

## Clipper Measurement Probe

### Features:

- Passive test system for Power Transistors
- Input Voltages up to 1500V
- 2 Ranges for sensitivity selection (Hi and Lo)
- Switching times <80ns (lo range)
- Passive System - no power supply needed
- >98% Voltage transfer from Input to Output
- No Calibration required

### Applications:

- MOSFET RdsON measurement
- Junction Temperature Measurement
- Diode Forward Recovery Measurement
- SiC Diode Junction Temperature
- Production measurement of thermal interface
- Chip SOA sensing
- Switching performance measurement

Product Summary		
Vin Max	1500	V
Load	350	μA



## ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Conditions	Value	Unit
Input Voltage	Vin amax	Ta = 25 °C	1700	V
	Vin amin	Ta = 25 °C <sup>(2)</sup>	-3.0	V
Power Dissipation	P <sub>D</sub>	Ta = 25 °C	<120	mW
Operating Temperature	T <sub>OP</sub>	Laboratory <sup>(1)</sup>	10 to 35	°C
Storage Temperature	T <sub>STG</sub>		-5 to +85	°C

<sup>(1)</sup> For use in a thermal chamber, please contact us.

<sup>(2)</sup> Damage is caused to the device by I<sup>2</sup>Rt effects, and not by reverse voltage. Short time spikes of -10V will not cause a problem. Exact durations have not yet been characterized.



**ELECTRICAL CHARACTERISTICS**

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	

**Input Voltage**

Input Voltage	$V_{IN\ MAX}$	$T_a = 25\ ^\circ C$	1500	-	-	V
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**Output: Lo Range**

Output Voltage (positive) <b>Fig 1</b>	$V_{PO}$	$V_{IN}\ 600V, X10\ probe$	1.5	-	2.5	V
Forward Current (positive)	$I_{FWD}$	Constant Current Load	300	-	450	$\mu A$
Output Voltage (negative)	$V_{PO}$	$V_{IN} = -2V$		-0.8		V
Forward Current (negative)	$I_{FWD}$	$V_{IN} = -1.5V$		-	60	mA

**Output: Hi Range**

Output Voltage (positive) <b>Fig 2</b>	$V_{PO}$	$V_{IN}\ 600V, X10\ probe$	11.0	-	14.0	V
Forward Current (positive)	$I_{FWD}$	Constant Current Load	300	-	450	$\mu A$
Output Voltage (negative)	$V_{PO}$	$V_{IN} = -2V$		-1.7		V
Forward Current (negative)	$I_{FWD}$	$V_{IN} = -2.3V$		-	60	mA

**Dynamic Transfer Characteristics**

Input Capacitance	$C_{iss}$	$V_{IN}\ 0-600V$		12		pF
Input Charge	$Q_{in}$			8		nC
Settling Time Lo (FIG 5)	$T_{RF}$	$V_{out}$ reaches 90% of final value		150		ns
Settling Time Hi (FIG 6)	$T_{RF}$	$V_{out}$ reaches 90% of final value		50		ns
Output Resistance	$R_{out}$			500		$\Omega$

FIG 1:

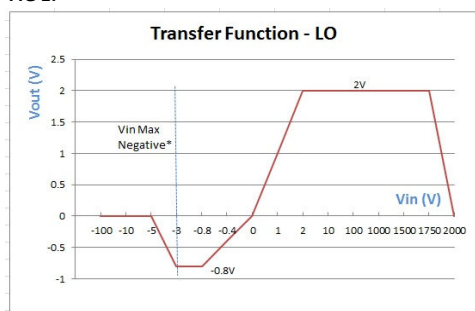


FIG 2:

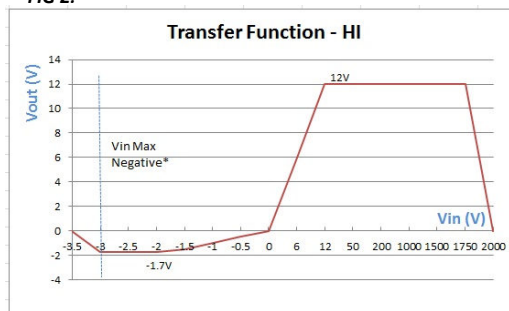


FIG 3:

