

## ARC FLASH SERSOR SFP RECEIVER Low power, SC Port

### Key Features

- Embedded high performance photodiode for measuring
- High ARC FLASH responsivity
- Low dark current
- Fast pulse response
- RoHS Compliant
- Single 5V power supply
- 0~5V analog output
- Low power
- Hot-pluggable SFP footprint
- SC connector interface
- -40~+85°C operating temperature
- IEC60825-1 Compliant
- 650nm Wavelength Technology
- Low Cost
- Low delay



The RHG118 is ideal for measuring both pulsed and CW fiber light sources, such as arc flash, by converting the optical power to an electrical voltage. It is with the SFP 20-pin connector to allow hot plug capability.

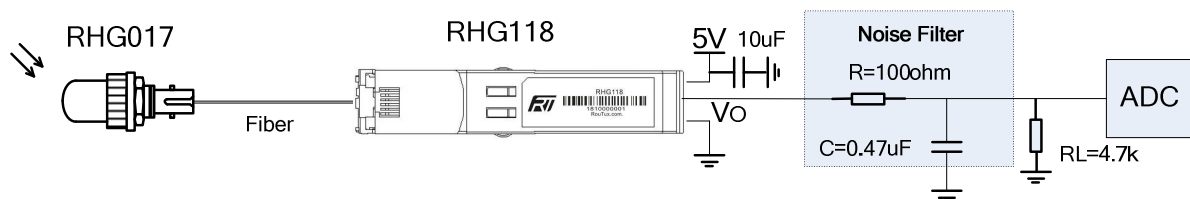
The RHG118 produces a voltage, which is a function of the incident light power and the wavelength. The responsivity  $\mathfrak{R}(\lambda)$  can be read from the responsivity graph, The output voltage is derived as:

$$V_o = P \times \mathfrak{R}(\lambda)$$

### Applications

- ARC FLASH PROTECTION
- ARC FLASH DETECTOR

### Recommended Circuit Diagram



Note:

- 1 Noise Filter is needed, especially for EMC TEST.
- 2 RL is used to give a low level voltage to ADC, especially when the RHG118 is not plugged in.
- 3  $V_o$  is 0~5V analog output, which is a function of the incident light power and the wavelength.

## Absolute Maximum Ratings

Supply Voltage	5.5V
Output Short-Circuit	Continuous
Operating Temperature	-40~+85°C
Storage Temperature	-40~+85°C

## Product Specification

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$V_s$	Specified Voltage Range		2.8	-	5.5	V
$I_Q$	Quiescent Current	$I_O = 0$	-	50	80	$\mu A$
$I_s$	Supply Current	$V_s = 2.8$ to 5.5V	-		8	mA
$V_{os}$	Offset Voltage	$V_s = 2.8$ to 5.5V $T_A = -40$ to +85° C		+/- 0.2	+/- 0.8	mV
$dV_{os}/dT$	Offset Voltage vs Temperature	$V_s = 2.8$ to 5.5V		+/-2		mV
$T_d$	Delay Time	$V_s = 5$ V $R_L = 4.7k\Omega$		5		$\mu S$
$T_r$	Rise time	$V_s = 5$ V $R_L = 4.7k\Omega$		40		$\mu S$
$T_{on}$	Turn-on time	$V_s = 5$ V $R_L = 4.7k\Omega$		45		$\mu S$
$V_{omax}$	Maximum Output Voltage	$V_s = 2.8$ to 5.5V CW fiber light			$V_s$	V
$V_o/P_{light}$	Responsivity of fiber light Power and Voltage Output	$V_s = 2.8$ to 5.5V $R_L = 4.7k\Omega$ Wavelength=650nm CW fiber light		10		V / $\mu W$
UW	Unit weight			20		g

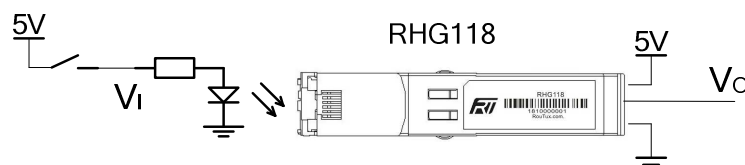


Fig.1 – Test Circuit

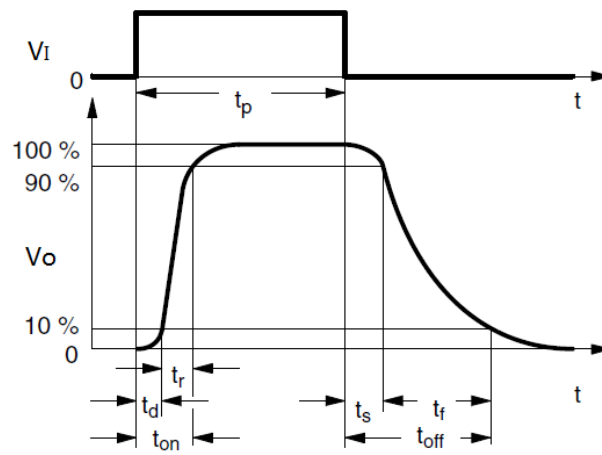


Fig.2 – Switching Times

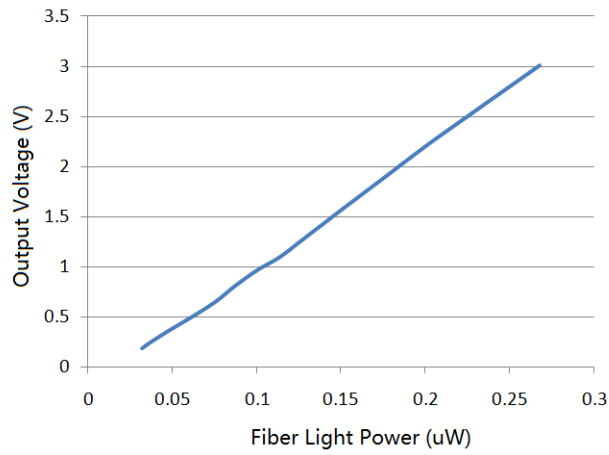
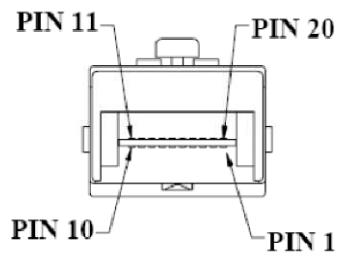


Fig.3 – Responsivity

## Pin Description



Pin No.	Name	Description
1	GND	Ground
2	Vo	Voltage Output.
3	NC	No
4	NC	No
5	NC	No
6	LD+	LD Driving for optical fiber self detection. Function not available.
7	VCC	Power Supply. 5V Recommended.
8	NC	No
9	GND	Ground
10	GND	Ground
11	GND	Ground
12	NC	No
13	NC	No
14	GND	Ground
15	NC	No
16	NC	No
17	GND	Ground
18	NC	No
19	NC	No
20	GND	Ground

## Dimensions

