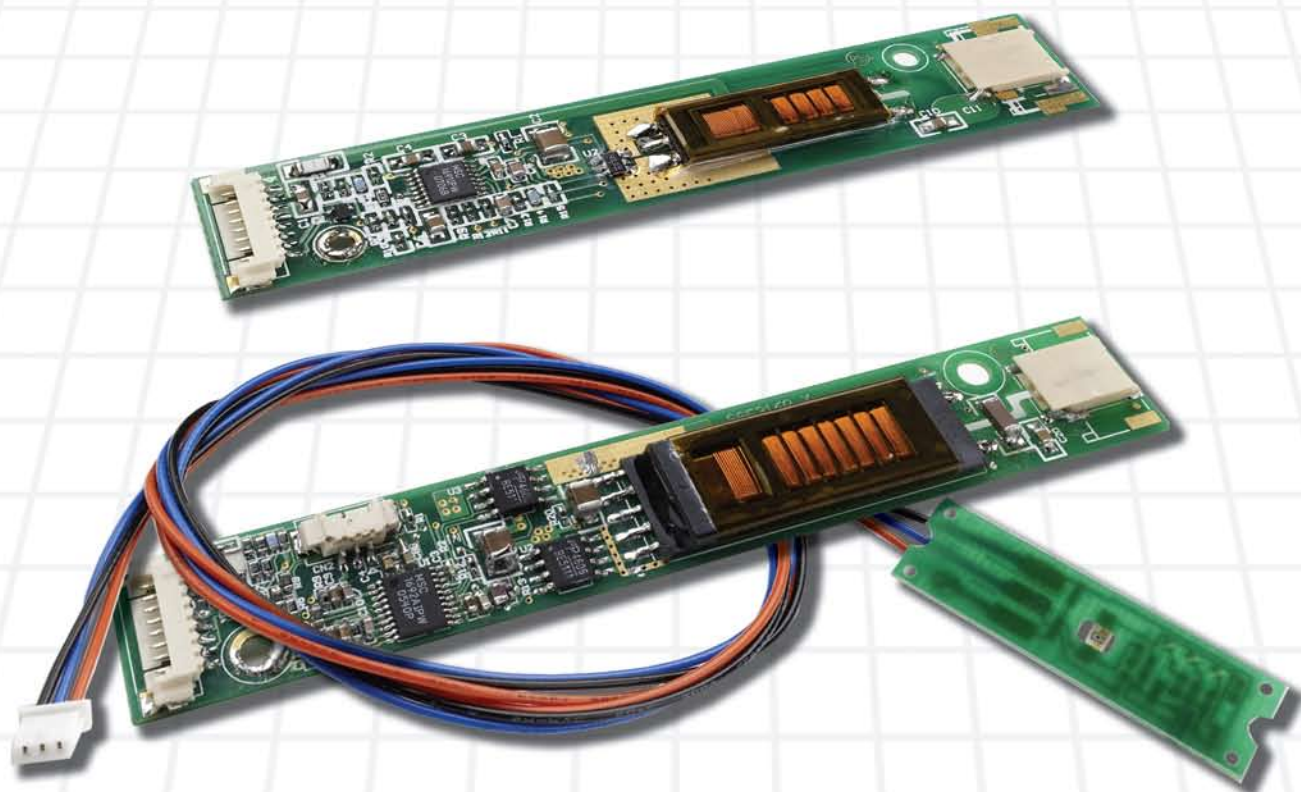


Single Lamp CCFL Inverters

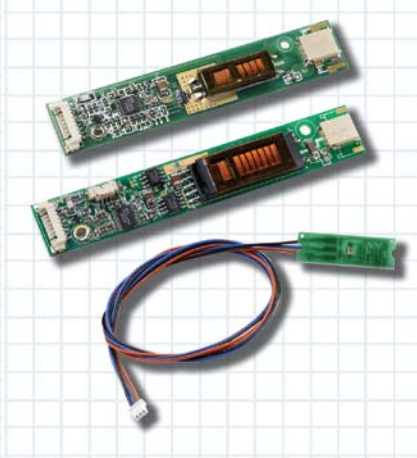
LXMG1617A™, LXMG1618A™, LXMG181x™ and LXMG1800_LS™



