



FI2055S

(DC/DC) LED Driving Board

Reference Manual

(Preliminary)

Model Number:

FI2055SA-3S9P with LED connector W2

FI2055SB-3S9P with LED connector W1

FI2055SC-3S9P with LED connector W4

Document No: doc-FI2055S-V10

PCB Bare Board: PB20552-V10

Approved By	Checked By	Prepared By



Revision histories

Rev. No.	Date	Substantial Changes
1.0	2017/2	First issue.



General Description

The front-end of FI2055S series is a highly efficient DC/DC to provide a wide input of voltage range. The back-end is a constant-current LED driver which can drive a number of LEDs in series & parallel configuration.

Features:

- Wide input rang : DC 5V.
- Provide output (Typ.) 1.95W.
- Flexible digital(PWM) for dimming control.
- The Soft-start function minimize inrush current while powering up.
- Multiple LED Protections:
 - LED Open/ Short protection
 - Over-current Limit protection
 - Over-temperature protection
 - Over-voltage protection
 - Under voltage lockout (UVLO)
- Low profile and light weight: 75 mm(L) x 17 mm(W) x 6.6 mm(H).
- RoHS Compliant.

Item	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input Voltage	Vin	GND=0V	4.75	5	5.25	V
Input Current	Iin		-	390	-	mA
LED Output Voltage per string	Vled	Vin = TYP.	-	9.6	-	V
LED Total Output Current	Iled		-	180	-	mA
Backlight on/off	BL_EN	DC high	1.5	-	5	V
		DC low	-	-	0.8	V
Brightness Control	BL_PWM	Frequency	100	300	20k	Hz
		PWM of duty	1(dark)		100(bright)	%
		Amplitude	1.5	-	5	VIH
Operating Temperature	Top	Ha=80%RH	-30		80	°C
Storage Temperature	Tstg	Ha=90%RH	-40		120	°C



Pin Assignment

Input Connector(W3)

Connector: A1250WR-S-6P (equal as molex 53261-0671), 1.25mm , side entry			
Pin num	Description	I/O	Remark
Pin1	Vin	P	
Pin2	Vin	P	
Pin3	GND	P	Note1
Pin4	GND	P	
Pin5	BL_EN	I	
Pin6	BL_PWM	I	

LED Backlight Connector (W1) for FI2055SB series

Connector: (JST-S2B-2.0mm) or equivalent, side entry			
Pin num	Description	I/O	Remark
Pin1	LED Anode(+)	P	Vled
Pin2	LED Cathode(-)	P	

LED Backlight Connector (W2) for FI2055SA series

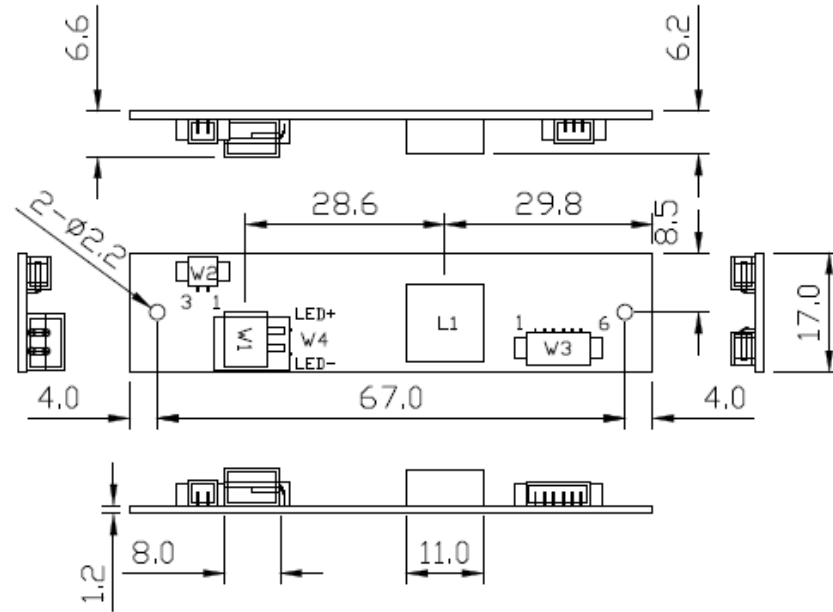
Connector: A1250WR-S-2P(equal as molex 51021-0200), 1.25mm, side entry			
Pin num	Description	I/O	Remark
Pin1	LED Anode(+)	P	Vled
Pin2	LED Cathode(-)	P	
Pin3	LED Anode(+)	P	Vled

LED Backlight Connector (W4) for FI2055SC series

Connector: A3500WR-S-2P(equal as JST-SM02B), 3.5mm, side entry			
Pin num	Description	I/O	Remark
Pin1	LED Anode(+)	P	Vled
Pin2	LED Cathode(-)	P	



Mechanical specification



LED-DRIVER-FI2055S