



■ General Description

The OCP8122 is dual channel LED driver controller IC which loads the boost DC-DC controller and the constant current control of LED driver designed to build LED backlight for 3D LCD display mode large-size LCD TV application.

The OCP8122 provides two independently controlled LED drivers to achieve optimum efficiency. The drive outputs are phase-shifted by 180 degree to minimize current ripple in high power applications. The OCP8122 provides independent PWM dimming function for each channel and common analog dimming control for both channels. It provides system design flexibility for LCD-TV with local dimming or 3D display mode.

The OCP8122 can be configured for Master-Slave operation to support multi-channel applications. Synchronization is achieved by a proprietary single-wire interface which minimizes system components.

The OCP8122 provides the over-voltage protection (OVP), Power MOSFET over-current protection (OCP), Output to ground short-circuit protection, output over load protection, Soft-Start (SS), under-voltage lock-out (UVLO), limited current condition (LCC) protection, thermal shutdown protection (TSD). A soft-start feature is provided to minimize in-rush current during start-up.

The OCP8122 is available in SSOP-24L and SOP-24L package, and it is RoHS compliant and 100% lead Pb free. Operating temperature range of the OCP8122 is from -40°C to 85°C.

■ Features

- Wide Supply Voltage Range: 8.0V ~ 25V
- Dual Channel DC-DC Controller
- Drives One String of High Power LEDs per Channel
- Number of LEDs in series limited by external MOSFETs rating
- 180 degree phase shift drive output between the two channel
- Independent PWM dimming control for each channel
- Common Analog Dimming for two channel
- Constant Operation Frequency
- Operation Frequency Synchronization
- External Power MOSFET Over-Current Protection
- External enable control
- Integrated high frequency oscillator
- Over-voltage protection
- Output to Return Short-circuit Protection
- Output to Ground Short-circuit Protection
- Output Over-Load Protection
- Limited Current Condition Protection
- Low in-rush current soft-start function
- Under-voltage lock-out
- Thermal shutdown
- Fault Status Output
- Low Standby current
- T_A = -40 ~ 85 °C
- Available in SSOP-24L and SOP-24L Package

■ Applications

- LCD White LED Backlighting
- LCD TVs
- Automotive and Infotainment Displays
- 3D Mode Display LCD Panel



Pin Configuration

SSOP-24L/SOP-24L (Top View)

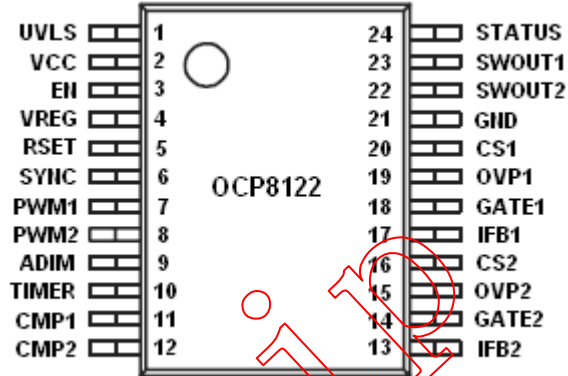


Figure 1, Pin Assignments of OCP8122

Table with 4 columns: Pin Name, Pin No. (SSOP24L/SOP24L), I/O, and Pin Function. It lists 24 pins and their specific functions, such as UVLS, VCC, EN, VREG, RSET, SYNC, PWM1, PWM2, ADIM, TIMER, CMP1, CMP2, IFB2, GATE2, OVP2, CS2, IFB1, GATE1, OVP1, CS1, GND, SWOUT2, SWOUT1, and STATUS.

Contact Information:

For more detail information , please direct any inquiries and/or comments to info@orient-chip.com.