- **New** “A” Series Upgraded replacements for existing LXMG1617™ and LXMG1618™ Inverters, pages 2-4
- **New** LXMG181x™ Series: High Performance Inverters and Kits Including Visible Light Sensors, see pages 5-7

New Microsemi Single CCFL Lamp Modules

Microsemi is proud to introduce two new and improved lines of single lamp CCFL modules optimized to drive a wide variety of TFT LCD displays ranging from 4 to 12". The new series will replace and enhance the current Microsemi offerings identified by Part Numbers starting by LXMG1617™ and LXMG1618™. Two new solutions will be available to meet customers' requirements and help optimally drive the chosen LCD display.



Series Identifier	Description	Improvement from Existing Offering
"A" Series Inverters Part Numbers starting with LXMG1617A™ & LXMG1618A™	Upgraded & Improved Replacements of Existing LXMG1617™ & LXMG1618™	- Wider Dimming Range (100:1) - Wider Temperature Range (-30°C to 80°C)
VEasyLIT™ = LXMG181x Series Part numbers starting with LXMG181x™ (Inverter) and LXMG1800_LS™ (Visible Light Sensor Board)	High Performance Single CCFL Lamp Inverters available also in an easy and ready to use kit that integrates Microsemi Visible Light Sensors!	- Increased Dimming Range (50:1 to 100:1) - Wider Input Voltage Range - Wider Lamp Driving & Striking Capability - AVAILABLE as an individual inverter or in a kit solution w/ an easy plug 'n play Visible Light Sensor Board that integrates Microsemi LX1974™
Portfolio Overview and Links to Datasheets: www.microsemi.com/inverters/CCFLSelectorGuide.pdf		
LCD Panel/Inverter Cross Reference: www.microsemi.com/products/backlight/overview.asp		

Applications

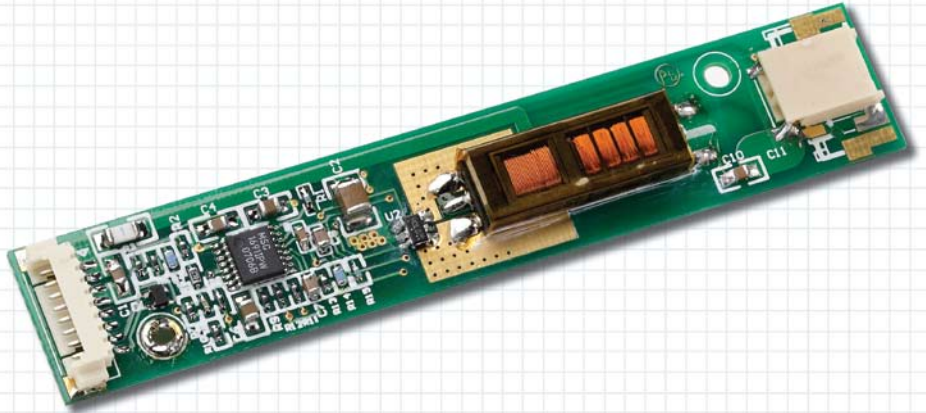
- Medical Displays
- Portable Instrumentation
- Industrial Display Control

Benefits

- Smooth, Flicker Free Full Range Brightness Control (2 to 100% for LXMG1617A™ Series)
- Programmable Output Current allows the inverter to mate with a wide variety of LCD panels specifications (PanelMatch™)
- Output Open Circuit Voltage Regulation minimizes Corona Discharge for High Reliability and Efficiency



"A" Series: LXMG1617A™ & LXMG1618A™



The new "A Series" modules are designed as a higher performance near drop-in replacement for those customers and applications currently using the LXMG1617 and LXMG1618 inverters.

