

Raffar Technology Corp.

RT516S

16-channel Constant Current LED Driver with Anti-ghosting Function

2013/10

Version: 3.3

Description

RT516S is a highly integrated 16-channel constant current LED sink driver with anti-ghosting function. The accurate constant current outputs with high uniformity between channels (bits) and chips can be adjusted from 2 mA to 40 mA by adjusting the external resistors. The output ports of RT516S are guaranteed to endure 20 V output voltages in maximal. The fast output current response time and the build-in anti-ghosting function both enhance the output performance of RT516S.

Features

- Anti-ghosting function for LED display
- Operating supply voltage: 3.3 V ~ 5.5 V
- Constant current output: 2 ~ 40 mA
- Max. output voltage: 20 V
- Clock frequency: 30 MHz
- Operating temperature: -40 °C ~ +85 °C
- Constant current output accuracy:
Bit-to-Bit: $\pm 1.0\%$
Chip-to-Chip: $\pm 2.0\%$

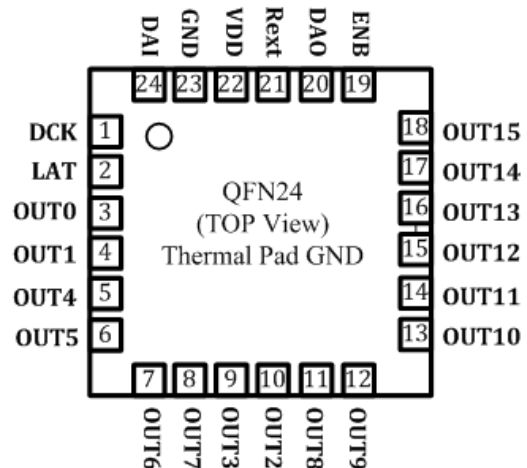
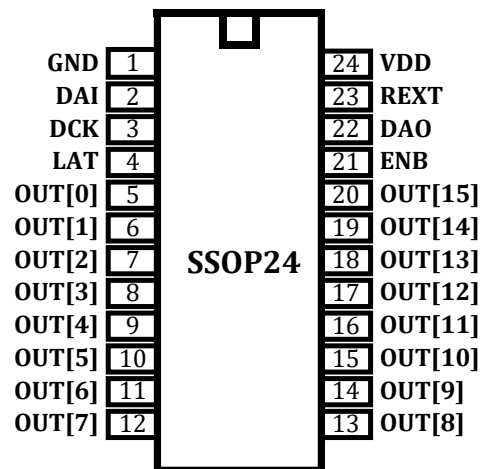
Application

Indoor/outdoor LED display

Order Information

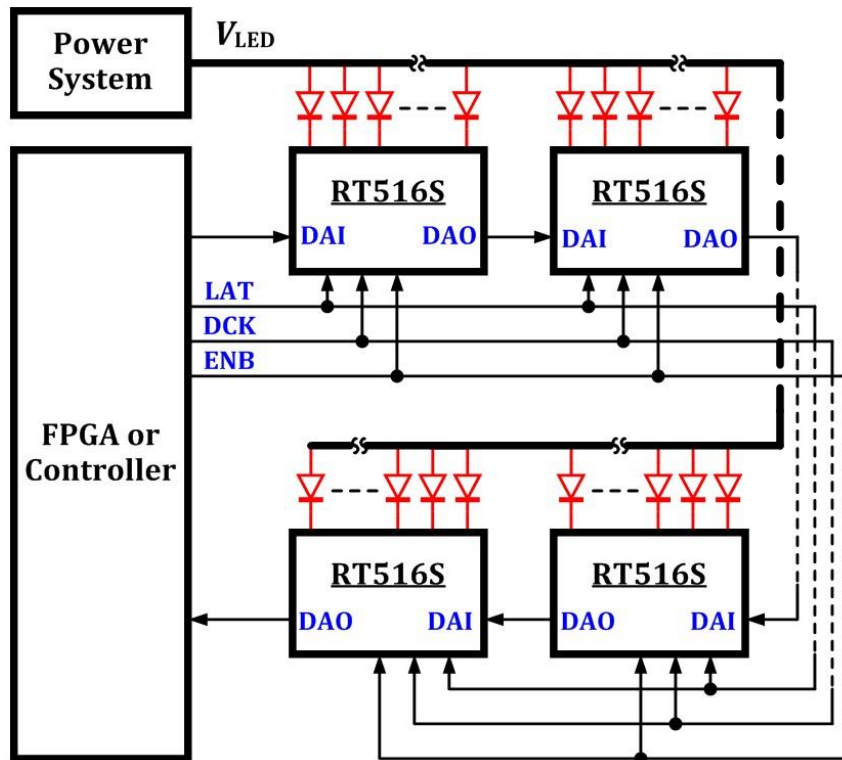
No.	Part No.	Package
1	RT516S-SS	SSOP24-150 mil-0.635 mm
2	RT516S-QN	QFN24-4*4mm

