°/40°

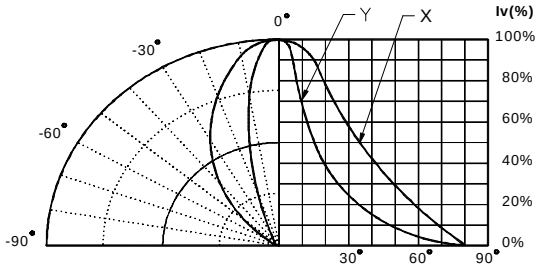


Figure 1-b: Spatial Radiation Pattern - 70°/30°

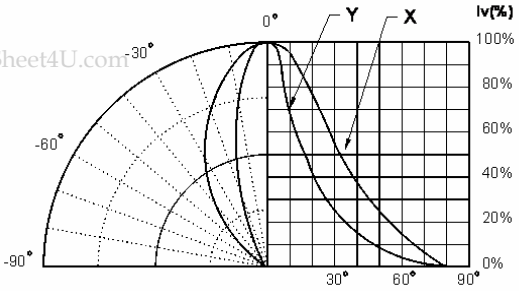


Figure 1-c: Spatial Radiation Pattern - 65°/35°

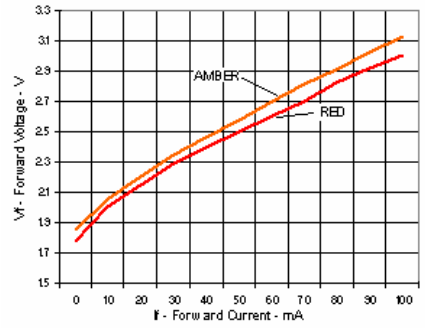


Figure 2-a: Forward Current vs. Forward Voltage – Red and Amber

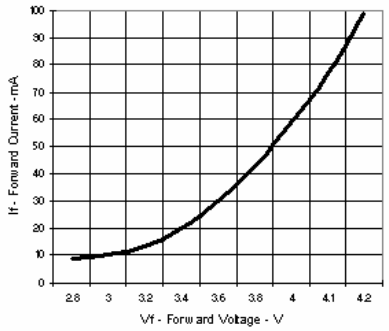


Figure 2-b: Forward Current vs. Forward Voltage – Blue and Green

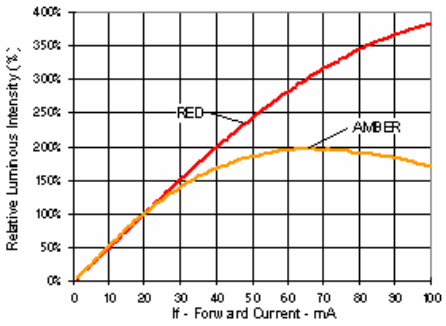


Figure 3-a: Relative Intensity vs. Forward Current – Red and Amber

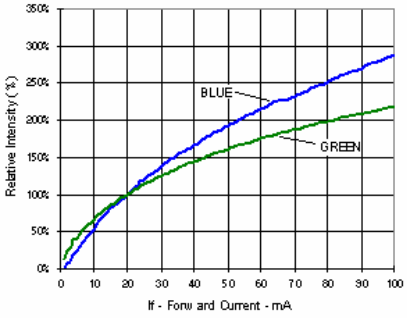


Figure 3-b: Relative Intensity vs. Forward Current – Blue and Green

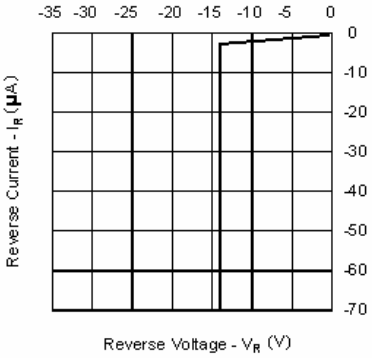


Figure 4-a: Reverse Voltage vs. Reverse Current – Red and Amber

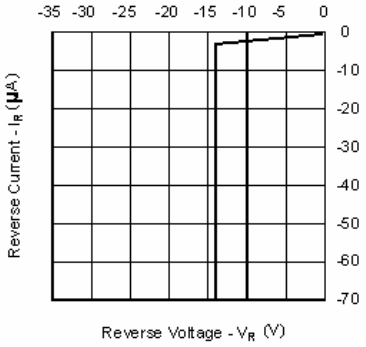


Figure 4-b: Reverse Voltage vs. Reverse Current – Blue and Green

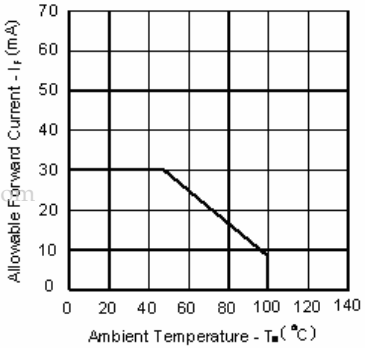


Figure 5-a: Maximum Allowable Forward Current vs. Ambient Temperature – Red and Amber

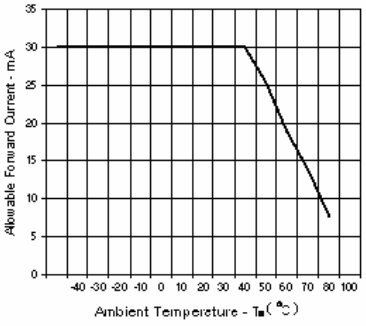


Figure 5-b: Maximum Allowable Forward Current vs. Ambient Temperature – Blue and Green

Color Bin Limits

Red	Color Range (nm)	
Bin Code	**Min.**	**Max.**
T4	615.0	620.0
T5	620.0	625.0
T6	625.0	630.0
T7	630.0	635.0
T8	635.0	640.0

Tolerance for each bin limit is ±0.5 nm.

Amber	Color Range (nm)	
Bin Code	**Min.**	**Max.**
