



# ANALOG

## FxLED/Backlight/Sensor

### ► Product Portfolio:

- “Fun Light” class of RGB LED drivers
- Wide range : 3 to 144 LEDs
- Serial communications bus
- Breath function, audio input and PWM light controls
- Available in small QFN, DFN, TQFP package types

### ► Product Benefits:

- Create a massive palette of over 16 million colors
- 256 steps of RGB dimming control for fade in fade out
- Preprogrammed lighting patterns reduces CPU overhead
- Audio modulated display mode adds extra dimension to lighting

### ► Applications:

- RGB LED event status indicator for mobile phones, appliances, portable devices
- Functional lighting in white goods appliances
- Gaming platforms and slot machines
- Logo LED highlighting
- Automobile accent lighting
- General backlighting of small format displays
- RGB LED color generation and mixing for ambient lighting
- Toys with color LED output capability

## Product Selector Guide

### FxLED Driver

Part No.	No. of Channel	No. RGB Group	Gamma Correction	Control Interface	Audio Sync.	Auto Dimming	VDD [V]	Package [Size mm]	Key Feature	Status
IS31FL3191	1	-	Built-in	I <sup>2</sup> C	No	Yes	2.7-5.5	UTQFN-9 [1.5x1.5]	Single LED driver with auto breath mode and 5 levels programmable current	Prod
IS31FL3193	3	1	Built-in	I <sup>2</sup> C	No	Yes	2.7-5.5	DFN-10 [3.0x3.0]	16Million color RGB auto and semi-auto breathing with pre-set pattern	Prod
IS31FL3193C	3	1	Built-in	I <sup>2</sup> C	No	Yes	2.7-5.5	WLCSP-8 [1.5x1.0]	16Million color RGB auto and semi-auto breathing with pre-set pattern	S=Q1/15
IS31FL3196	6	2	Built-in	I <sup>2</sup> C	Yes	Yes	2.7-5.5	QFN-20 [3.0x3.0]	16Million color RGB auto and semi-auto breathing with pre-set pattern	Prod
IS31FL3199	9	3	Built-in	I <sup>2</sup> C	Yes	Yes	2.7-5.5	QFN-20 [3.0x3.0]	16Million color RGB auto and semi-auto breathing with AGC Audio Sync mode	Prod
IS31FL3216	16	-	External	I <sup>2</sup> C	Yes	No	2.7-5.5	QFN-28 [4.0x4.0]	Audio modulated, Internal SRAM supports animation frames, 16 independent channels	Prod
IS31FL3218	18	-	External	I <sup>2</sup> C	No	No	2.7-5.5	QFN-24 [4.0x4.0] SOP-24 [10x15]	Modulate 18 Independent LED channels with 256 steps PWM	Prod
IS31FL3235	28	-	External	I <sup>2</sup> C	No	No	2.7-5.5	QFN-36 [4.0x4.0]	Modulate 28 Independent LED channels with 256 steps PWM	Prod
IS31FL3236	36	-	External	I <sup>2</sup> C	No	No	2.7-5.5	QFN-44 [5.0x5.0] TQFP-48	Modulate 36 Independent LED channels with 256 steps PWM	Prod
IS31FL3726	16	-	-	Serial	No	No	3.3-5.5	QFN-24 [4.0x4.0] TSSOP-24	16-channels On/Off LED driver with serial-in and serial-out for cascade application	Prod
IS31FL3728	16 Matrix 64	-	External	I <sup>2</sup> C	Yes	No	2.7-5.5	QFN-24 [4.0x4.0]	16-row/column outputs, Audio Modulated. 8x8,7x9,6x10,5x11	Prod
IS31FL3730	16 Matrix 128	-	External	I <sup>2</sup> C	Yes	No	2.7-5.5	QFN-24 [4.0x4.0]	16-row/column outputs, Audio Modulated. 8x8,7x9,6x10,5x11 bi-color	Prod
IS31FL3731	18 Matrix 144	-	External	I <sup>2</sup> C	Yes	Yes	2.7-5.5	QFN-28 [4.0x4.0] SSOP-28	18 row/column outputs. Audio Modulated. Two 8x9 arrays with SRAM. 8-image swapping 8x9x2 [144 dot] LED array display	Prod

IS31FL3731C	18 Matrix 144	-	External	I <sup>2</sup> C	Yes	Yes	2.7-5.5	QFN-28 SSOP-28	18 row/column outputs. Audio Modulated, Two 8x9 arrays with SRAM. 8-image swapping 8x9x2 [144 dot] LED array display. Within robust I2C for white goods application	Prod
IS31FL3732	18 Matrix 144	-	External	I <sup>2</sup> C	Yes	Yes	2.7-5.5	QFN-40	18 row/column outputs. Audio Modulated, Two 8x9 arrays with SRAM. 8-image swapping 8x9x2 [144 dot] LED array display. With 1MHz I2C, Cascade for Synchronization	S=Q1/15

