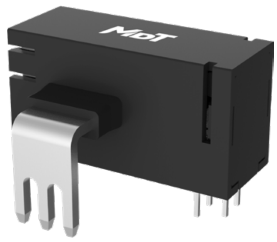
TMR7303-D/P1

Unibody, Miniture Current Sensor

Description

TMR7303-D/P1 is based on tunnel magnetoresistance (TMR) technology with high signal-to-noise ratio (SNR) and high sensitivity for measuring DC, AC, pulsed current and arbitrary waveform current with galvanic isolation and its internal temperature compensation circuitry provides excellent performance under different ambient temperature ranges. It is also a open loop current sensor with low power, miniature size, excellent frequency response.



Features and Benefits

- Tunneling magnetoresistance (TMR) technology
- Fast response time, high bandwidth (≥ 500 kHz)
- Low noise
- Low power consumption
- Excellent temperature stability

Applications

- Photovoltaic inverter
- Switching power supplies
- Inverter and variable frequency drives (VFD)
- DC motor drive
- Power supplies for welding application

Selection Guide

Model	Primary Nominal Current	Primary Current Measuring Range
TMR7303-010D/P1	10 A	±25 A
TMR7303-016D/P1	16 A	±40 A
TMR7303-020D/P1	20 A	±50 A
TMR7303-032D/P1	32 A	±80 A
TMR7303-040D/P1	40 A	±100 A
TMR7303-050D/P1	50 A	±125 A
TMR7303-080D/P1	80 A	±200 A

Insulation and Environmental Characteristics

Parameters	Symbol	Typical	Unit
Supply Voltage (absolute maximum)	V_{CC}	7	V
Dielectric Strength	V_D	4	kV(50Hz, 1min)
Creepage Distance (PCB installation)	d_{CP}	8	mm
Clearance (PCB installation)	d_{CL}	8	mm
ESD Performance (HBM)	V_{ESD}	4	kV
Ambient Operating Temperature	T_A	-40 to +105	°C
Ambient Storage Temperature	T_{STG}	-40 to +105	°C
Mass	m	6.5	g

Catalogue

1. TMR7303-010D/P1 Specifications

T_A = 25 °C, V_{CC} = 5 V, R_L = 10 kΩ, unless otherwise noted

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
General Electrical Data						
Primary Nominal Current	I_{PN}	TMR7303-010D/P1	-	10	-	A
Primary Current Measuring Range	I_{PM}	TMR7303-010D/P1	-25	-	25	A
Sensitivity	S	TMR7303-010D/P1	-	80	-	mV/A
Offset Voltage	V_{OFF}	I_P = 0	-	2.5	-	V
Output Voltage	V_{OUT}	I_P = 0 to ±I_{PM}	-	2.5 + 0.8 × I_P/I_{PN}	-	V
Supply Voltage	V_{CC}	±5 %	4.75	5	5.25	V
Current Consumption	I_C	I_P = 0	-	3.5	4	mA
Power ON Time	t_{PO}	V_{CC} ≥ 2.5 V	-	40	-	ms
Primary Conductor Input Resistance	R_{IN}	T_A = 25 °C	-	0.1	-	mΩ
Output Impedance	R_{OUT}	-	-	2	5	Ω
Load Resistance	R_L	I_P = 0 to ±I_{PN}	1	10	-	kΩ
Static Performance Data						
Accuracy	X_G	T_A = 25 °C, I_P = 0 to ±I_{PN}	-	±1	-	% I_{PN}
		T_A = -40 °C to +105 °C, I_P = 0 to ±I_{PN}	-4	±3	4	
Linearity Error	ε_L	I_P = 0 to ±I_{PN}	-	0.3	0.5	% I_{PN}
		I_P = 0 to ±I_{PM}	-	0.5	0.8	% I_{PM}
Sensitivity Error	ε_S	T_A = 25 °C, I_P = 0 to ±I_{PN}	-1	-	1	%
		T_A = -40 °C to +105 °C, I_P = 0 to ±I_{PN}	-1.5	-	1.5	
Reference Voltage Output	V_{REF}	T_A = 25 °C	2.49	-	2.51	V
		T_A = -40 °C to +105 °C	2.48	-	2.52	
Offset Error	V_{OE}	T_A = 25 °C, I_P = 0	-5	-	5	mV
		T_A = -40 °C to +105 °C, I_P = 0	-25	±15	25	
Hysteresis	V_{OH}	I_P = ±I_{PM} → 0	-	±3	-	mV
Dynamic Performance Data						
Response Time	t_R	di/dt > 100 A/μs, 90% of V_{OUT} to 90% of I_{PN}	-	0.6	-	μs
Delay Time	t_D	500 kHz sine wave	-	0.5	-	μs
Bandwidth	BW	-3 dB	DC	500	-	kHz
Output Noise	V_N	DC to 10 kHz DC to 100 kHz DC to 1 MHz	-	10 15 25	-	mV_{PP}