Y3	584.0	586.0
Y4	586.0	588.0
Y5	588.0	590.0
Y6	590.0	592.0
Y7	592.0	594.0
Y8	594.0	596.0

Tolerance for each bin limit is ±0.5 nm.

Green	Color Range (nm)	
Bin Code	**Min.**	**Max.**
G6	520.0	525.0
G7	525.0	530.0
G8	530.0	535.0

Tolerance for each bin limit is ±0.5 nm.

Blue	Color Range (nm)	
Bin Code	**Min.**	**Max.**
B1	460.0	465.0
B2	465.0	470.0
B3	470.0	475.0
B4	475.0	480.0

Tolerance for each bin limit is ±0.5 nm.

Intensity Bin Limits (mcd)

Bin Code	Min.	Max.
F	450	580
G	580	750
H	750	980
J	980	1300
K	1300	1700
L	1700	2200
M	2200	2800
N	2800	3600
P	3600	4700
R	4700	6100
S	6100	8000

Tolerance for each intensity bin limit is ±5%.

Forward Voltage Bin Limits (V)

Bin Code	Min.	Max.
A	1.6	1.8
B	1.8	2.0
C	2.0	2.2
D	2.2	2.4
E	2.4	2.6
F	2.6	2.8
G	2.8	3.0
H	3.0	3.2
J	3.2	3.4
K	3.4	3.6
L	3.6	3.8
M	3.8	4.0

Tolerance for each bin limit is ±0.1 V.

Notes:
1. All bin categories are established for classification of products. For availability of specific bin categories, please contact your CAO sales representatives for further information.

www.caogroup.com
For product information and a complete list of sales representatives, please go to our website.
For technical assistance call:
US/Canada: +1 (877) 877-9778 or (801) 256-9282
Data subject to change.

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