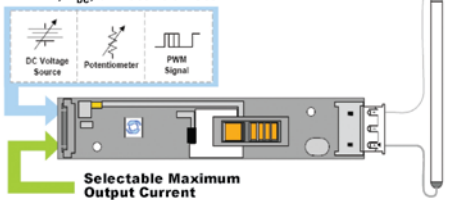
"A" Series Dimming and Temperature Range Enhancements

The A Family modules will be offered in both a wide dimming version (LXMG1617A) and a standard dimming version (LXMG1618A). It integrates the newer highly integrated LX1691B CCFL backlight controller to provide wider dimming range (typically 100:1+) and wider temperature range (-30°C to 80°C) compared to the existing solutions (LXMG1617 and LXMG1618 families).

Dimming RangeMax™

The modules include a dimming input that permits brightness control from a DC voltage source, a PWM signal or an external potentiometer (Universal Dimming Input). The patented "burst drive" that energizes the lamp (RangeMax™) was designed to ensure that no premature lamp degradation occurs, while allowing significant power savings at lower dim levels.

Universal Dimming Input "PWM", V_{DC} or Potentiometer



Temperature Range

The new modules are specified over a temperature range of (-30°C to 80°C) a significant improvement over the current specification

Datasheets

The new modules have been designed to be an upgraded drop in replacement for the existing solutions. Therefore datasheets are extremely similar (see the noted exceptions of BRITE minimum input voltage level and Burst Frequency on the specific datasheets). Please always refer to the latest version of the new "A Series" datasheet.

UL and ROHS Qualifications

All Microsemi inverter modules are RoHS compliant (LXMG "G"=Green) and UL60950 certified components (File E175910)

Universal Dimming Input

The modules are designed to be driven by a PWM, a constant Voltage Source or a Potentiometer based on the customer preference

Physical Dimensions

Since the parts are designed to be a drop in upgraded replacement of the previous solution, the physical dimensions have been kept the same as the original modules.

Panelmatch™

As with the previous solutions customers will be able to externally program the output current in steps of 0.5mA or 1mA depending on the

inverter with the feature called PanelMatch™. These wide steps are made possible by custom settings on the module itself thus allowing the SAME module to be used to drive different panels (simpler supply chain and reduced inventory carrying costs specifically for solutions integrators and distributors or customers using multiple displays).

“A” Series LXMG1617A and LXMG1618A Specifications

V_{IN} [Min, R.C, Max] @ Fully Regulated I_{OLAMP}	V_{LAMP} Range [V]*	Typ I_{OLAMP} [mA]**	V_{LS} [V] Min/Typ	Dimming Range	Operating Temp [°C]*	Part Number	Mates with Panel Connector	Input Cable***	Dimensions (L,W,H) [mm]
[3, 3.3, 3.6]	[325,435]	3.5 to 5.0	1000/1200	<5:1	[-30,80]	LXMG1618A-03-21	JST BHR-03VS-1	LX9501G	86 x 16 x 4.6
				100:1		LXMG1618A-03-22	JST BHSR-02VS-1		
[4.75, 5, 5.25]	[465,635]	5.0 to 6.5	1300/1400	<5:1		LXMG1617A-03-21	JST BHR-03VS-1		
				100:1		LXMG1617A-03-22	JST BHSR-02VS-1		
				<5:1		LXMG1618A-05-21	JST BHR-03VS-1		86 x 16 x 6.5
				100:1		LXMG1618A-05-22	JST BHSR-02VS-1		
				<5:1		LXMG1617A-05-21	JST BHR-03VS-1		
				100:1		LXMG1617A-05-22	JST BHSR-02VS-1		
				<5:1		LXMG1618A-05-41	JST BHR-03VS-1		100 x 16 x 7.5
				100:1		LXMG1618A-05-42	JST BHSR-02VS-1		
				<5:1		LXMG1617A-05-41	JST BHR-03VS-1		
				100:1		LXMG1617A-05-42	JST BHSR-02VS-1		
[10.8, 12, 13.2]	[545,735]	5.0 to 8.0	1400/1650	<5:1		LXMG1618A-05-61	JST BHR-03VS-1		86 x 16 x 6.5
				100:1		LXMG1618A-05-62	JST BHSR-02VS-1		
				<5:1		LXMG1617A-05-61	JST BHR-03VS-1		
				100:1		LXMG1617A-05-62	JST BHSR-02VS-1		
				<5:1		LXMG1618A-12-41	JST BHR-03VS-1		100 x 16 x 7.5
				100:1		LXMG1618A-12-42	JST BHSR-02VS-1		
				<5:1		LXMG1617A-12-41	JST BHR-03VS-1		
				100:1		LXMG1617A-12-42	JST BHSR-02VS-1		

Please always refer to the latest datasheet posted on www.microsemi.com. Products in development show Preliminary Specifications only.