Pin Assignment



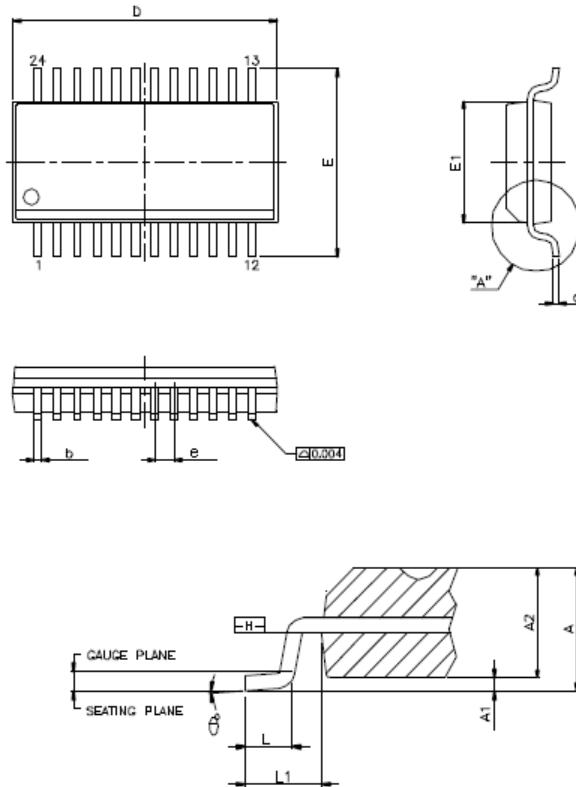
Pin No.	Pin Name	Description
1	GND	Ground terminal
2	DAI	Serial data input
3	DCK	Clock input
4	LAT	Input data strobe signal input
5 ~ 20	OUT[0:15]	Current output
21	ENB	Enable signal for current output (active low)
22	DAO	Serial data output
23	REXT	External resistor terminal
24	VDD	Supply voltage

Typical Application Circuit



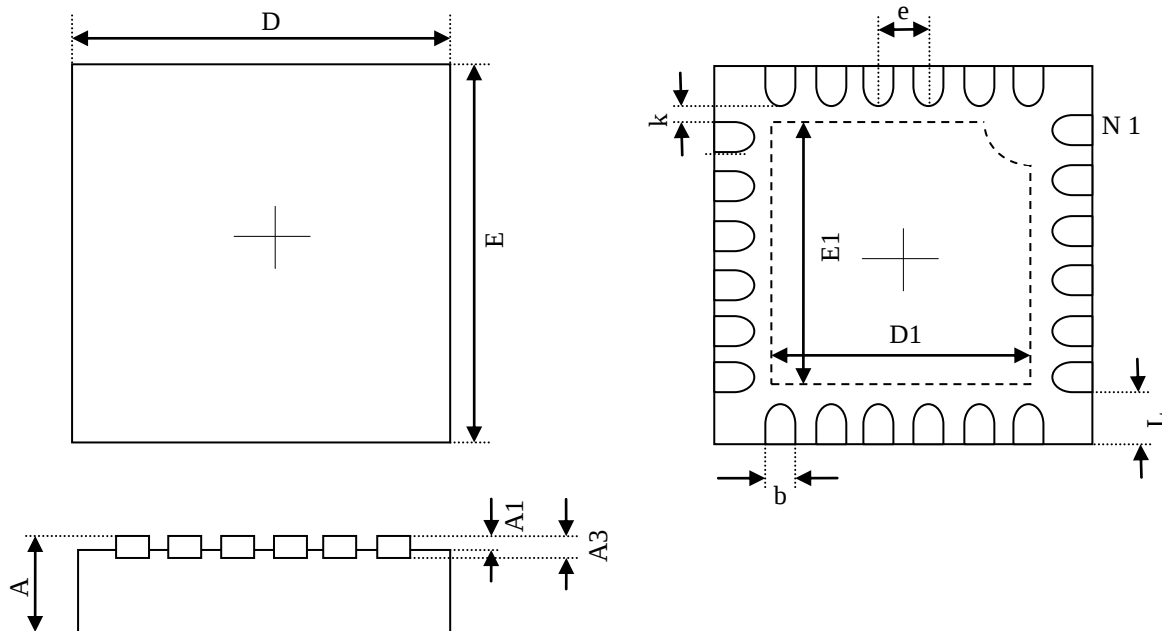
Package Outline Dimension

SSOP24 Dimension (150 mil-0.635 mm)



Symbol	Millimeters (mm)		Inches (in)	
	Min.	Max.	Min.	Max.
A	1.346	1.753	0.053	0.069
A1	0.102	0.254	0.004	0.010
A2	-	1.499	-	0.059
b	0.203	0.305	0.008	0.012
C	0.178	0.254	0.007	0.010
D	8.560	8.738	0.337	0.344
E	5.791	6.198	0.228	0.244
e	0.635 (BSC)		0.025 (BSC)	
E1	3.810	3.988	0.150	0.157
L	0.406	1.270	0.016	0.050
L1	1.041 (BSC)		0.0409 (BSC)	
θ°	0	8	0	8

QFN24 Dimension (4*4mm)



Symbol	Millimeters (mm)		Inches (in)	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.050	0.000	0.002
A3	0.203 Ref.		0.008 Ref.	
D	3.900	4.100	0.154	0.161
E	3.900	4.100	0.154	0.161
D1	2.600	2.800	0.102	0.110
E1	2.600	2.800	0.102	0.110
k	0.200 Min.		0.008 Min.	
b	0.180	0.300	0.007	0.012
e	0.500 Typ.		0.020 Typ.	
L	0.300	0.500	0.012	0.020

Note

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