



July 27, 2009

LED Festoon

SPECIFICATION



cULus Pending File #E321933

RoHS Compliant  

World-class optoelectronic device manufacturing facility since 1969
25 million products manufactured daily
ISO14001 / ISO9001 / TS16949 Certified
White Licensed



Contents

Introduction 4
VO-SS-X-12T1-2 Series 5
VO-SS-X-12T1-6 Series 7
VO-SS-X-12T2-3 Series 9
General Precautions 11
Warranty and Liability Information 11
Contact Us 11

Introduction

VaOpto's Light Emitting Diode (LED) Festoon Series saves energy and lasts a long life.

Environmentally Conscious

Energy efficient, lead free, and long life means fewer lamp replacements vs. standard festoon and incandescent light sources.

Outstanding Energy Efficiency

Compare to standard Incandescent light sources, VaOpto's LED Festoon Series are reducing energy consumption by 70%-80%. The lamps' optics concentrates light on the target, diminishing wasted extraneous light and increases the CBCP.

Long Life = Labor Savings

Delivers at least 70% of initial light output after at last 50,000 hours.

Various Colors

Available in Red, Yellow, Green, Blue, and White

Cool White (5000-10000K)

Neutral White (3700-5000K)

Warm White (2600-3700K)

Excellent Color Rendering

Cool White: CRI > 70

Neutral White: CRI > 75

Warm White: CRI > 80

VO-SS-X-12T1-2 Series where X may be R, Y, G, B, CW, NW, or WW

Features:

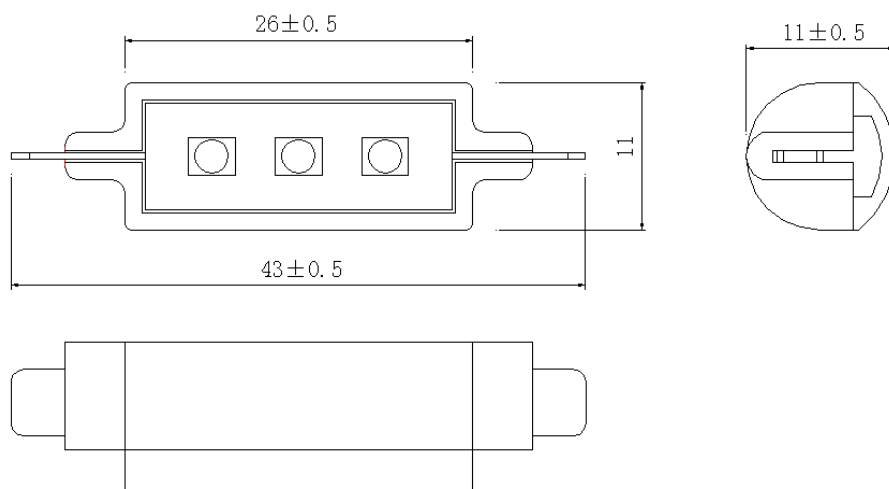
- Available in various colors: Red, Yellow, Green, Blue, White
- White color: 2600K~10000K Color Temperature
- RoHS Compliant

Applications:

- Architecture
- Under cabinet and Cove lighting
- Backlighting
- Sign and Decoration Lighting
- Auto light



Outline Dimensions (unit: mm)



Optical Parameters at Ta=25°C (77°F)					
Part Number	Color	LED Quantity (pcs)	Viewing Angle (°)	Wavelength	Luminous Flux (lm)
VO-SS-R-12T1-2	Red	3	120	625nm	38
VO-SS-Y-12T1-2	Yellow	3	120	589nm	38
VO-SS-G-12T1-2	Green	3	120	515nm	50
VO-SS-B-12T1-2	Blue	3	120	470nm	17
VO-SS-CW-12T1-2	Cool White	3	120	5000K - 10000K	90
VO-SS-NW-12T1-2	Neutral White	3	120	3700K - 5000K	75
VO-SS-WW-12T1-2	Warm White	3	120	2600K - 3700K	60

Electrical Parameters				
Parameters	Symbol	Values		Unit
Operating Voltage	Vopr	12+5%		V
Power Dissipation Max. (V=12VDC)	PD	VO-SS-X-12T1-2	G/B/W	0.21
			R/Y	0.11
Power Dissipation Max. (V=12VDC)	PD	≅0. 3		W
Operating Temperature	Topr	-30--+85		°C
Storage Temperature	Tstg	-40--+100		°C

Cautions:

Products are sensitive to static electricity; a high standard of care must be taken into consideration when handling the product. Protective measures for EDS must be adopted, such wearing ESD wrist strap and operation clothes.

