

Enhanced High Performance Bidirectional I²C Isolator

Features

- Bidirectional I²C Compatible Isolator
- Up to 1-MHz Operation
- 3.75-kV RMS Isolation Rating
- $\pm 200\text{-kV}/\mu\text{s}$ typ Static CMTI, $\pm 150\text{ kV}/\mu\text{s}$ typ Dynamic CMTI
- Open-drain Outputs with 3.5-mA Side A and 35-mA Side B Sink Current Capability
- Unidirectional (TPT72616) and Bidirectional (TPT72617) Clock Channel
- Wide Temperature Range: -40°C to $+125^\circ\text{C}$
- SOP8 Package
- Robust Electromagnetic Compatibility (EMC)
 - Low Emissions
 - System-level ESD, EFT, and Surge Immunity
- Safety-Related Certifications:
 - VDE Certification according to DIN VDE V 0884-17(IEC60747-17)
 - 3750-V_{RMS} (SOP8) Isolation Rating per UL 1577
 - CQC Certification per GB 4943.1
 - CSA, TUV, and CB Certifications

Applications

- Isolated I²C Buses
- SMBus and PMBus Interfaces
- I²C Level Shifting
- Open-drain Networks

Description

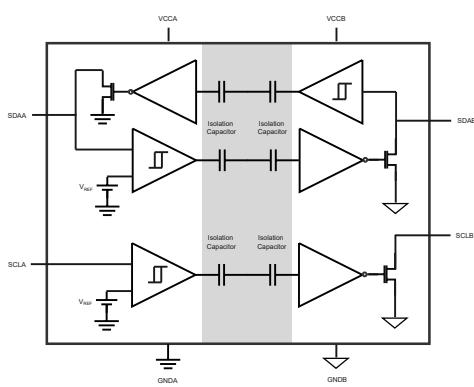
The TPT7261x devices are high-performance, bidirectional I²C compatible isolators with 3750-V_{RMS} (SOP8) isolation ratings per UL 1577. These devices are also to be certified by VDE, UL, CSA, TUV, CQC, and CB.

The TPT7261x devices provide high reliability and high performance at low power consumption while isolating logic input and output. Each isolation signal channel is separated by a double capacitive silicon dioxide insulation barrier. The TPT72616 has a bidirectional data and unidirectional clock channel while the TPT72617 device has two isolated bidirectional channels for clock and data. The TPT72616 is suitable for single-master applications while the TPT72617 is suitable for multi-master or slave clock stretching applications.

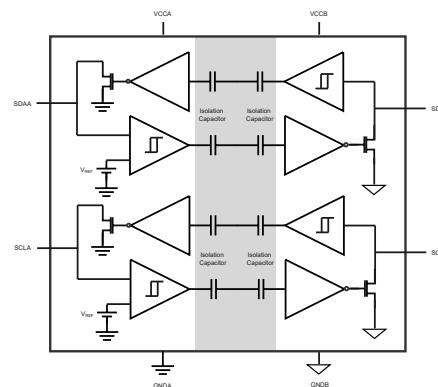
The Common Mode Transient Immunity (CMTI) and electromagnetic compatibility of the TPT7261x devices have been significantly enhanced through innovative circuit design and optimized structure.

The TPT7261x family is available in the TSOP8 package and is characterized from -40°C to $+125^\circ\text{C}$.

Functional Block Diagram



TPT72616



TPT72617

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TPT72616/TPT72617

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Revision History

Date	Revision	Notes
2020-05-05	Rev.Pre.0	Preliminary version.
2023-07-07	Rev.A.0	Released version.
2023-12-5	Rev.A.1	Typos correction.