2. TMR7303-016D/P1 Specifications

T_A = 25 °C, V_{CC} = 5 V, R_L = 10 kΩ, unless otherwise noted

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
General Electrical Data						
Primary Nominal Current	I_{PN}	TMR7303-016D/P1	-	16	-	A
Primary Current Measuring Range	I_{PM}	TMR7303-016D/P1	-40	-	40	A
Sensitivity	S	TMR7303-016D/P1	-	50	-	mV/A
Offset Voltage	V_{OFF}	I_P = 0	-	2.5	-	V
Output Voltage	V_{OUT}	I_P = 0 to $\pm I_{PM}$	-	$2.5 + 0.8 \times I_P/I_{PN}$	-	V
Supply Voltage	V_{CC}	±5 %	4.75	5	5.25	V
Current Consumption	I_C	I_P = 0	-	3.5	4	mA
Power ON Time	t_{PO}	$V_{CC} \geq 2.5$ V	-	40	-	ms
Primary Conductor Input Resistance	R_{IN}	T_A = 25 °C	-	0.1	-	mΩ
Output Impedance	R_{OUT}	-	-	2	5	Ω
Load Resistance	R_L	I_P = 0 to $\pm I_{PN}$	1	10	-	kΩ
Static Performance Data						
Accuracy	X_G	T_A = 25 °C, I_P = 0 to $\pm I_{PN}$	-	±1	-	% I_{PN}
		T_A = -40 °C to +105 °C, I_P = 0 to $\pm I_{PN}$	-3.5	±2	3.5	
Linearity Error	ε_L	I_P = 0 to $\pm I_{PN}$	-	0.3	0.5	% I_{PN}
		I_P = 0 to $\pm I_{PM}$	-	0.5	0.8	% I_{PM}
Sensitivity Error	ε_S	T_A = 25 °C, I_P = 0 to $\pm I_{PN}$	-1	-	1	%
		T_A = -40 °C to +105 °C, I_P = 0 to $\pm I_{PN}$	-1.5	-	1.5	
Reference Voltage Output	V_{REF}	T_A = 25 °C	2.49	-	2.51	V
		T_A = -40 °C to +105 °C	2.48	-	2.52	
Offset Error	V_{OE}	T_A = 25 °C, I_P = 0	-5	-	5	mV
		T_A = -40 °C to +105 °C, I_P = 0	-20	±12	20	
Hysteresis	V_{OH}	$I_P = \pm I_{PM} \rightarrow 0$	-	±3	-	mV
Dynamic Performance Data						
Response Time	t_R	di/dt > 100 A/μs, 90% of V_{OUT} to 90% of I_{PN}	-	0.5	-	μs
Delay Time	t_D	500 kHz sine wave	-	0.4	-	μs
Bandwidth	BW	-3 dB	DC	600	-	kHz
Output Noise	V_N	DC to 10 kHz DC to 100 kHz DC to 1 MHz	-	5 15 20	-	mV_{PP}

3. TMR7303-020D/P1 Specifications

T_A = 25 °C, V_{CC} = 5 V, R_L = 10 kΩ, unless otherwise noted

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
General Electrical Data						
Primary Nominal Current	I_{PN}	TMR7303-020D/P1	-	20	-	A
Primary Current Measuring Range	I_{PM}	TMR7303-020D/P1	-50	-	50	A
Sensitivity	S	TMR7303-020D/P1	-	40	-	mV/A
Offset Voltage	V_{OFF}	$I_P = 0$	-	2.5	-	V
Output Voltage	V_{OUT}	$I_P = 0$ to $\pm I_{PM}$	-	$2.5 + 0.8 \times I_P/I_{PN}$	-	V
Supply Voltage	V_{CC}	±5 %	4.75	5	5.25	V
Current Consumption	I_C	$I_P = 0$	-	3.5	4	mA
Power ON Time	t_{PO}	$V_{CC} \geq 2.5$ V	-	40	-	ms
Primary Conductor Input Resistance	R_{IN}	T_A = 25 °C	-	0.1	-	mΩ
Output Impedance	R_{OUT}	-	-	2	5	Ω
Load Resistance	R_L	$I_P = 0$ to $\pm I_{PN}$	1	10	-	kΩ
Static Performance Data						
Accuracy	X_G	T_A = 25 °C, $I_P = 0$ to $\pm I_{PN}$	-	±1	-	% I_{PN}
		T_A = -40 °C to +105 °C, $I_P = 0$ to $\pm I_{PN}$	-3.5	±2	3.5	
Linearity Error	ε_L	$I_P = 0$ to $\pm I_{PN}$	-	0.3	0.5	% I_{PN}
		$I_P = 0$ to $\pm I_{PM}$	-	0.5	1	% I_{PM}
Sensitivity Error	ε_S	T_A = 25 °C, $I_P = 0$ to $\pm I_{PN}$	-1	-	1	%
		T_A = -40 °C to +105 °C, $I_P = 0$ to $\pm I_{PN}$	-1.5	-	1.5	
Reference Voltage Output	V_{REF}	T_A = 25 °C	2.49	-	2.51	V
		T_A = -40 °C to +105 °C	2.48	-	2.52	
Offset Error	V_{OE}	T_A = 25 °C, $I_P = 0$	-5	-	5	mV
		T_A = -40 °C to +105 °C, $I_P = 0$	-20	±12	20	
Hysteresis	V_{OH}	$I_P = \pm I_{PM} \rightarrow 0$	-	±3	-	mV
Dynamic Performance Data						
Response Time	t_R	di/dt > 100 A/μs, 90% of V_{OUT} to 90% of I_{PN}	-	0.5	-	μs
Delay Time	t_D	500 kHz sine wave	-	0.4	-	μs
Bandwidth	BW	-3 dB	DC	600	-	kHz
Output Noise	V_N	DC to 10 kHz DC to 100 kHz DC to 1 MHz	-	5 15 20	-	mV_{PP}