* R.C. Recommended Operating Conditions. ** Full Bright Lamp Current (each lamp).

Cross-Reference Guide: Upgrading from Previous Modules to “A” Series

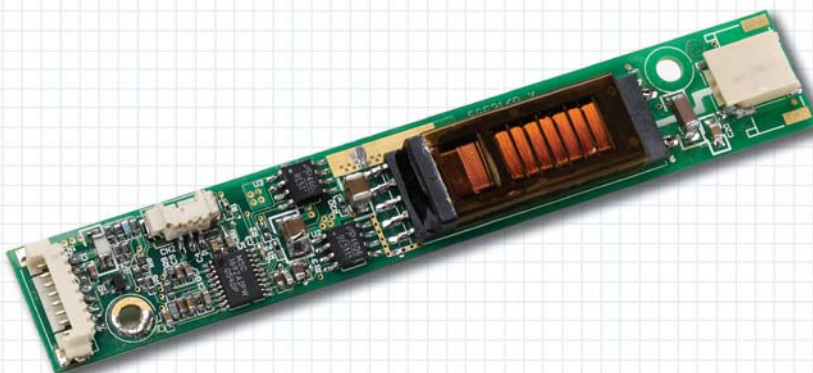
WIDE DIMMING RANGE	STANDARD DIMMING RANGE
Current Solution To Upgraded Solution	Current Solution To Upgraded Solution
LXMG1617-03-21 -->> LXMG1617A-03-21	LXMG1618-03-21 -->> LXMG1618A-03-21
LXMG1617-03-22 -->> LXMG1617A-03-22	LXMG1618-03-22 -->> LXMG1618A-03-22
LXMG1617-05-21 -->> LXMG1617A-05-21	LXMG1618-05-21 -->> LXMG1618A-05-21
LXMG1617-05-22 -->> LXMG1617A-05-22	LXMG1618-05-22 -->> LXMG1618A-05-22
LXMG1617-05-41 -->> LXMG1617A-05-41	LXMG1618-05-41 -->> LXMG1618A-05-41
LXMG1617-05-42 -->> LXMG1617A-05-42	LXMG1618-05-42 -->> LXMG1618A-05-42
LXMG1617-05-61 -->> LXMG1617A-05-61	LXMG1618-05-61 -->> LXMG1618A-05-61
LXMG1617-05-62 -->> LXMG1617A-05-62	LXMG1618-05-62 -->> LXMG1618A-05-62
LXMG1617-12-41 -->> LXMG1617A-12-41	LXMG1618-12-41 -->> LXMG1618A-12-41
LXMG1617-12-42 -->> LXMG1617A-12-42	LXMG1618-12-42 -->> LXMG1618A-12-42
LXMG1617-12-61 -->> LXMG1617A-12-61	LXMG1618-12-61 -->> LXMG1618A-12-61
LXMG1617-12-62 -->> LXMG1617A-12-62	LXMG1618-12-62 -->> LXMG1618A-12-62

Availability:

The new “A Series” modules will be available starting in November 2007 with full volume production from January 2008.

Early sampling available, please contact your sales representative for details.