Pin Configuration and Functions

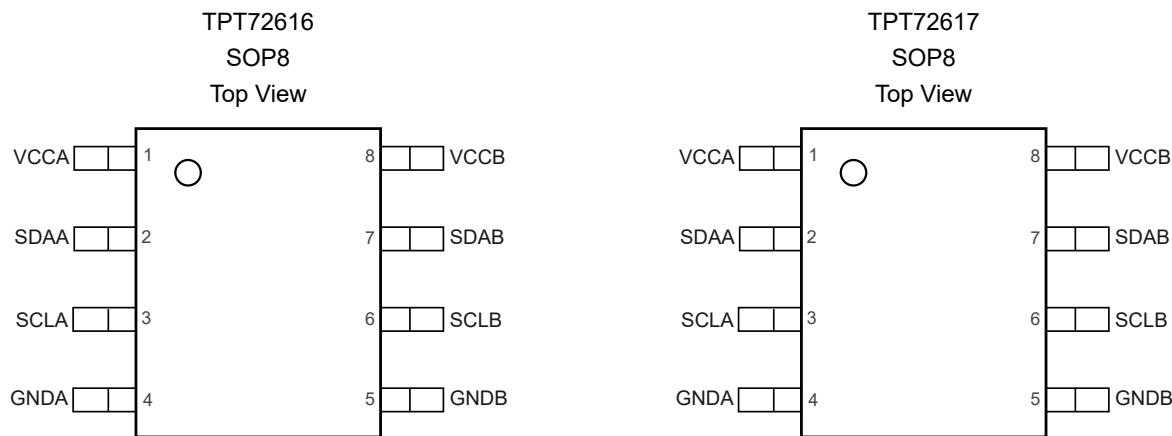


Table 1. Pin Functions: TPT7261x

Pin No.	Name	I/O	Description
1	VCCA	-	Power supply, VCCA
2	SDAA	I/O	Serial data input / output, side A
3	SCLA	I/O	Input, channel 2
4	GNDA	-	Ground connection for VCCA
5	GNDB	-	Ground connection for VCCB
6	SCLB	I/O	Serial clock input / output, side B
7	SDAB	I/O	Serial data input / output, side B
8	VCCB	-	Power supply, VCCB

Specifications

Absolute Maximum Ratings (1)

Parameter			Min	Max	Unit
V _{CC}	Supply Voltage, V _{CCA} , V _{CCB}		-0.5	6	V
V _{IO}	Voltage at SDAA, SCLA, SDAB, SCLB		-0.5	V _{CC} + 0.5	V
I _O	Output Current	SDAA, SCLA	-20	20	mA
I _O	Output Current	SDAB, SCLB	-100	100	mA
T _J	Operating Virtual Junction Temperature			150	°C
T _{STG}	Storage Temperature		-65	150	°C

(1) Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. Exposure to any Absolute Maximum Rating condition for extended periods may affect device reliability and lifetime.

(2) This data was taken with the JEDEC low effective thermal conductivity test board.

(3) This data was taken with the JEDEC standard multilayer test boards.

ESD, Electrostatic Discharge Protection

Parameter	Condition	Value	Unit
HBM, per ANSI/ESDA/JEDEC JS-001/ANSI/ESD STM5.5.1 (1)	All pins	6	kV
CDM, per ANSI/ESDA/JEDEC JS-002 (2)	All pins	1.5	kV

(1) JEDEC document JEP155 states that 500-V HBM allows safe manufacturing with a standard ESD control process.

(2) JEDEC document JEP157 states that 250-V CDM allows safe manufacturing with a standard ESD control process.

Recommended Operating Conditions

Parameter	Min	Typ	Max	Unit
V _{CCA} , V _{CCB}	Supply Voltage	3	5.5	V
V _{SDAA} , V _{SCLB}	Input and Output Signal Voltages, side 1	0	V _{CCA}	V
V _{SDAA} , V _{SCLB}	Input and Output Signal Voltages, side 2	0	V _{CCB}	V
V _{IL1}	Low-level Input Voltage, side 1	0	0.5	V
V _{IH1}	High-level Input Voltage, side 1	0.7 × V _{CCA}	V _{CCA}	V
V _{IL2}	Low-level Input Voltage, side 2	0	0.3 × V _{CCB}	V
V _{IH2}	High-level Input Voltage, side 2	0.7 × V _{CCB}	V _{CCB}	V
I _{OLA}	Output Current, side A	0.5	3.5	mA
I _{OLB}	Output Current, side B	0.5	35	mA
C _A	Capacitive Load, side A		40	pF
C _B	Capacitive Load, side B		400	pF
f _{MAX}	Operating Frequency ⁽¹⁾		1	MHz
T _A	Ambient Temperature	-40	125	°C

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Parameter		Min	Typ	Max	Unit
T _J	Junction Temperature	-40		136	°C
TSD	Thermal Shutdown	135		170	°C

(1) V_{CCA} is input side V_{CC}; V_{CCB} is output side V_{CC};

(2) V_{CC(UVLO+)}, V_{CC(UVLO+)}, V_{HYS(UVLO)} are same to V_{CCA} and V_{CCB};

(3) This represents the maximum frequency with the maximum bus load (C) and the maximum current sink (I_O). If the system has less bus capacitance, then higher frequencies can be achieved.

