LITEON

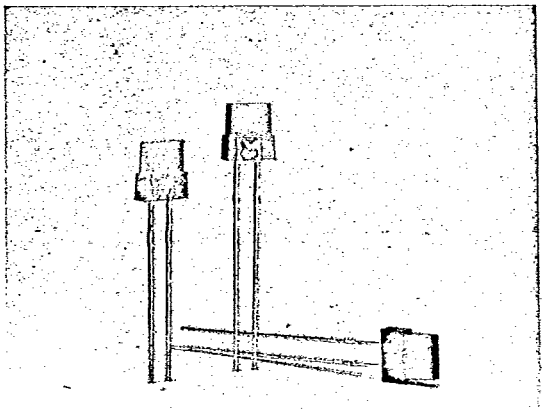
1.5×5.0 RECTANGULAR BAR LED LAMPS

LTL-723R RED
LTL-723P BRIGHT RED
LTL-723HR HIGH EFFICIENCY RED
LTL-723G GREEN
LTL-723Y YELLOW
LTL-723A AMBER

T-41-23

FEATURES

- LOW POWER CONSUMPTION.
- SUITABLE FOR PULSED OPERATION.
- MOST SUITABLE FOR USE LIKE AUDIO PANEL INDICATOR.
- FITS 1.5x5 mm HOLE IN PANELS UP TO 3.5 mm THICK.
- LONG LIFE-SOLID STATE RELIABILITY.



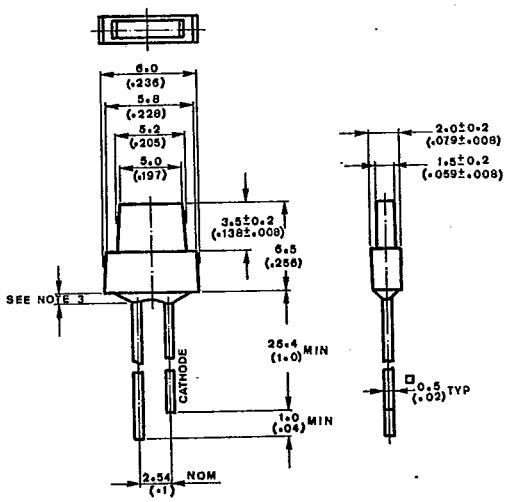
DESCRIPTION

The Red source color devices are made with Gallium Arsenide Phosphide on Gallium Arsenide Red Light Emitting Diode.
The Bright Red source color devices are made with Gallium Phosphide on Gallium Phosphide Orange Light Emitting Diode.
The High Efficiency Red and Orange source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.
The Green source color devices are made with Gallium Phosphide on Gallium Phosphide Green Light Emitting Diode.
The Yellow and Amber source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

DEVICES

PART NO. LTL–	LENS		SOURCE
	COLOR	DIFFUSION	COLOR
723R	Red	Diffused	Red
723P	Red	Diffused	Bright Red
723HR	Red	Diffused	Hi. Eff. Red
723G	Green	Diffused	Green
723Y	Yellow	Diffused	Yellow
723A	Amber	Diffused	Amber

PACKAGE DIMENSIONS



NOTES:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25mm (.010") unless otherwise noted.
3. Protruded resin under flange is 1.5mm (.059") max.
4. Lead spacing is measured where the leads emerge from the package.
5. Specifications are subject to change without notice.

ABSOLUTE MAXIMUM RATINGS AT $T_A = 25°C$

PARAMETER	RED	BRIGHT RED	GREEN	YELLOW	HI. EFF. RED ORANGE	UNIT
Power Dissipation	80	40	100	60	100	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	200	60	120	80	120	mA
Continuous Forward Current	40	15	30	20	30	mA
Derating Linear From 25°C	0.5	0.2	0.4	0.25	0.4	mA/°C
Reverse Voltage	5	5	5	5	5	V
Operating Temperature Range	−55°C to +100°C					
Storage Temperature Range	−55°C to +100°C					
Lead Soldering Temperature [1.6mm (0.063in) From Body]	260°C for 5 Seconds					