LXMG181x™ Series



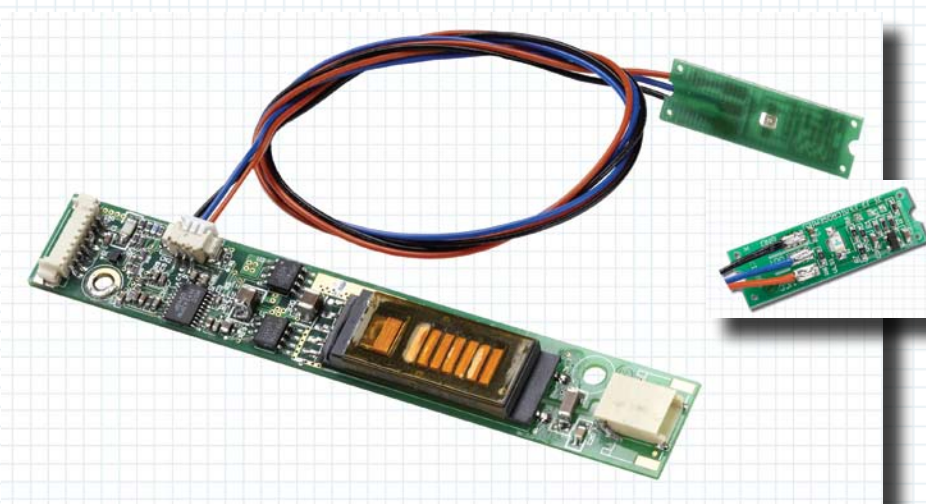
The LXMG181X Series, available in 5V and 12 V Input, is an enhanced offering to run single CCFL lamp displays. It integrates the latest, most intelligent and efficient Microsemi CCFL ICs.

Product Enhancements

The LXMG181X Series is designed to enhance the current offering: the customer will benefit from a wider input voltage range (V_{IN}) at Fully Regulated Lamp Current, and an enhanced Lamp Driving

capability (see the range of V_{LAMP} and the Striking capability). Fewer part numbers (4 instead of 24) will be able to drive an extended list of displays thus greatly simplifying the customer supply change and minimizing the need of re-qualification and redesign of the backlight driving units in case a display is changed. Distributors and Integrators dealing with multiple displays will now be able to stock a lower number of parts to meet their needs.

VEasyLIT™ Kit (LXMG181x + LXMG1800_LS)



The biggest advantage of the LXMG181X Series lies in its availability in a ready and easy to use kit (VEasyLIT™): the customer can order the inverter (i.e. LXMG1811-05-61S) and a Light Sensor Board (LXMG1800_LS) which can be hooked up to the inverter by simply joining the provided connectors. This small light sensor board can be mounted easily in the product's bezel with the addition of a

small hole or light diffuser so ambient light can be detected. It includes user adjustable gain settings to adjust for the product's typical ambient light conditions.

The LXMG1800_LS board integrates Microsemi high performance LX1974 Visible Light Sensor (<http://www.microsemi.com/datasheets/lx1974.pdf>)

and can mate with all versions of the LXMG181x Series. The customer will be saved the time and effort to properly design how to integrate the increasingly requested Visible Light Sensor feature in its solution. Visible Light Sensors can automatically adjust the display brightness saving considerable a mount of power, which is critical for battery powered single CCFL lamp portable display applications.

Additional Features

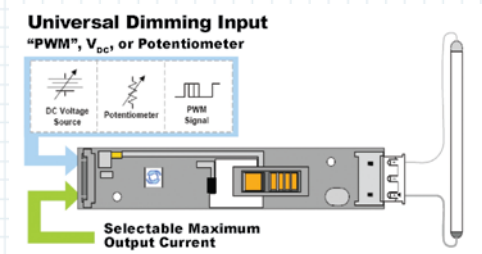
UL and RoHS Qualification

All Microsemi inverter modules are RoHS compliant (LXMG "G"=Green) and UL60950 certified components (File E175910)

Universal Dimming Input

The modules are designed to be driven by a PWM, a constant Voltage Source or a Potentiometer based on the customer preference

The dimming input can also be supplied directly through the Visible Light Sensor Board (LXMG1800_LS)



Panelmatch™

As with the previous solutions customers will be able to externally program the output current in steps of 1mA with the feature called PanelMatch™. These wide steps are made possible by custom settings on the module itself thus allowing the SAME module to be used to drive different panels (simpler supply chain and reduced inventory carrying costs specifically for solutions integrators and distributors or customers using multiple displays).