Thermal Information

Package Type	θ _{JA}	θ _{Jc}	Unit
SOP8	130	48	°C/W

Insulation Specifications

Parameter		Conditions	Value	Unit
			SOP8	
CLR	External clearance	Shortest terminal-to-terminal distance through air	> 4.0	mm
CPG	External creepage	Shortest terminal-to-terminal distance across the package surface	> 4.0	mm
DTI	Distance through the insulation	Minimum internal gap (internal clearance)	> 22	μm
DTC	Distance through the Molding compound	Minimum internal distance across the conductors inside the package	0.45	mm
CTI	Comparative tracking index		> 600	V
	Material group		I	
	Over-voltage category	For Rated Mains Voltage ≤ 150 V _{RMS}	I-IV	
		For Rated Mains Voltage ≤ 300 V _{RMS}	I-III	
		For Rated Mains Voltage ≤ 600 V _{RMS}	I-II	
		For Rated Mains Voltage ≤ 1000 V _{RMS}	I	
	Climatic category		40/125/21	
	Pollution degree		2	

DIN V VDE V 0884-17 (1)(2)

V _{IORM}	Maximum repetitive isolation voltage	AC voltage	637	V _{PK}
V _{IOWM}	Maximum working isolation voltage	AC voltage; TDDB Test	450	V _{RMS}
		DC voltage	637	V _{DC}
V _{IOTM}	Maximum transient isolation voltage	V _{TEST} = V _{IOTM} , t = 60 s (qualification); V _{TEST} = 1.2 × V _{IOTM} , t = 1 s (100% production)	5300	V _{PK}

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Parameter		Conditions	Value	Unit
			SOP8	
V _{IOSM}	Maximum surge isolation voltage ⁽³⁾	Test method per IEC 62368-1, 1.2/50 µs waveform, V _{TEST} = 1.3 × V _{IOSM} (qualification)	5980	V _{PK}
q _{pd}	Apparent charge	Method a, After Input/Output safety test subgroup 2/3, V _{ini} = V _{IOTM} , t _{ini} = 60 s; V _{pd(m)} = 1.2 × V _{IORM} , t _m = 10 s	≤ 5	pC
		Method a, After environmental tests subgroup 1, V _{ini} = V _{IOTM} , t _{ini} = 60 s; V _{pd(m)} = 1.6 × V _{IORM} , t _m = 10 s	≤ 5	
		Method b1; At routine test (100% production) and preconditioning (type test), V _{ini} = 1.2 × V _{IOTM} , t _{ini} = 1 s; V _{pd(m)} = 1.875 × V _{IORM} , t _m = 1 s	≤ 5	
C _{IO}	Isolation capacitance	V _{IO} = 0.4 × sin (2πft), f = 1 MHz	~0.5	pF
R _{IO}	Isolation resistance	V _{IO} = 500 V, T A= 25°C	> 10 ¹²	Ω
		V _{IO} = 500 V, 100°C ≤ T A≤ 125°C	> 10 ¹¹	Ω
		V _{IO} = 500 V at T S= 150°C	> 10 ⁹	Ω
UL 1577				
V _{ISO}	Withstanding isolation voltage	V _{TEST} = V _{ISO} , t = 60 s(qualification); V _{TEST} = 1.2 × V _{ISO} , t = 1 s (100% production)	3750	V _{RMS}

(1) All pins on each side of the barrier are tied together creating a two-terminal device.

(2) This coupler is suitable for safe electrical insulation only within the safety operating ratings. Compliance with the safety ratings shall be ensured by means of suitable protective circuits.

(3) Testing must be carried out in oil.