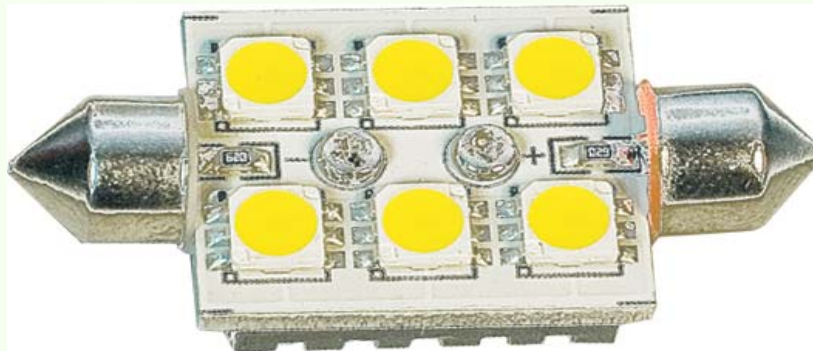
VO-SS-X-12T1-6 Series where X may be R, Y, G, B, CW, NW, WW

Features:

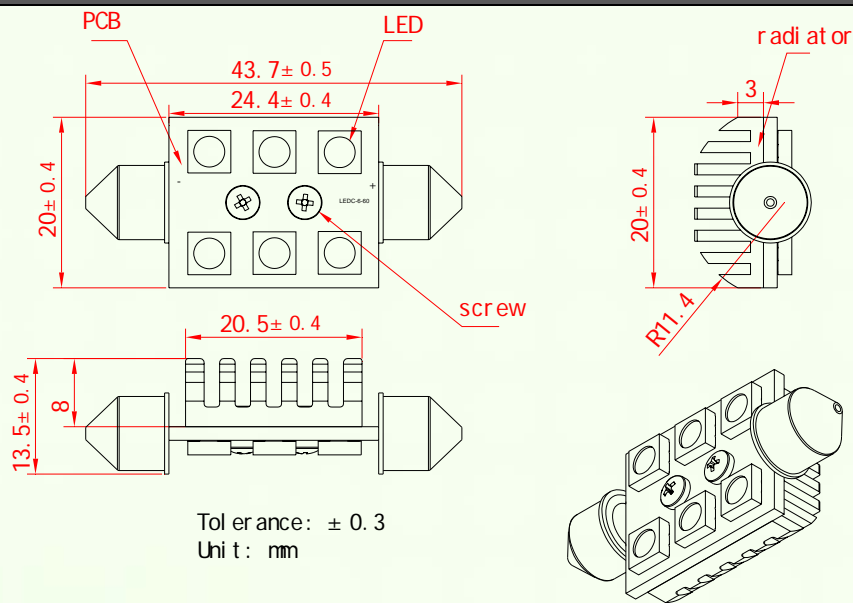
- Available in various colors: Red, Yellow, Green, Blue, White
- White color: 2600K~10000K Color Temperature
- RoHS Compliant

Applications:

- Architecture
- Under cabinet and Cove lighting
- Backlighting
- Sign and Decoration Lighting
- Auto light



Outline Dimensions (unit: mm)



Optical Parameters at Ta=25°C (77°F)					
Part Number	Color	LED Quantity (pcs)	Viewing Angle (°)	Wavelength	Luminous Flux (lm)
VO-SS-R-12T1-6	Red	6	120	625nm	38
VO-SS-Y-12T1-6	Yellow	6	120	589nm	38
VO-SS-G-12T1-6	Green	6	120	515nm	50
VO-SS-B-12T1-6	Blue	6	120	470nm	17
VO-SS-CW-12T1-6	Cool White	6	120	5000K - 10000K	90
VO-SS-NW-12T1-6	Neutral White	6	120	3700K - 5000K	75
VO-SS-WW-12T1-6	Warm White	6	120	2600K - 3700K	60

Electrical Parameters				
Parameters	Symbol	Values		Unit
Operating Voltage	Vopr	12/24+5%		V
Power Dissipation Max. (V=12VDC)	PD	VO-SS-X-12T1-6	G/B/W	1.5
			R/Y	1.0
Operating Temperature	Topr	-30--+85		°C
Storage Temperature	Tstg	-40--+100		°C

Cautions:

Products are sensitive to static electricity; a high standard of care must be taken into consideration when handling the product. Protective measures for EDS must be adopted, such wearing ESD wrist strap and operation clothes.