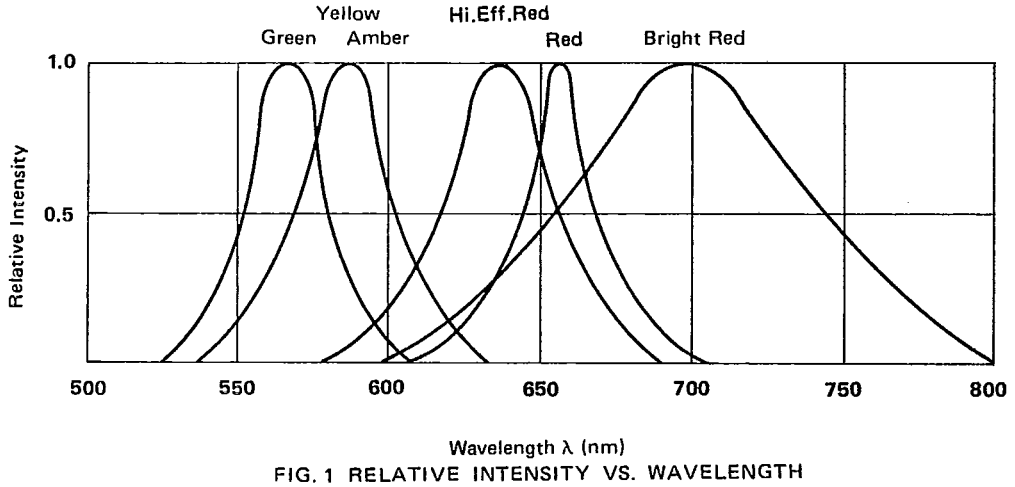


FIG. 1 RELATIVE INTENSITY VS. WAVELENGTH

ELECTRICAL/OPTICAL CHARACTERISTICS AND CURVES AT T_A = 25°C

PARAMETER	SYMBOL	PART NO. LTL–	MIN.	TYP.	MAX.	UNIT.	TEST CONDITION
Luminous Intensity	Iv	723R 723P 723E	0.1 0.3 0.5	0.3 0.7 1.7		mcd	I_F = 10 mA Note 1
Viewing Angle	2θ½	723R 723P 723E		88°		deg.	Note 2 (Fig. 6)
Peak Emission Wavelength	λPEAK	723R 723P 723E		655 697 635		nm	Measurement @ Peak (Fig. 1)
Spectral Line Half Width	Δλ	723R 723P 723E		24 90 40		nm	
Forward Voltage	V_F	723R 723P 723E		1.7 2.1 2.0	2.0 2.8 2.8	V	I_F = 20 mA
Reverse Current	I_R	723R 723P 723E			100	μA	V_R = 5 V
Capacitance	C	723R 723P 723E		30 55 20		PF	V_F = 0 f = 1 MHz

NOTES: 1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commission Internationale De L'Eclairage) eye-response curve.
2. θ½ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