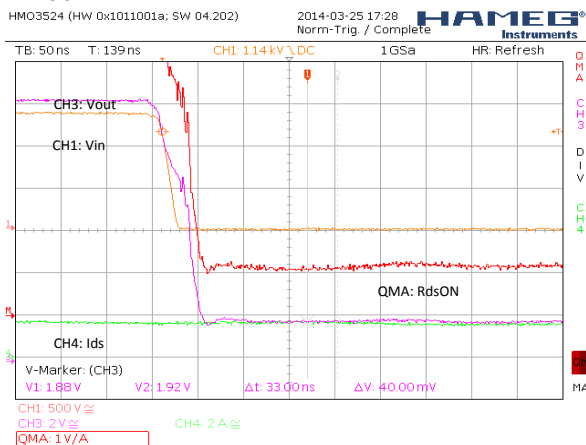
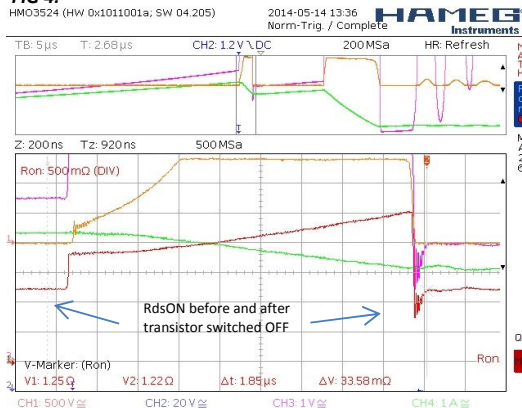


FIG 4:



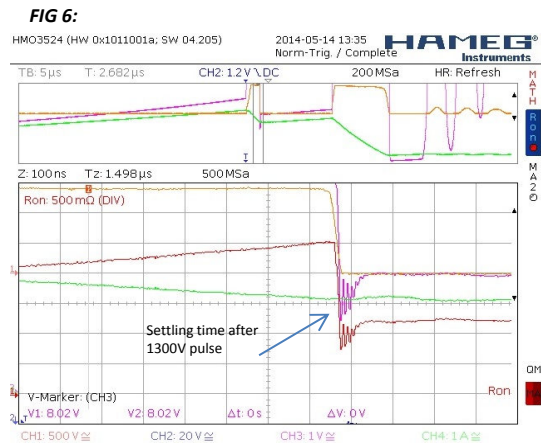
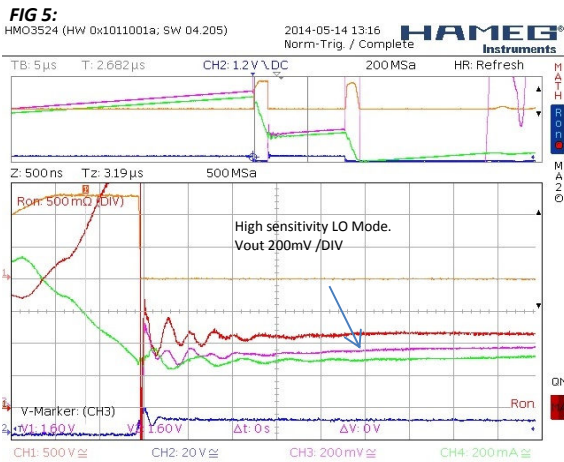


Fig3: Hi Mode, Vin 1300V, RdsON 1.1 $\Omega$

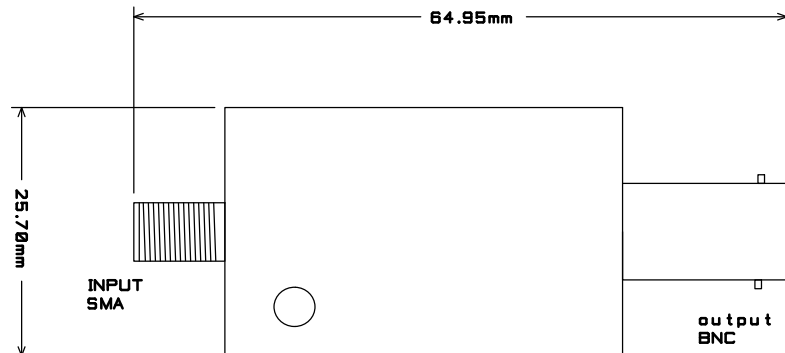
Fig4: Hi Mode, Vin 1300V, pulse OFF showing RdsON before and after.

Fig5: Lo Mode, Vin 1300V, RdsON 1.1 $\Omega$   
High Sensitivity: Vout = 200mV/Div

Fig6: Hi Mode, Vin 1300V, showing settling time 50ns.

### Mechanical Dimensions

Symbol	Dim mm
A	25.70
B	64.95
C	18



Case made of ABS Plastic !



**Aluminium Transport Case contains:**

- 1 x Clipper
- 2 x SMA-SMA Adapter
- 1 x SMA-BNC Adapter (male)
- 1 x SMA-BNC Adapter (female)
- 4 x SMA sockets
- 1 x Aluminium case with ESD foam

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