■ **Typical Application Circuit**

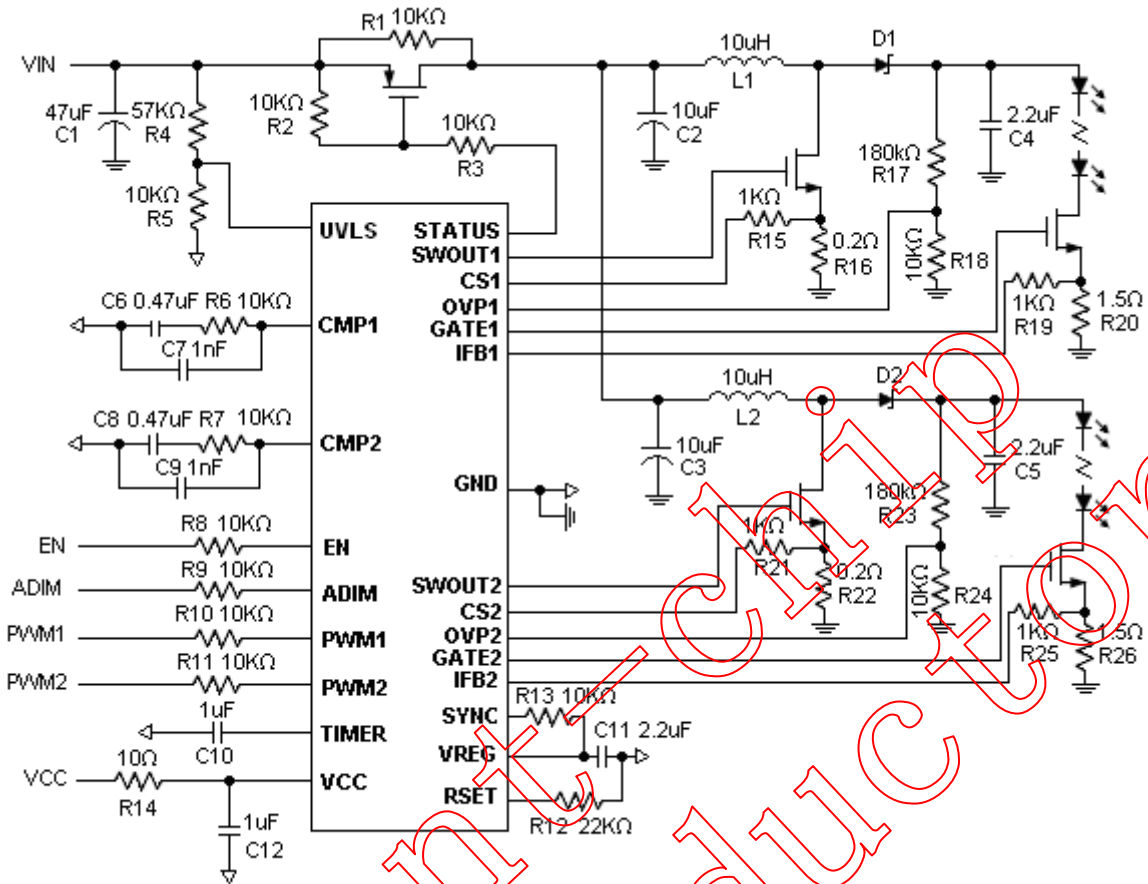


Figure 2, Typical Application Circuit of OCP8122

■ **Ordering Information**

OCP8122XXX

Package:

S: SOP-24L

SS: SSOP-24L

Packing:

