

## SigOFIT

Optical-fiber Isolated Probe

## Datasheet



With Micsig's exclusive SigOFIT™ optical isolation technology, the SigOFIT probe delivers 160dB CMRR at DC, over 100dB at 500MHz, and able to test differential mode signals from  $\pm 1.25V$  to  $\pm 2500V$  when using with attenuators, present true signal you've never seen. It's the most ideal method for isolated probe technology.

## Benefits of SigOFIT Probes

The SigOFIT probe is powered over laser, realized complete galvanic isolation between the probe and the DUT.

- Up to 1 GHz bandwidth
- 160 dB CMRR at DC
- Over 100 dB CMRR at 500 MHz
- 60 kVpk Common mode voltage range
- Up to  $\pm 2500V$  differential input voltage range
- 1% DC gain accuracy
- Autozero in less than 1 second
- Support all BNC-type oscilloscopes

## Present True Signal

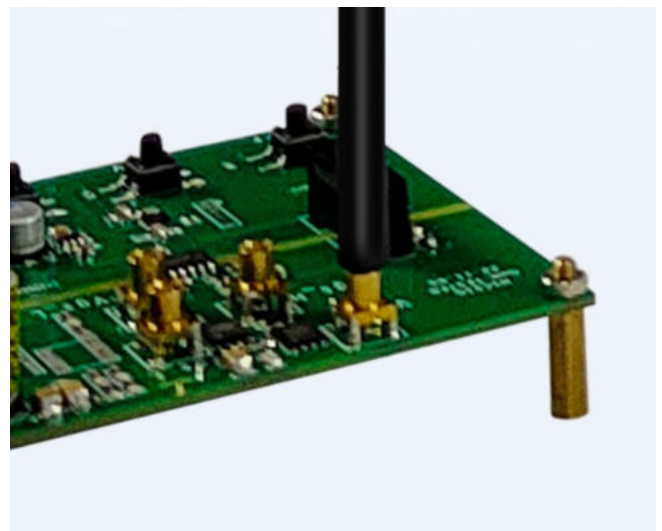


▲ Vgs signal at SiC conduction moment

## Best Probe for GaN and SiC

Third-Gen Semiconductor device like SiC and GaN can switch high voltages in a few nanoseconds, containing very high-energy high-frequency harmonics.

SigOFIT probe perfectly suppress oscillation caused by high-frequency common-mode noise by employing high-quality coaxial attenuating tips and industry standard MCX connectors, unveils real signal for every engineers.



Attenuating tip @ 10X ~ 2000X

## Key Applications

- Design of motor drive, power converter
- Design of GaN, SiC, Half/Full bridge devices
- Design of inverter, UPS and switching power supply
- High voltage high bandwidth safety test
- Power device evaluation
- Current shunt measurements
- EMI & ESD troubleshooting
- Floating measurements

**Technical Specifications**

Model & Ordering Name	<b>MOIP01P</b>	<b>MOIP02P</b>	<b>MOIP03P</b>	<b>MOIP05P</b>	<b>MOIP08P</b>	<b>MOIP10P</b>
Bandwidth	100MHz	200 MHz	350 MHz	500 MHz	800 MHz	1 GHz
Rise time	≤3.5ns	≤1.75n	≤1ns	≤700ps	≤438ps	≤350ps
Output Voltage	±2.5V		±1.25V			
Differential Voltage Range	1X: ±2.5V 10X: ±25V 20X: ±50V 500X: ±1250V 1000X: ±2500V		1X: ±1.25V 20X: ±25V 50X: ±62.5V 1000X: ±1250V 2000X: ±2500V			
System noise (rms)	<1.41mVrms					
SMA Input Impedance	1MΩ    10pF					
Propagation delay	15.42ns (2m)					
Power supply	USB Type-C, DC: 5V					
DC Gain accuracy	1%					
Common mode voltage range	60kVpk					
Fiber cable length	2m (Customizable)					
Temperature	0°C to 40°C (operating), -20°C to +70°C (non-operating)					
Humidity	5% to 85% RH (non-condensing), 75% RH above 30°C, 45% RH above 40°C					
Altitude	3000 m (operating), 12,000 m (non-operating)					
Usage	Indoor Use Only					
Package size	37*11*32.5 cm					
Package GW	2.2KG					

Attenuation & Input Impedance		
Probe Tip	Attenuation	Input impedance
SMA Input	1X	1MΩ    10pF
OP10 Input	10X	10MΩ    3.0pF
OP20 Input	20X	9.47MΩ    2.8pF
OP50 Input	50X	9.47MΩ    2.8pF
OP500 Input	500X	12.27MΩ    2.6pF
OP1000 Input	1000X	12.28MΩ    2.6pF
OP2000 Input	2000X	30MΩ    1pF