## White LED Driver for LCD Backlight & Flash

Part No.	No. of LED	Type of Driver	IOUT [mA]	VDD [V]	ISD [uA]	Intensity Control	Package (Size in mm)	Key Feature	Status
IS31BL3212	3/4	Constant Current	23	2.7 - 5.5	1.0	Pulse Count	SOT23-6 (3.0x3.0), DFN-8 (2.0x2.0)	Ultra low headroom voltage, highly integrated design with minimal component	Prod
IS31BL3228A/B	4/6	Constant Current	20	2.8 - 5.5	0.5	Pulse Count	UTQFN-12	4 channel with 14 programmable current levels	Prod
IS31BL3229	8	Constant Current w/charge pump	25	2.7 - 5.5	1.0	PWM	QFN-20 (3.0x3.0)	8 channel output with built-in charge pump for high efficiency mode [1x/1.5x]	Prod
IS31BL3230	8	Constant Current	40mA or 320mA in parallel	2.7 - 5.5	1.6	PWM	QFN-16 (3.0x3.0)	Ultra low headroom voltage. All outputs may be connected in parallel	Prod
IS31BL3231	1	Charge Pump	750	2.7 - 5.5	1.0	Pulse Count	DFN-10 (3.0x3.0)	Camera Flash LED Driver	Prod
IS31BL3232	1	Charge Pump	1200	2.5 - 5.5	1.0	Pulse Count	DFN-10 (3.0x3.0)	Camera Flash LED Driver with time out protection	Prod
IS31BL3233A	2	Boost	750	2.7-5.5	1.0	PWM	DFN-14(2.0x3.0)	2x750mA Boost Camera Flash LED Driver with time out protection	Prod
IS31BL3506A	9	Boost	20	2.7 - 5.5	1.5	PWM or DC Level	TSOT23-6 (3.0x3.0) DFN-8 (2.0x2.0)	35V Internal MOSFET 1MHz Step-up Converter; VFB = 300mV	Prod
IS31BL3506B	8	Boost	20	2.7 - 5.5	1.5	PWM or DC Level	TSOT23-6 (3.0x3.0)	35V Internal MOSFET 1MHz Step-up Converter; VFB = 200mV	Prod
IS31BL3508A/B	10	Boost	20-160	2.7 - 5.5	2.0	PWM or DC Level	TSOT23-6 (3.0x3.0) SOT23-6 (3.0x3.0)	1.0MHz Boost Converter with 38V internal switch; VFB = 300mV	Prod

## Automotive Backlight LED Drivers

Part No.	Driver	VIN [V]	IOUT Accuracy	Power Transistor	Typical Applications	Package	Key Feature	Status
IS32BL3552	DC/DC Boost	4.5 - 33V	±1.5%	External	Automotive lighting, LCD display backlight	eTSSOP-16	Two channel LED current sinks, 40 to 360mA per string. String-to-string accuracy 1.5%	Sample
IS32BL3554	DC/DC Boost	4.5 - 33V	±1.5%	External	Automotive lighting, LCD display backlight	eTSSOP-16	Four 20 to 180mA channel current sinks. String-to-string accuracy 1.5%	Sample
IS32BL3556	DC/DC Boost	4.75-40V	±0.8%	External	Automotive lighting, LCD display backlight	eTSSOP-20	Four 100mA channel current sinks, Integrated Power MOS, String-String accuracy 0.8%	S=Q2/15

## Sensor

Device	Sensor Type	VIN [V]	No. Channels	Package	Key Feature	Status
IS31SE5000	Gesture Sensor/ Proximity	2.7-5.5	1 Trans, 2 Recv	UTQFN-12 (2x2)	IR Light Sensor for gesture or movement detection	Prod
IS31SE5001	Proximity Sensor	2.7-5.5	1 Trans, 1 Recv (Integrated)	QFN-8 (2x2)	IR Light Sensor for proximity detection	Prod
IS31SE5100	Capacitive Touch	2.7-5.5	8 Cap Touch Input, 8 LED Drive Output	QFN-24, SSOP-24	Capacitance sensor, 8 sense plate input with 8 LED outputs	Prod
IS31SE5104	Capacitive Touch	2.7-5.5	4 Cap Touch Input, 4 LED Drive Output	SOP-16, QFN-16	Capacitance sensor, 4 sense plate input with 8 LED outputs	Prod