Blank: Tube or Bulk

A: Tape or Reel

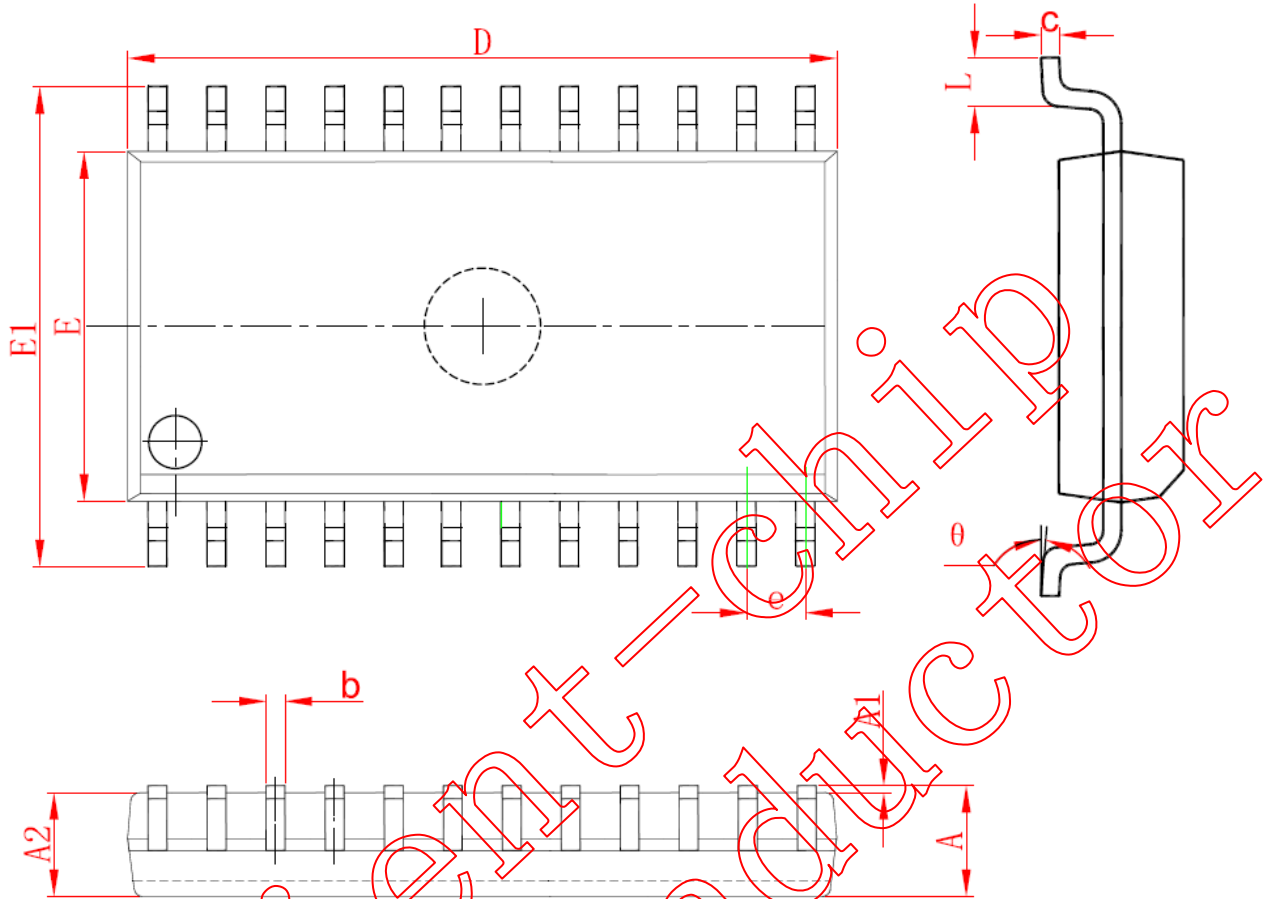
Temperature Grade:

D: -40~85°C

Part Number	Package Type	Package Qty	Temperature	Eco Plan	Lead
OCP8122SAD	SOP-24L	13-in reel 1000pcs/reel	-40~85°C	Green	Cu
OCP8122SD	SOP-24L	Tube 30pcs/tube	-40~85°C	Green	Cu
OCP8122SSAD	SSOP-24L	13-in reel 2500pcs/reel	-40~85°C	Green	Cu
OCP8122SSD	SSOP-24L	Tube 58pcs/tube	-40~85°C	Green	Cu