Enhanced High Performance Bidirectional I²C Isolator
Safety-Related Certifications

VDE	UL	TUV	CQC	CSA	CB
Certified according to DIN VDE V 0884-17	Certified according to UL 1577 and CSA Component Acceptance Notice 5A	Certified according to EN IEC 62368-1 and EN IEC 61010-1	Certified according to GB 4943.1	Certified CSA C22.2 No. 62368-1 and CAN/CSA-C22.2 No. 60601-1	Certified according to EN IEC 62368-1
Basic insulation (WSOP) VIORM= 1414 VIOSM= 6500 (SOP) VIORM= 637 VIOSM= 5980	(WSOP)Single protection, 5000Vrms (SOP)Single protection, 3750Vrms	5000Vrms reinforced insulation (WSOP), 800Vrms maximum work voltage. 3750Vrms basic insulation (SOP), 400V rms maximum work voltage.	Reinforced insulation (WSOP), Altitude<=5000m, 800V rms maximum work voltage. Basic insulation (SOP), Altitude<=5000m, 400V rms maximum work voltage.	400Vrms basic insulation (SOP) and 600V rms reinforced insulation (WSOP) working voltage per CSA C22.2 No. 62368-1:19 3rd, IEC 62368-1:2018 Ed. 3(in pollution degree 2, material group I) 2 MOPP (Means of Patient Protection) insulation requirements for 250Vrms (WSOP) in CAN/CSA-C22.2 No. 60601-1:14, IEC 60601-1:2005 + AMD1:2012	Reinforced insulation (WSOP), Altitude<=5000m, 800V rms maximum work voltage. Basic insulation (SOP), Altitude<=5000m, 400V rms maximum work voltage.
TBD	Report Reference E524241	Customer No. 2332359	Certificate No. CQC23001393279	Master contract 302375	Ref. Certif. No. CN59998

Safety Limiting Values

Parameter	Conditions ⁽¹⁾	Min	Typ	Max	Unit
Safety supply current	$R_{\theta JA} = 130^{\circ}\text{C}/\text{W}$, $V_I = 5 \text{ V}$, $T_J = 150^{\circ}\text{C}$, $T_A = 25^{\circ}\text{C}$ (SOP8)	-	-	192.3	mA
Safety total power	$R_{\theta JA} = 130^{\circ}\text{C}/\text{W}$, $T_J = 150^{\circ}\text{C}$, $T_A = 25^{\circ}\text{C}$ (SOP8)	-	-	961.5	mW
Maximum safety temperature		-	-	150	°C

(1) The assumed junction-to-air thermal resistance in the Thermal Information is that of a device installed on a high-K test board for leaded surface-mount packages.

Enhanced High Performance Bidirectional I²C Isolator
Electrical Characteristics

All test condition is at $V_{CCA} = V_{CCB} = 2.25\text{ V}$ to 5.5 V , $T_A = -40^\circ\text{C}$ to $+125^\circ\text{C}$, Typical value is in $V_{CC} = 3.3\text{ V}$, $T_A = +25^\circ\text{C}$, unless otherwise noted.

Parameter	Conditions	Min	Typ	Max	Unit	
Side A						
V_{ILTA}	Voltage input threshold low, SDAA and SCLA	300	450	-	mV	
V_{IHTA}	Voltage input threshold high, SDAA and SCLA	-	550	700	mV	
V_{HYSTA}	Voltage input hysteresis ⁽¹⁾⁽²⁾	$V_{IHTA} - V_{ILTA}$	-	75	-	mV
V_{OLA}	Low-level output voltage, SDAA and SCLA ⁽¹⁾	$0.5\text{ mA} \leq (I_{SDA1} \text{ and } I_{SCL1}) \leq 3.5\text{ mA}$	-	-	800	mV
ΔV_{OITA}	Low-level output voltage to high level input voltage threshold difference, SDAA and SCLA ⁽¹⁾⁽²⁾⁽³⁾	$0.5\text{ mA} \leq (I_{SDA1} \text{ and } I_{SCL1}) \leq 3.5\text{ mA}$	50	100	-	mV
Side B						
V_{ILTB}	Voltage input threshold low, SDAB and SCLB	0.8	1.25	-	V	
V_{IHTB}	Voltage input threshold high, SDAB and SCLB		1.65	3	V	
V_{HYSTB}	Voltage input hysteresis Low-level output voltage, SDAB and SCLB ⁽¹⁾⁽²⁾	$V_{IHTB} - V_{ILTB}$	-	400	-	mV
V_{OLB}	Low-level output voltage, SDAB and SCLB	$0.5\text{ mA} \leq (I_{SDAB} \text{ and } I_{SCLB}) \leq 35\text{ mA}$	-	-	400	mV
$ I $	Input leakage currents, SDAA, SCLA, SDAB, and SCLB	$V_{SDAA}, V_{SCLA} = V_{CCA}; V_{SDAB}, V_{SCLB} = V_{CCB}$	-	0.01	2	μA
C_I	Input capacitance, SDAA, SCLA, SDAB, and SCLB ⁽¹⁾	$V_I = 0.4 \times \sin(2E6\pi t) + 2.5\text{ V}$	-	7	-	pF
CMTI	Common-mode transient immunity	Static CMTI, See Figure 11	150	200	-	kV/ μs
		Dynamic CMTI, See Figure 11	100	150	-	kV/ μs
C_i	Input capacitance ⁽¹⁾		-	2	-	pF