4. TMR7303-032D/P1 Specifications

T_A = 25 °C, V_{CC} = 5 V, R_L = 10 kΩ, unless otherwise noted

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
General Electrical Data						
Primary Nominal Current	I_{PN}	TMR7303-032D/P1	-	32	-	A
Primary Current Measuring Range	I_{PM}	TMR7303-032D/P1	-80	-	80	A
Sensitivity	S	TMR7303-032D/P1	-	25	-	mV/A
Offset Voltage	V_{OFF}	I_P = 0	-	2.5	-	V
Output Voltage	V_{OUT}	I_P = 0 to ±I_{PM}	-	2.5 + 0.8 × I_P/I_{PN}	-	V
Supply Voltage	V_{CC}	±5 %	4.75	5	5.25	V
Current Consumption	I_C	I_P = 0	-	3.5	4	mA
Power ON Time	t_{PO}	V_{CC} ≥ 2.5 V	-	40	-	ms
Primary Conductor Input Resistance	R_{IN}	T_A = 25 °C	-	0.1	-	mΩ
Output Impedance	R_{OUT}	-	-	2	5	Ω
Load Resistance	R_L	I_P = 0 to ±I_{PN}	1	10	-	kΩ
Static Performance Data						
Accuracy	X_G	T_A = 25 °C, I_P = 0 to ±I_{PN}	-	±1	-	% I_{PN}
		T_A = -40 °C to +105 °C, I_P = 0 to ±I_{PN}	-3	±2	3	% I_{PN}
Linearity Error	ε_L	I_P = 0 to ±I_{PN}	-	0.5	1	% I_{PN}
		I_P = 0 to ±I_{PM}	-	1	1.5	% I_{PM}
Sensitivity Error	ε_S	T_A = 25 °C, I_P = 0 to ±I_{PN}	-1	-	1	%
		T_A = -40 °C to +105 °C, I_P = 0 to ±I_{PN}	-1.5	-	1.5	%
Reference Voltage Output	V_{REF}	T_A = 25 °C	2.49	-	2.51	V
		T_A = -40 °C to +105 °C	2.48	-	2.52	V
Offset Error	V_{OE}	T_A = 25 °C, I_P = 0	-5	-	5	mV
		T_A = -40 °C to +105 °C, I_P = 0	-20	±15	20	mV
Hysteresis	V_{OH}	I_P = ±I_{PM} → 0	-	±5	-	mV
Dynamic Performance Data						
Response Time	t_R	di/dt > 100 A/μs, 90% of V_{OUT} to 90% of I_{PN}	-	0.5	-	μs
Delay Time	t_D	500 kHz sine wave	-	0.3	-	μs
Bandwidth	BW	-3 dB	DC	600	-	kHz
Output Noise	V_N	DC to 10 kHz DC to 100 kHz DC to 1 MHz	-	5 15 20	-	mV_{PP}