■ Package Information
SOP-24L

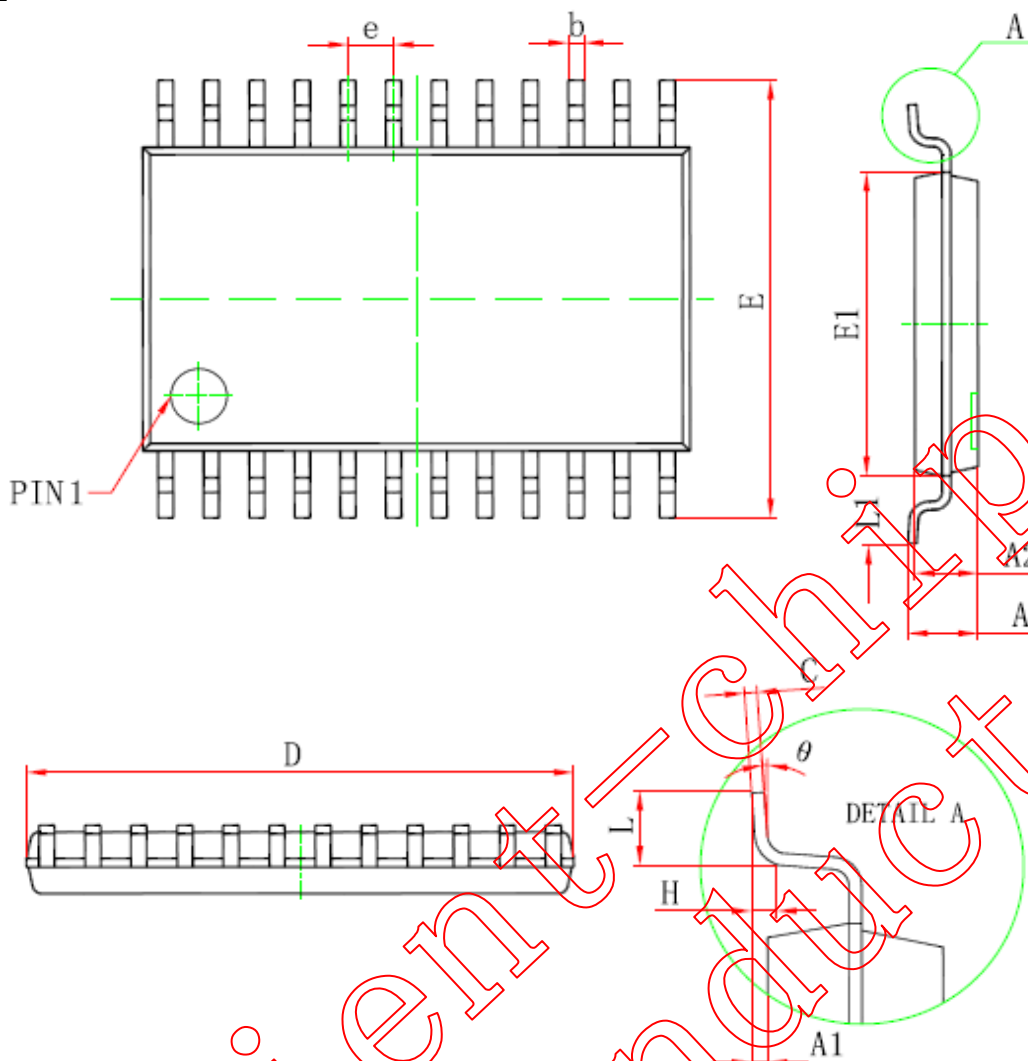


Note: 1, Refer to JEDEC STD MS-013 AD
 2, DIMENSION "D" DOES NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS. MOLD FLASH, PROTRUSIONS OR GATE BURRS SHALL NOT EXCEED 0.15 mm PER END. DIMENSION "E1" DOES NOT INCLUDE INTERLEAD FLASH OR PROTRUSION. INTERLEAD FLASH OR PROTRUSION SHALL NOT EXCEED 0.25 mm PER SIDE

Symbol	Dimensions In Millimeters			Dimensions In Inches		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	2.350	2.500	2.650	0.093	0.098	0.104
A1	0.100	0.200	0.300	0.004	0.008	0.012
A2	2.100	2.300	2.500	0.083	0.091	0.098
b	0.330	0.420	0.510	0.013	0.017	0.020
c	0.204	0.267	0.330	0.008	0.011	0.013
D	15.200	15.400	15.600	0.598	0.606	0.614
E	7.400	7.500	7.600	0.291	0.295	0.299
E1	10.210	10.410	10.610	0.402	0.410	0.418
e	1.270 (BSC)			0.050 (BSC)		
L	0.400	0.835	1.270	0.016	0.033	0.050
θ	0°	4°	8°	0°	4°	8°

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Note: 1, Refer to JEDEC STD MO-137 AE

2, DIMENSION "D" DOES NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS. MOLD FLASH, PROTRUSIONS OR GATE BURRS SHALL NOT EXCEED 0.15 mm PER END. DIMENSION "E1" DOES NOT INCLUDE INTERLEAD FLASH OR PROTRUSION. INTERLEAD FLASH OR PROTRUSION SHALL NOT EXCEED 0.25 mm PER SIDE

Symbol	Dimensions In Millimeters			Dimensions In Inches		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	1.35	1.60	1.75	0.053	0.063	0.069
A1	0.10	0.15	0.25	0.004	0.006	0.010
A2	1.25	-	-	0.005	-	-
b	0.20	-	0.30	0.008	-	0.012
c	0.17	-	0.25	0.007	-	0.010
D	8.56	8.66	8.76	0.337	0.341	0.345
E	5.80	6.00	6.20	0.228	0.236	0.244
E1	3.80	3.90	4.00	0.150	0.154	0.157
e	0.635 (BSC)			0.025 (BSC)		
L	0.400	-	1.27	0.016	-	0.050
L1	1.04 (BSC)			0.041 (BSC)		
θ	0°	-	8°	0°	-	8°