CMRR (Common Mode Rejection Ratio)								
Probe	DC	1MHz	100MHz	200MHz	350MHz	500MHz	800MHz	1GHz
SMA	160dB	152dB	112dB	106dB	102dB	100dB	94dB	92dB
OP10	160dB	120dB	96dB	92dB	90dB	86dB	84dB	82dB
OP20	160dB	120dB	92dB	90dB	86dB	84dB	82dB	80dB
OP50	160dB	115dB	86dB	82dB	80dB	78dB	75dB	74dB
OP500	160dB	96dB	56dB	48dB	40dB	32dB	28dB	26dB
OP1000	160dB	90dB	50dB	42dB	34dB	26dB	22dB	20dB
OP2000	160dB	90dB	50dB	42dB	34dB	26dB	22dB	20dB

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**Ordering Information****Models**

MOIP01P	SigOFIT 100MHz, Optical-fiber Isolated Probe, 2-meter fiber cable
MOIP02P	SigOFIT 200MHz, Optical-fiber Isolated Probe, 2-meter fiber cable
MOIP03P	SigOFIT 350MHz, Optical-fiber Isolated Probe, 2-meter fiber cable
MOIP05P	SigOFIT 500MHz, Optical-fiber Isolated Probe, 2-meter fiber cable
MOIP08P	SigOFIT 800MHz, Optical-fiber Isolated Probe, 2-meter fiber cable
MOIP10P	SigOFIT 1GHz, Optical-fiber Isolated Probe, 2-meter fiber cable

**Standard accessories**

MCX connector (2.54mm) *5	Connecting SigOFIT and the circuit under test
MCX connector (5.08mm) *5	Connecting SigOFIT and the circuit under test
MCX coaxial cable *1	Connecting SigOFIT and the circuit under test
Carrying Case *1	Case with EVA foam
Probe Mount *1	Bipod mount to support probe head
USB type-C to type-C cord *1	To power the Optical-Electrical Converter
25W USB charger *1	To power the Optical-Electrical Converter

**Optional accessories**

OP10-x	Attenuator tip of 10X
OP20-x	Attenuator tip of 20X
OP50-x	Attenuator tip of 50X
OP500-x	Attenuator tip of 500X
OP1000-x	Attenuator tip of 1000X
OP2000-x	Attenuator tip of 2000X

Refer to following list to choose applicable attenuating tip:

Model No.	Standard Tip(s)	Optional Tip(s)	Customizable Tip(s)
MOIP01P	OP10-2 <sup>1</sup>	OP20-2 OP500-2 OP1000-2	50X, 200X ... (Different attenuation multiples can be customized according to actual needs)
MOIP02P			
MOIP03P	OP20-5 OP1000-5	OP50-5 OP2000-5	10X, 500X ... (Different attenuation multiples can be customized according to actual needs)
MOIP05P			
MOIP08P	OP20-1G OP1000-1G	OP50-1G OP2000-1G	
MOIP10P			

Remarks:

<sup>1</sup>OPXX-\* is attenuating tip, XX means attenuation ratio, \* means bandwidth.  
i.e, OP10-2 is an attenuator tip with 10X, bandwidth of 200MHz.

### Supported oscilloscope

All BNC interface, with 50Ω impedance oscilloscope

## Service options

Optical-fiber Isolated Probe main body warranty for **1 year** (extendable with extra charge).

The SigOFIT probe contains high-quality components and should be treated with care, **Damage to the fiber optic cable is NOT covered by the warranty.**

Standard accessories are NOT covered in main body warranty.

Micsig provides one-on-one exclusive technical support service.

During the warranty period, Micsig will be responsible for providing free maintenance for any malfunctions caused by quality issues within the normal use of the product that have not been disassembled or repaired.

The warranty will be invalid in the following cases, but repair services can be provided, free of labor costs, and only parts fees will be charged:

- a. Any damage to accessories caused by improper use, maintenance, or storage by consumers.
- b. Damage caused by force majeure factors, such as natural disasters.

Micsig will refuse to provide repair services or provide paid repair services in the following situations:

- a. Unauthorized dismantling, such as changing wires, dismantling internal components, etc.
- b. No sales voucher or the content of the sales voucher does not match the product.

\* Micsig reserves the right of final interpretation for the content hereinabove;

\* It is subject to update without prior notice;

\* Please contact local distributor for any inquiry or send us email directly.