5. TMR7303-040D/P1 Specifications

T_A = 25 °C, V_{CC} = 5 V, R_L = 10 kΩ, unless otherwise noted

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
General Electrical Data						
Primary Nominal Current	I_{PN}	TMR7303-040D/P1	-	40	-	A
Primary Current Measuring Range	I_{PM}	TMR7303-040D/P1	-100	-	100	A
Sensitivity	S	TMR7303-040D/P1	-	20	-	mV/A
Offset Voltage	V_{OFF}	I_P = 0	-	2.5	-	V
Output Voltage	V_{OUT}	I_P = 0 to $\pm I_{PM}$	-	$2.5 + 0.8 \times I_P/I_{PN}$	-	V
Supply Voltage	V_{CC}	±5 %	4.75	5	5.25	V
Current Consumption	I_C	I_P = 0	-	3.5	4	mA
Power ON Time	t_{PO}	$V_{CC} \geq 2.5$ V	-	40	-	ms
Primary Conductor Input Resistance	R_{IN}	T_A = 25 °C	-	0.1	-	mΩ
Output Impedance	R_{OUT}	-	-	2	5	Ω
Load Resistance	R_L	I_P = 0 to $\pm I_{PN}$	1	10	-	kΩ
Static Performance Data						
Accuracy	X_G	T_A = 25 °C, I_P = 0 to $\pm I_{PN}$	-	±1	-	% I_{PN}
		T_A = -40 °C to +105 °C, I_P = 0 to $\pm I_{PN}$	-3	±2	3	
Linearity Error	ε_L	I_P = 0 to $\pm I_{PN}$	-	0.5	1	% I_{PN}
		I_P = 0 to $\pm I_{PM}$	-	1	1.5	% I_{PM}
Sensitivity Error	ε_S	T_A = 25 °C, I_P = 0 to $\pm I_{PN}$	-1	-	1	%
		T_A = -40 °C to +105 °C, I_P = 0 to $\pm I_{PN}$	-1.5	-	1.5	
Reference Voltage Output	V_{REF}	T_A = 25 °C	2.49	-	2.51	V
		T_A = -40 °C to +105 °C	2.48	-	2.52	
Offset Error	V_{OE}	T_A = 25 °C, I_P = 0	-5	-	5	mV
		T_A = -40 °C to +105 °C, I_P = 0	-20	±15	20	
Hysteresis	V_{OH}	$I_P = \pm I_{PM} \rightarrow 0$	-	±5	-	mV
Dynamic Performance Data						
Response Time	t_R	di/dt > 100 A/μs, 90% of V_{OUT} to 90% of I_{PN}	-	0.5	-	μs
Delay Time	t_D	500 kHz sine wave	-	0.3	-	μs
Bandwidth	BW	-3 dB	DC	600	-	kHz
Output Noise	V_N	DC to 10 kHz DC to 100 kHz DC to 1 MHz	-	5 15 20	-	mV_{PP}

6. TMR7303-050D/P1 Specifications

T_A = 25 °C, V_{CC} = 5 V, R_L = 10 kΩ, unless otherwise noted

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
General Electrical Data						
Primary Nominal Current	I_{PN}	TMR7303-050D/P1	-	50	-	A
Primary Current Measuring Range	I_{PM}	TMR7303-050D/P1	-125	-	125	A
Sensitivity	S	TMR7303-050D/P1	-	16	-	mV/A
Offset Voltage	V_{OFF}	$I_P = 0$	-	2.5	-	V
Output Voltage	V_{OUT}	I_P = 0 to $\pm I_{PM}$	-	$2.5 + 0.8 \times I_P/I_{PN}$	-	V
Supply Voltage	V_{CC}	±5 %	4.75	5	5.25	V
Current Consumption	I_C	$I_P = 0$	-	3.5	4	mA
Power ON Time	t_{PO}	$V_{CC} \geq 2.5$ V	-	40	-	ms
Primary Conductor Input Resistance	R_{IN}	T_A = 25 °C	-	0.1	-	mΩ
Output Impedance	R_{OUT}	-	-	2	5	Ω
Load Resistance	R_L	I_P = 0 to $\pm I_{PN}$	1	10	-	kΩ
Static Performance Data						
Accuracy	X_G	T_A = 25 °C, I_P = 0 to $\pm I_{PN}$	-	±1	-	% I_{PN}
		T_A = -40 °C to +105 °C, I_P = 0 to $\pm I_{PN}$	-3	±2	3	
Linearity Error	ε_L	I_P = 0 to $\pm I_{PN}$	-	0.5	1	% I_{PN}
		I_P = 0 to $\pm I_{PM}$	-	1	1.5	% I_{PM}
Sensitivity Error	ε_S	T_A = 25 °C, I_P = 0 to $\pm I_{PN}$	-1	-	1	%
		T_A = -40 °C to +105 °C, I_P = 0 to $\pm I_{PN}$	-1.5	-	1.5	
Reference Voltage Output	V_{REF}	T_A = 25 °C	2.49	-	2.51	V
		T_A = -40 °C to +105 °C	2.48	-	2.52	
Offset Error	V_{OE}	T_A = 25 °C, I_P = 0	-5	-	5	mV
		T_A = -40 °C to +105 °C, I_P = 0	-20	±15	20	
Hysteresis	V_{OH}	$I_P = \pm I_{PM} \rightarrow 0$	-	±5	-	mV
Dynamic Performance Data						
Response Time	t_R	di/dt > 100 A/μs, 90% of V_{OUT} to 90% of I_{PN}	-	0.5	-	μs
Delay Time	t_D	500 kHz sine wave	-	0.3	-	μs
Bandwidth	BW	-3 dB	DC	600	-	kHz
Output Noise	V_N	DC to 10 kHz DC to 100 kHz DC to 1 MHz	-	5 15 20	-	mV_{PP}