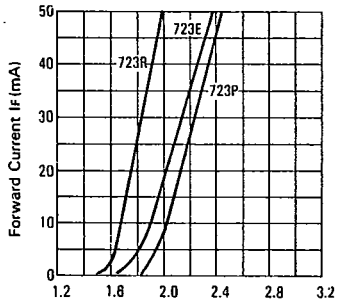


FIG. 2 FORWARD CURRENT VS. FORWARD VOLTAGE

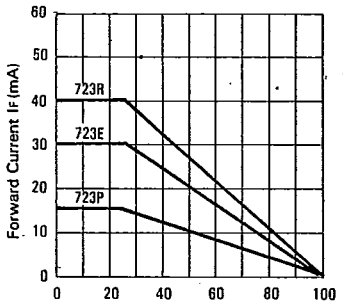


FIG. 3 FORWARD CURRENT DERATING CURVE

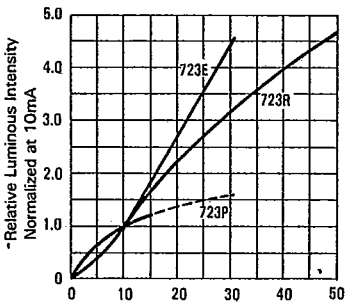


FIG. 4 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.
FIG. 11

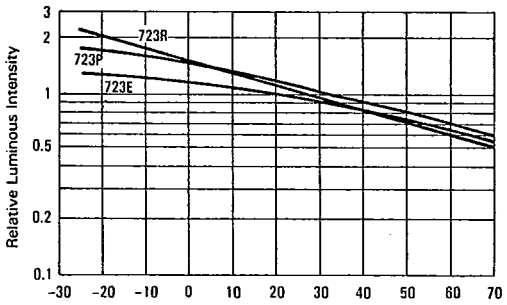


FIG. 5 LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE

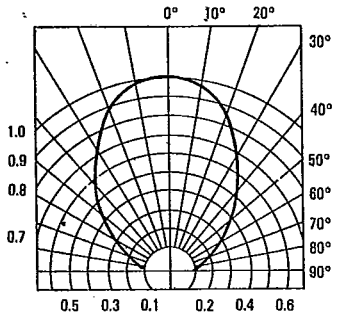


FIG. 6 SPATIAL DISTRIBUTION

ELECTRICAL/OPTICAL CHARACTERISTICS AND CURVES AT T_A = 25°C

PARAMETER	SYMBOL	PART NO. LTL–	MIN.	TYP.	MAX.	UNIT.	TEST CONDITION
Luminous Intensity	Iv	723G 723Y	0.7 0.7	2.5 2.5		mcd	I_F = 10 mA Note 1
Viewing Angle	$2\theta_{1/2}$	723G 723Y		88°		deg.	Note 2 (Fig. 11)
Peak Emission Wavelength	λ_{PEAK}	723G 723Y		565 585		nm	Measurement @ Peak (Fig. 1)
Spectral Line Half Width	$\Delta\lambda$	723G 723Y		30 35		nm	
Forward Voltage	V_F	723G 723Y		2.1	2.8	V	I_F = 20 mA
Reverse Current	I_R	723G 723Y			100	μA	V_R = 5 V
Capacitance	C	723G 723Y		35 15		PF	V_F = 0 f = 1 MHz

NOTES: 1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commission Internationale De L'Eclairage) eye-response curve.
2. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

