ISL8840AMBEP, ISL8841AMBEP, ISL8842AMBEP, ISL8843AMBEP, ISL8844AMBEP, ISL8845AMBEP

Data Sheet | **April 2, 2007** | **FN6471.0**

Enhanced Plastic (EP) High Performance Industry Standard Single-Ended Current Mode PWM Controllers

The ISL884xAMBEP is a high performance drop-in replacement for the popular 28C4x and 18C4x PWM controllers suitable for a wide range of power conversion applications including flyback, forward and boost output configurations. Its fast signal propagation and output switching characteristics make this an ideal product for existing and new designs.

Features include 30V operation, low operating current, 90µA start-up current, adjustable operating frequency to 2MHz, and high peak current drive capability with 20ns rise and fall times.

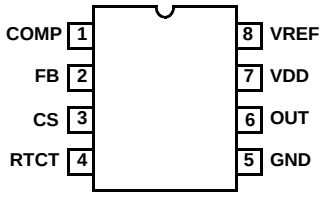
PART NUMBER	RISING UVLO (V)	MAX. DUTY CYCLE (%)
ISL8840AMBEP	7.0	100
ISL8841AMBEP	7.0	50
ISL8842AMBEP	14.4	100
ISL8843AMBEP	8.4	100
ISL8844AMBEP	14.4	50
ISL8845AMBEP	8.4	50

Device Information

The specifications for an Extended Plastic (EP) device are defined in a Vendor Item Drawing (VID), which is controlled by the Defense Supply Center in Columbus (DSCC). “Hot-links” to the applicable VID and other supporting application information are provided on our website.

Pinout

ISL884XAMBEP
(8 LD SOIC)
TOP VIEW



Features

- Specifications per DSCC VID V62/07621
- Full Mil-Temp Electrical Performance from -55°C to +125°C
- Controlled Baseline with One Wafer Fabrication Site and One Assembly/Test Site
- Full Homogenous Lot Processing in Wafer Fab
- No Combination of Wafer Fabrication Lots in Assembly
- Full Traceability Through Assembly and Test by Date/Trace Code Assignment
- Enhanced Process Change Notification
- Enhanced Obsolescence Management
- Eliminates Need for Up-Screening a COTS Component
- 1A MOSFET Gate Driver
- 90µA Start-up Current, 125µA Maximum
- 35ns Propagation Delay Current Sense to Output
- Fast Transient Response with Peak Current Mode Control
- 30V Operation
- Adjustable Switching Frequency to 2MHz
- 20ns Rise and Fall Times with 1nF Output Load
- Trimmed Timing Capacitor Discharge Current for Accurate Deadtime/Maximum Duty Cycle Control
- 1.5MHz Bandwidth Error Amplifier
- Tight Tolerance Voltage Reference Over Line, Load and Temperature
- ±3% Current Limit Threshold

Applications

- Isolated Flyback and Forward Regulators
- Boost Regulators

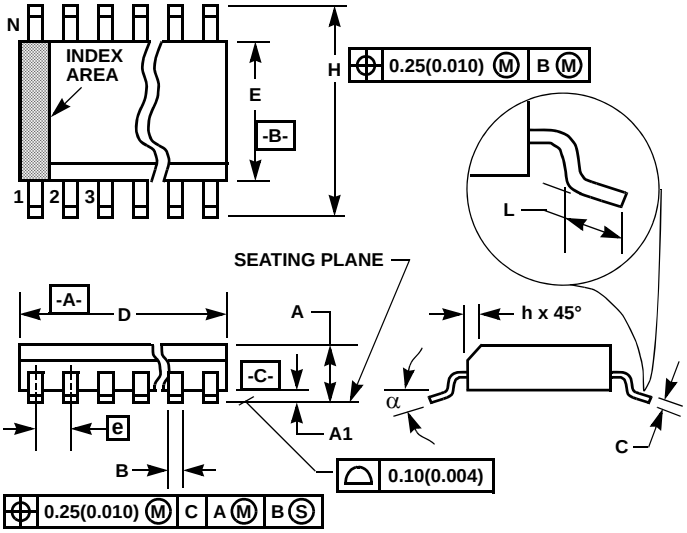
Ordering Information

VENDOR PART NUMBER (Notes 1, 2)	VENDOR ITEM DRAWING NUMBER	PART MARKING	TEMPERATURE RANGE (°C)	PACKAGE	PKG. DWG. #
ISL8840AMBEP	V62/07621-01XB	8840A MBEP	-55 to +125	8 Ld SOIC	M8.15
ISL8841AMBEP	V62/07621-02XB	8841A MBEP	-55 to +125	8 Ld SOIC	M8.15
ISL8842AMBEP	V62/07621-03XB	8842A MBEP	-55 to +125	8 Ld SOIC	M8.15
ISL8843AMBEP	V62/07621-04XB	8843A MBEP	-55 to +125	8 Ld SOIC	M8.15
ISL8844AMBEP	V62/07621-05XB	8844A MBEP	-55 to +125	8 Ld SOIC	M8.15
ISL8845AMBEP	V62/07621-06XB	8845A MBEP	-55 to +125	8 Ld SOIC	M8.15

NOTES:

1. Add -TK suffix for 1,000 piece quantity tape and reel.
2. Devices must be procured to the VENDOR PART NUMBER.

Small Outline Plastic Packages (SOIC)



NOTES:

1. Symbols are defined in the “MO Series Symbol List” in Section 2.2 of Publication Number 95.
2. Dimensioning and tolerancing per ANSI Y14.5M-1982.
3. Dimension “D” does not include mold flash, protrusions or gate burrs. Mold flash, protrusion and gate burrs shall not exceed 0.15mm (0.006 inch) per side.
4. Dimension “E” does not include interlead flash or protrusions. Interlead flash and protrusions shall not exceed 0.25mm (0.010 inch) per side.
5. The chamfer on the body is optional. If it is not present, a visual index feature must be located within the crosshatched area.
6. “L” is the length of terminal for soldering to a substrate.
7. “N” is the number of terminal positions.
8. Terminal numbers are shown for reference only.
9. The lead width “B”, as measured 0.36mm (0.014 inch) or greater above the seating plane, shall not exceed a maximum value of 0.61mm (0.024 inch).
10. Controlling dimension: MILLIMETER. Converted inch dimensions are not necessarily exact.

M8.15 (JEDEC MS-012-AA ISSUE C)
8 LEAD NARROW BODY SMALL OUTLINE PLASTIC PACKAGE

SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	0.0532	0.0688	1.35	1.75	-
A1	0.0040	0.0098	0.10	0.25	-
B	0.013	0.020	0.33	0.51	9
C	0.0075	0.0098	0.19	0.25	-
D	0.1890	0.1968	4.80	5.00	3
E	0.1497	0.1574	3.80	4.00	4
e	0.050 BSC		1.27 BSC		-
H	0.2284	0.2440	5.80	6.20	-
h	0.0099	0.0196	0.25	0.50	5
L	0.016	0.050	0.40	1.27	6
N	8		8		7
α	0°	8°	0°	8°	-

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