7. TMR7303-080D/P1 Specifications

T_A = 25 °C, V_{CC} = 5 V, R_L = 10 kΩ, unless otherwise noted

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
General Electrical Data						
Primary Nominal Current	I_{PN}	TMR7303-080D/P1	-	80	-	A
Primary Current Measuring Range	I_{PM}	TMR7303-080D/P1	-200	-	200	A
Sensitivity	S	TMR7303-080D/P1	-	10	-	mV/A
Offset Voltage	V_{OFF}	I_P = 0	-	2.5	-	V
Output Voltage	V_{OUT}	I_P = 0 to ±I_{PM}	-	2.5 + 0.8 × I_P/I_{PN}	-	V
Supply Voltage	V_{CC}	±5 %	4.75	5	5.25	V
Current Consumption	I_C	I_P = 0	-	3.5	4	mA
Power ON Time	t_{PO}	V_{CC} ≥ 2.5 V	-	40	-	ms
Primary Conductor Input Resistance	R_{IN}	T_A = 25 °C	-	0.1	-	mΩ
Output Impedance	R_{OUT}	-	-	2	5	Ω
Load Resistance	R_L	I_P = 0 to ±I_{PN}	1	10	-	kΩ
Static Performance Data						
Accuracy	X_G	T_A = 25 °C, I_P = 0 to ±I_{PN}	-	±1	-	% I_{PN}
		T_A = -40 °C to +105 °C, I_P = 0 to ±I_{PN}	-3	±2	3	
Linearity Error	ε_L	I_P = 0 to ±I_{PN}	-	0.5	1	% I_{PN}
		I_P = 0 to ±I_{PM}	-	1	1.5	% I_{PM}
Sensitivity Error	ε_S	T_A = 25 °C, I_P = 0 to ±I_{PN}	-1	-	1	%
		T_A = -40 °C to +105 °C, I_P = 0 to ±I_{PN}	-1.5	-	1.5	
Reference Voltage Output	V_{REF}	T_A = 25 °C	2.49	-	2.51	V
		T_A = -40 °C to +105 °C	2.48	-	2.52	
Offset Error	V_{OE}	T_A = 25 °C, I_P = 0	-5	-	5	mV
		T_A = -40 °C to +105 °C, I_P = 0	-20	±15	20	
Hysteresis	V_{OH}	I_P = ±I_{PM} → 0	-	±5	-	mV
Dynamic Performance Data						
Response Time	t_R	di/dt > 100 A/μs, 90% of V_{OUT} to 90% of I_{PN}	-	0.5	-	μs
Delay Time	t_D	500 kHz sine wave	-	0.3	-	μs
Bandwidth	BW	-3 dB	DC	600	-	kHz
Output Noise	V_N	DC to 10 kHz DC to 100 kHz DC to 1 MHz	-	5 15 20	-	mV_{PP}

8. Typical Output Characteristics

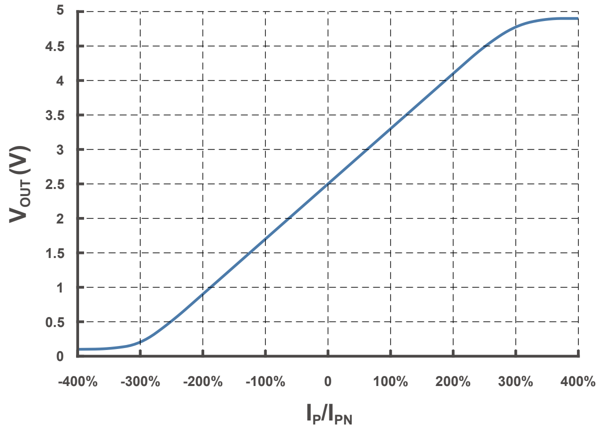


Figure 1. Output voltage vs primary current

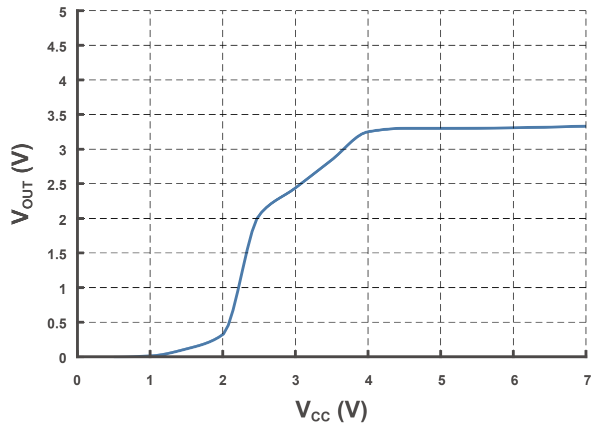


Figure 2. Output voltage vs supply voltage (@$I_P = I_{PN}$)