VO-SS-X-12T2-3 Series where X may be R, Y, G, B, CW, NW, WW

Features:

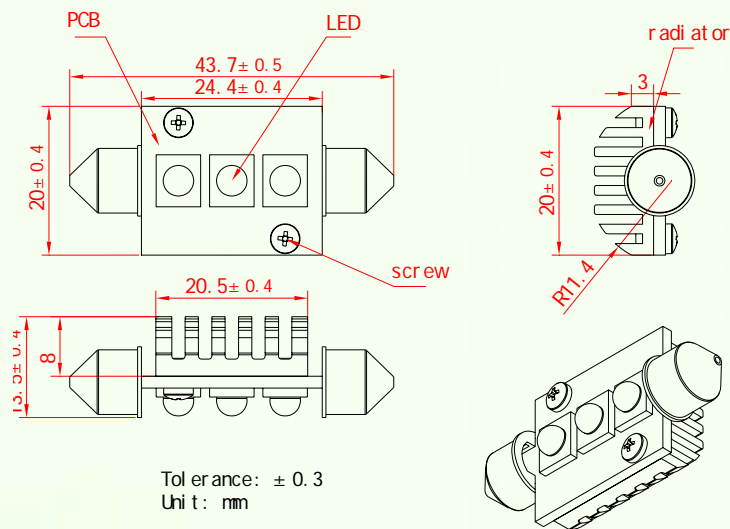
- Available in various colors: Red, Yellow, Green, Blue, White
- White color: 2600K~10000K Color Temperature
- RoHS Compliant

Applications:

- Architecture
- Under cabinet and Cove lighting
- Backlighting
- Sign and Decoration Lighting
- Auto light



Outline Dimensions (unit: mm)



Optical Parameters at Ta=25°C (77°F)					
Part Number	Color	LED Quantity (pcs)	Viewing Angle (°)	Wavelength	Luminous Flux (lm)
VO-SS-R-12T2-3	Red	3	120	625nm	38
VO-SS-Y-12T2-3	Yellow	3	120	589nm	38
VO-SS-G-12T2-3	Green	3	120	515nm	50
VO-SS-B-12T2-3	Blue	3	120	470nm	17
VO-SS-CW-12T2-3	Cool White	3	120	5000K - 10000K	90
VO-SS-NW-12T2-3	Neutral White	3	120	3700K - 5000K	75
VO-SS-WW-12T2-3	Warm White	3	120	2600K - 3700K	60

Electrical Parameters				
Parameters	Symbol	Values		Unit
Operating Voltage	Vopr	12/24+5%		V
Power Dissipation Max. (V=12VDC)	PD	VO-SS-X-12T2-3	G/B/W	1.5
			R/Y	1.0
Operating Temperature	Topr	-30--+85		°C
Storage Temperature	Tstg	-40--+100		°C

Cautions:

Products are sensitive to static electricity; a high standard of care must be taken into consideration when handling the product. Protective measures for EDS must be adopted, such wearing ESD wrist strap and operation clothes.

Precautions

- LEDs are static sensitive devices. Precautions should be taken to ensure that LEDs are well protected from ESD during handling.
- ESD protection for GaP and AlGaAS based chips is still necessary even though the chips are safe in low static-electric discharge events
- AllnGap, GaN and/or InGaN based chips are STATIC SENSITIVE devices and ESD protection must be taken into consideration in the initial design stages.
- Do not operate LEDs in reverse bias.

Warranty and Liability Information

- Two years limited warranty.
- The information contained herein is presented only as a guide for the applications of our products.
- No responsibility is assumed by VAOPTO for any infringements of intellectual property or other infringements of the rights of third parties that may result from its use.
- VAOPTO is committed to a process of continuous improvements of the quality and the features of its products and reserves the right to make changes that result in such improvements.
- VAOPTO products are not intended for use in applications where extraordinarily high reliability is required to prevent the loss of human life or where failure could result in bodily injury.
- VAOPTO limits the extent of our liability to the initial component cost and will, in the event of a failure, replace a failed component or refund the purchase price at VAOPTO option.

For customer service and technical support, please contact:

Headquarter:

Virginia Optoelectronics, Inc.
1405 Ashford Court
Blacksburg, VA 24060, U.S.A.
Phone: (540) 449 9658
Fax: (540) 552 6999
Email: info@vaopto.com
www.vaopto.com

Distributors:

www.e-sonic.com
www.wescodist.com
www.wpgamericas.com
www.nacsemi.com