Applications

- Medical Displays
- Portable and battery powered Instrumentation (specifically benefiting by automatic brightness adjustment for power savings obtained through the visible light sensor)
- Industrial Display Control

Benefits

- Smooth, Flicker Free Full Range Brightness Control
- Programmable Output Current allows the inverter to mate with a wide variety of LCD panels specifications
- Output Open Circuit Voltage Regulation minimizes Corona Discharge for High Reliability and Efficiency
- RoHS and UL Certified Components
- Extremely simplified supply chain for Distributors and Integrators as well as end customers using multiple displays

LXMG181x™ Specifications

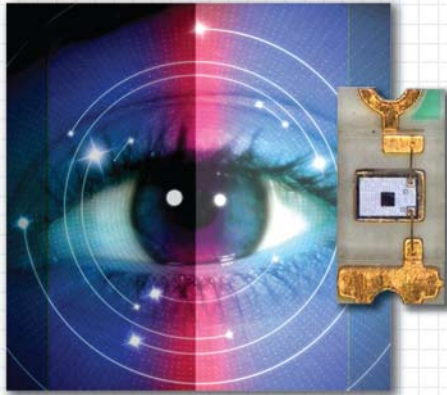
V_{IN} [Min, R.C, Max] @ Fully Regulated I_{OLAMP}	V_{LAMP} Range [V]*	Typ I_{OLAMP} [mA]**	V_{LS} [V] Min/Typ	Dimming Range	Operating Temp [°C]*	Part Number	Mates with Panel Connector	Input Cable***	Dimensions (L,W,H) [mm]	Light Sensor
[4.75, 5, 5.5]	[300,750]	4.0 to 7.0	1500/1650	50:1 to 100:1	[-20,70]	LXMG1811-05-61 or 61S***	JST BHR-03VS-1	LX9501G	100 x 16 x 5.5 mm	LXMG1800_LS ***
						LXMG1811-05-62 or 62S***	JST BHSR-02VS-1			
						LXMG1813-12-61 or 61S***	JST BHR-03VS-1			
[9, 12, 16.8]						LXMG1813-12-62 or 62S***	JST BHSR-02VS-1			

Availability

The new LXMG1811 5V Series will be available starting in June 2008.

The new LXMG1813 12V Series will be available starting in February 2008.

Early sampling is available. Please contact your sales representative directly.



Microsemi LX1974™ Visible Light Sensor

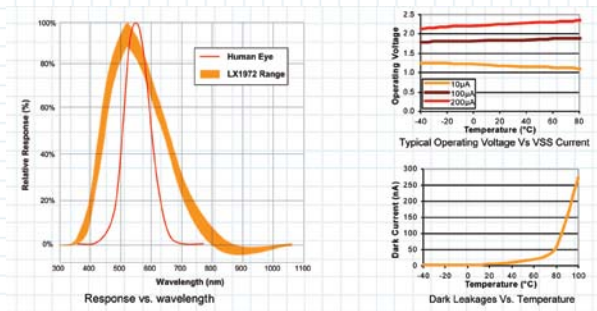
The LX1974 light sensor provides a spectral response that closely emulates the human eye. Patented circuitry produces peak spectral response at 520nm, with IR response less than $\pm 5\%$ of the peak response, above 900nm. The photo sensor is a PIN diode array with a linear, accurate, and very repeatable current transfer function. High gain current mirrors on the chip multiply the PIN diode photo-current to a sensitivity level that can be voltage scaled with a standard value external resistor. Output current from this simple to use two-pin device can be used directly or converted to a voltage by placing it in series with a single resistor at either of its two pins. Dynamic range is determined by the resistors (typically in the range of 10K to 100K) and power supply values. Typically the LX1974 needs only 1.8V of headroom to operate at 1000 Lux illumination.

Internal temperature compensation allows dark current to be kept below 200nA over the full specification temperature range (-40 to +85°C), providing high accuracy at low light levels. Usable ambient light conditions range is from 1 to more than 5000 Lux.

The LX1974 is optimized for controlling back lighting systems in low cost consumer products such as LCD TV, portable computers, and digital cameras.

Key Features

- Near Human Eye Spectral Response
- Very Low IR Sensitivity
- Highly Accurate & Repeatable Output Current vs. Light
- Scalable Output Voltage
- Temperature Stable
- Integrated High Gain Photo Current Amplifiers
- No Optical Filters Needed





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