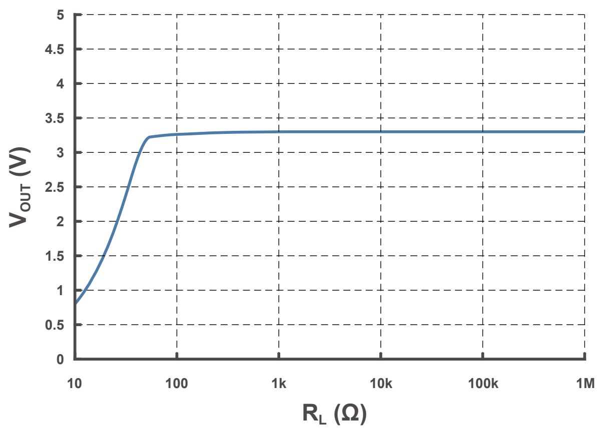


Figure 3. Output voltage vs load resistance (@$I_P = I_{PN}$)

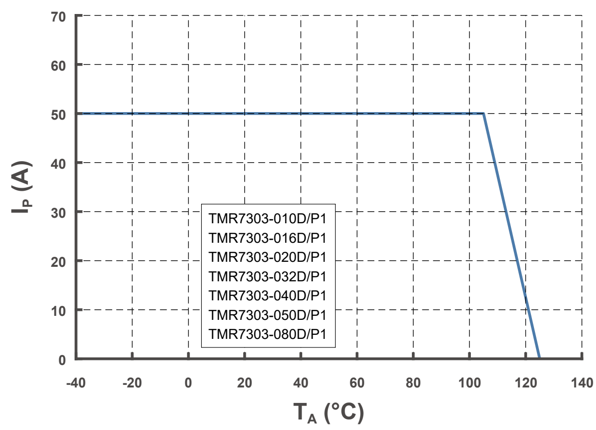


Figure 4. Maximum continuous current (DC)

9. Frequency Response Characteristic

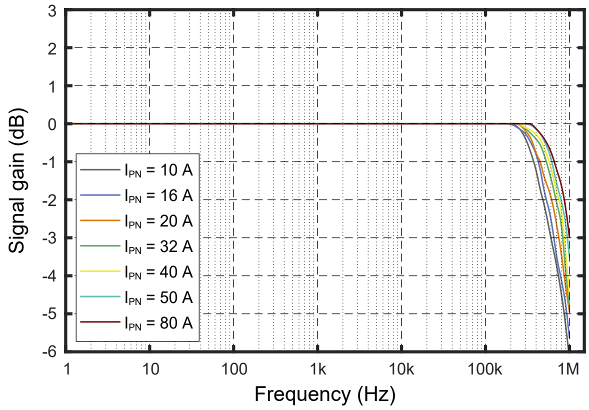


Figure 5. Bode plot

Step Response Time: The Voltage Output signal of current senor is presented by the yellow CH1 and the pink CH3 is the reference step response input signal. The response time is the time difference between The time interval between primary when the applied step current reaches 90% of its final value, and secondary when the sensor Voltage Output reaches 90% of its output corresponding to the applied current which is approximately 0.4 μs.

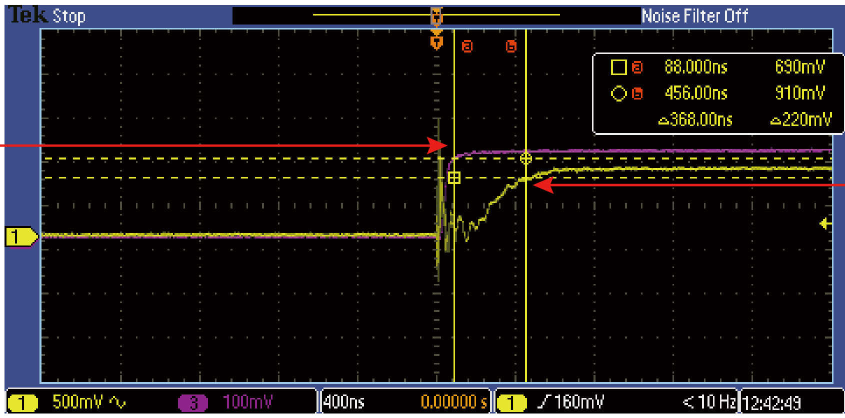


Figure 6. Step signal response time

The Time Delay between primary and the secondary Voltage Output and primary under a pure 500 kHz sine wave injected into the current sensor primary side is approximately 0.3 μs.