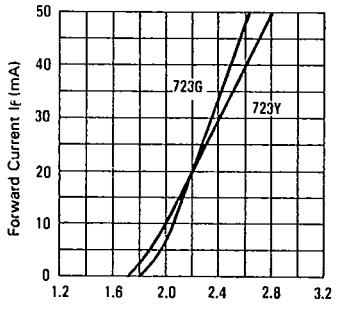


FIG. 7 FORWARD CURRENT VS. FORWARD VOLTAGE

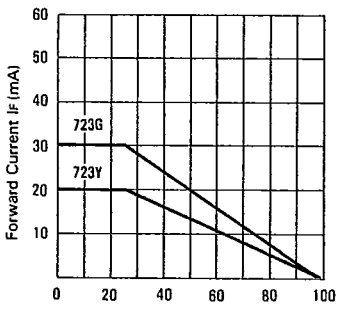


FIG. 8 FORWARD CURRENT DERATING CURVE

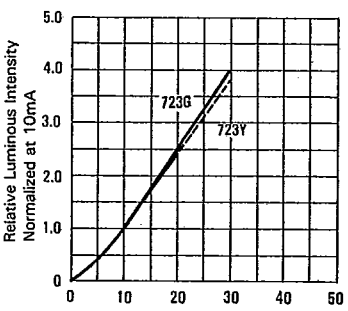


FIG. 9 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

FIG. 6

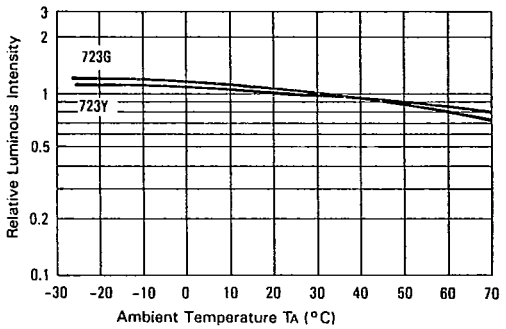


FIG.10 LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE

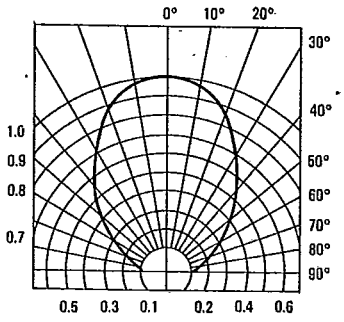


FIG. 11 SPATIAL DISTRIBUTION

ELECTRICAL/OPTICAL CHARACTERISTICS AND CURVES AT T_A = 25°C

PARAMETER	SYMBOL	PART NO. LTL–	MIN.	TYP.	MAX.	UNIT.	TEST CONDITION
Luminous Intensity	Iv	723A	0.7	2.5		mcd	I_F = 10 mA Note 1
Viewing Angle	2θ½	723A		88		deg.	Note 2 (Fig. 16)
Peak Emission Wavelength	λPEAK			600		nm	Measurement @ Peak (Fig. 1)
Spectral Line Half Width	Δλ			35		nm	
Forward Voltage	V_F			2.1	2.8	V	I_F = 20 mA
Reverse Current	I_R				100	μA	V_R = 5 V
Capacitance	C			15		PF	V_F = 0 f = 1 MHz

NOTES: 1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commission Internationale De L'Eclairage) eye-response curve.
2. θ½ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

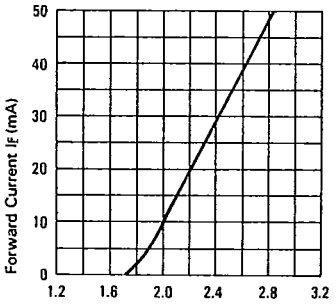


FIG. 12 FORWARD CURRENT VS. FORWARD VOLTAGE

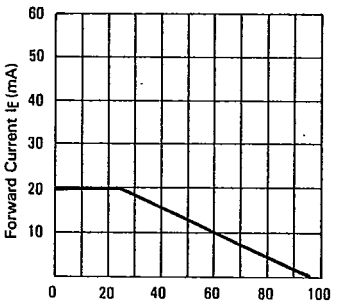


FIG. 13 FORWARD CURRENT DERATING CURVE

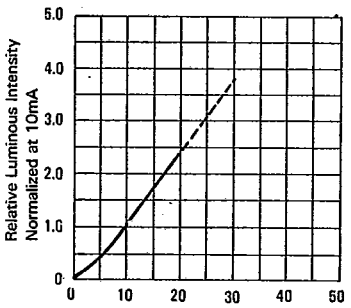


FIG. 14 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

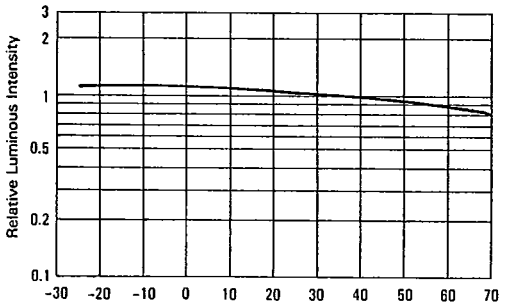


FIG. 15 LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE

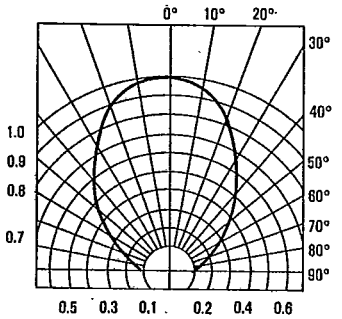


FIG. 16 SPATIAL DISTRIBUTION