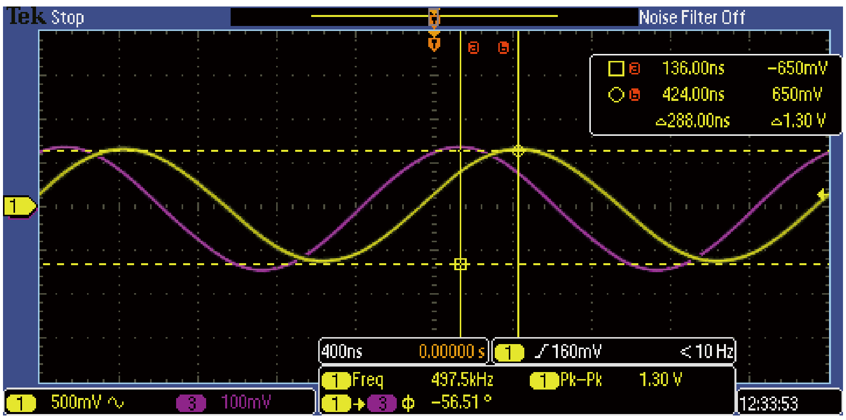


Figure 7. Sine wave signal delay time

10. Parameters Definition and Formula

1) Accuracy

$$X_G = \max_{I_p \in [-I_{PN}, I_{PN}]} \left(\frac{V_{OUT} - (I_P \times S + V_{OFF})}{I_{PN} \times S} \times 100\% \right)$$

I_P stands for primary current, I_{PN} stands for nominal primary current, V_{OUT} stands for current sensor output voltage at given primary current, S stands for sensitivity, V_{OFF} stands for offset voltage.

2) Sensitivity

$$S = \frac{V_{OUT(@ I_{PN})} - V_{OUT(@ -I_{PN})}}{2 \times I_{PN}}$$

$V_{OUT(@ I_{PN})}$ and $V_{OUT(@ -I_{PN})}$ stand for the voltage output at I_{PN}, $-I_{PN}$ respectively.

3) Linearity

$$\varepsilon_L = \max_{I_p \in [-I_{PN}, I_{PN}]} \left(\frac{\left| V_{OUT} - (I_P \times \overline{S} + \overline{V_{OFF}}) \right|}{I_{PN} \times S} \times 100\% \right)$$

$\overline{S}$, $\overline{V_{OFF}}$ stand for the average values of the sensitivity and offset voltage.

4) Offset Error

$$V_{OE} = V_{OUT(@I_P = 0)} - V_{OFF}$$

5) Hysteresis

$$V_{OH} = \text{MAX } \Delta H$$

ΔH is the maximum residual voltage between full scale positive and negative nominal current.

11. Dimensions

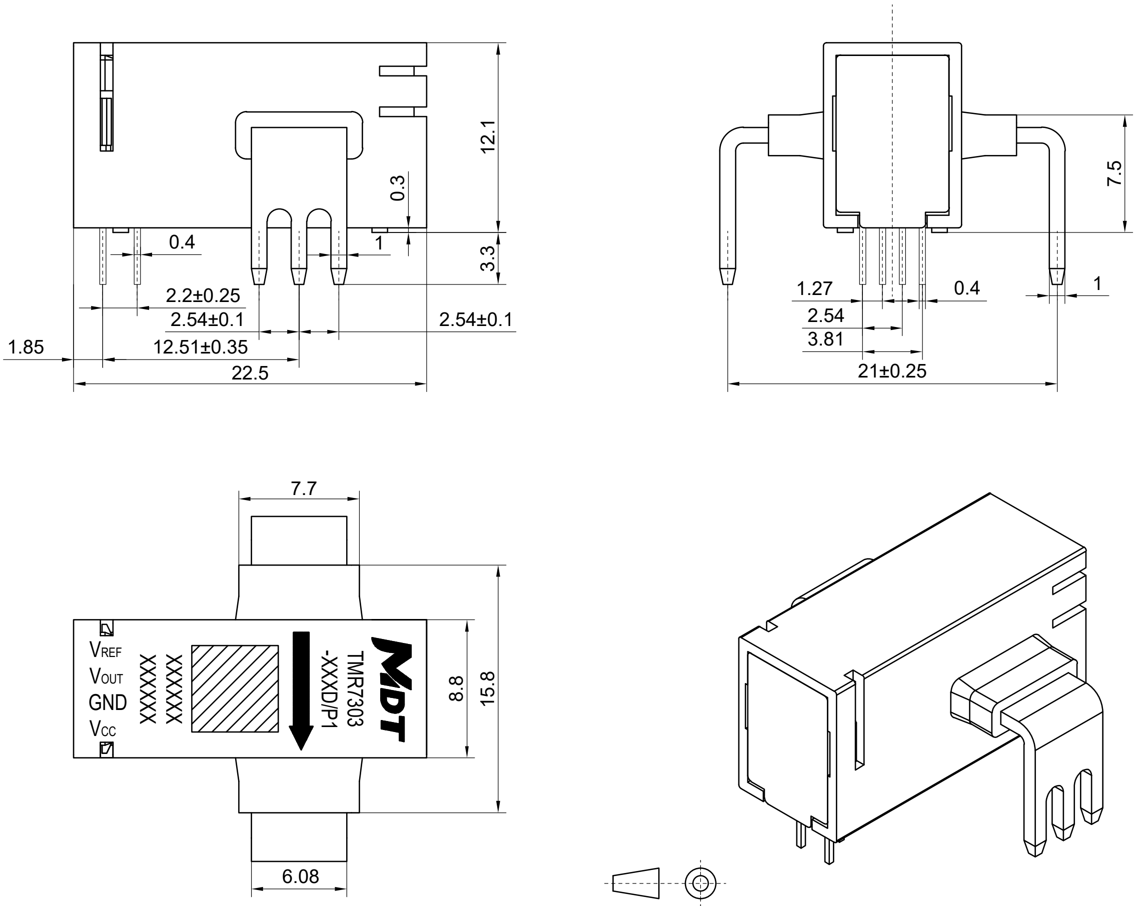
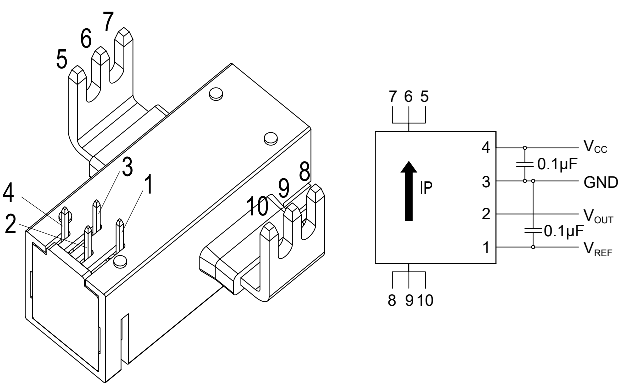


Figure 8. Dimension (unit: mm, tolerances for unmarked scales ±1 mm)

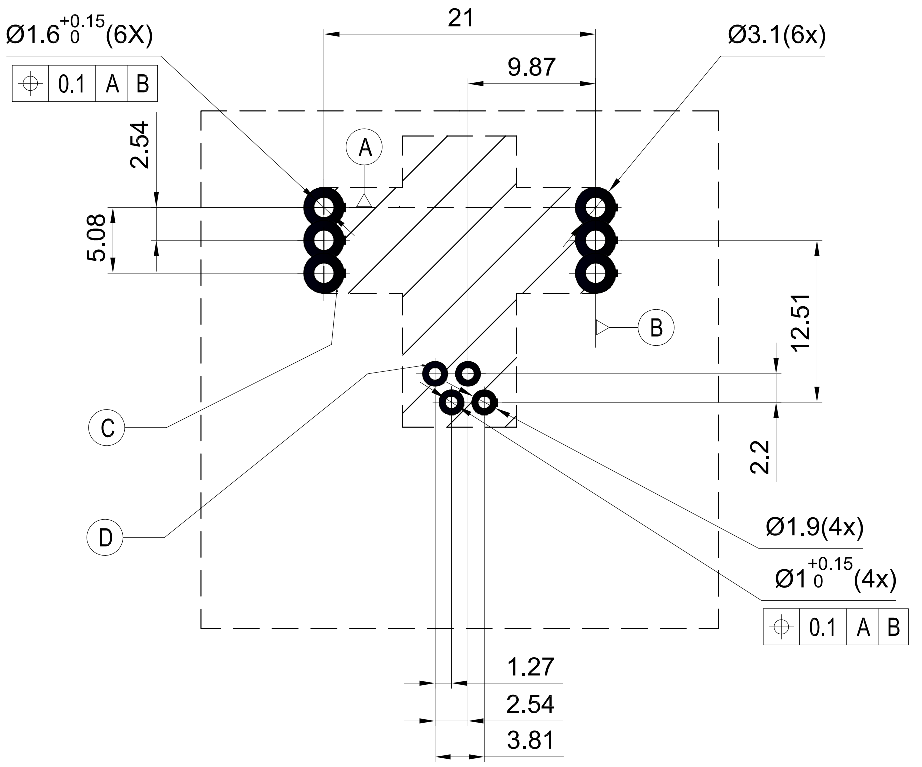
12. Pin Configuration and Wiring Diagram



Pin Number	Name	Function
1	V_{REF}	Reference voltage output
2	V_{OUT}	Voltage output
3	GND	Ground
4	V_{CC}	Power supply
5 ~ 7	I_P-	Primary current (reverse)
8 ~ 10	I_P+	Primary current (forward)

Figure 9. Pin configuration and wiring Diagram

13. Recommended PCB Layout



	d_{CP}(mm)	d_{CL}(mm)
C-D	9.42	9.42

Figure 10. PCB layout

14. Remarks

1. Wave Soldering Profile: Maximum Temperature 260 °C for 10 s.
2. V_{OUT} is positive when the primary current (IP) is in the same direction as the arrow indication on the label and vice versa.
3. Improper connection may result in permanent damage of the sensor.
4. Bandwidth can be adjusted by adding low pass filter (LPF) between V_{OUT} and GND.
5. The current sensor must be disconnected from the power supply during installation. No other devices are allowed in the projection area under the sensor.
6. Sensor is customizable upon request.

Recycling

The product(s) in this document need to be handed over to a qualified solid waste management services company for recycling in accordance with relevant regulations on waste classification after the end of the product(s) life.

MULTIDIMENSION

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