(1) This parameter does not apply to the TPT72616 SCLA line as it is unidirectional.

(2) Provided by bench test and design simulation.

(3) $\Delta V_{OIT1} = V_{OL1} - V_{IHT1}$. This represents the minimum difference between a Low-Level Output Voltage and a High-Level Input Voltage Threshold to prevent a permanent latch condition that would otherwise exist with bidirectional communication.

Supply Current Characteristics – 3.3-V Supply

All test conditions: $3V \leq V_{CCA}, V_{CCB} = 3.6\text{ V}$, $T_A = -40^\circ\text{C} \sim +125^\circ\text{C}$. Typical value is in $V_{CC} = 5\text{ V}$, $T_A = +25^\circ\text{C}$, $C_L = 15\text{ pF}$ to GND, unless otherwise noted.

Parameter	Description	Test Condition	Min	Typ	Max	Unit
Supply current, side A	TPT72617	VSDAA, VSCLA= GNDA; VSDAB, VSCLB = GNDB	-	5.5	8.5	mA
		VSDAA, VSCLA = VCCA; VSDAB, VSCLB = VCCB	-	2.5	4.5	
	TPT72616	VSDAA, VSCLA= GNDA; VSDAB, VSCLB = GNDB	-	5.5	8.5	
		VSDAA, VSCLA = VCCA; VSDAB, VSCLB = VCCB	-	2.5	4.5	
Supply current, side B	TPT72616 and TPT72617	VSDAA, VSCLA= GNDA; VSDAB, VSCLB = GNDB	-	5.6	8.5	mA
		VSDAA, VSCLA = VCCA; VSDAB, VSCLB = VCCB	-	2.6	4.5	

Enhanced High Performance Bidirectional I²C Isolator**Supply Current Characteristics – 5-V Supply**

All test conditions: $4.5V \leq V_{CCA}, V_{CCB} = 5.5\text{ V}$, $T_A = -40^\circ\text{C} \sim +125^\circ\text{C}$. Typical value is in $V_{CC} = 5\text{ V}$, $T_A = +25^\circ\text{C}$, $C_L = 15\text{ pF}$ to GND, unless otherwise noted.

Parameter	Description	Test Condition	Min	Typ	Max	Unit
Supply current, side A	TPT72617	VSDAA, VSCLA= GNDA; VSDAB, VSCLB = GNDB	-	5.5	8.5	mA
		VSDAA, VSCLA = VCCA; VSDAB, VSCLB = VCCB	-	2.5	4.5	
	TPT72616	VSDAA, VSCLA= GNDA; VSDAB, VSCLB = GNDB	-	5.5	8.5	
		VSDAA, VSCLA = VCCA; VSDAB, VSCLB = VCCB	-	2.5	4.5	
Supply current, side B	TPT72616 and TPT72617	VSDAA, VSCLA= GNDA; VSDAB, VSCLB = GNDB	-	5.6	8.5	
		VSDAA, VSCLA = VCCA; VSDAB, VSCLB = VCCB	-	2.6	4.5	

Enhanced High Performance Bidirectional I²C Isolator

Timing Specifications – 3.3-V Supply

All test conditions: $3 \text{ V} \leq V_{\text{CCA}}, V_{\text{CCB}} = 3.6 \text{ V}$, $T_A = -40^\circ\text{C} \sim +125^\circ\text{C}$. Typical value is in $V_{\text{CC}} = 5 \text{ V}$, $T_A = +25^\circ\text{C}$, $C_L = 15 \text{ pF}$ to GND, unless otherwise noted.

Parameter		Conditions	Min	Typ	Max	Unit
t_{fA}	Output Signal Fall Time (SDAA, SCLA)		-	23	40	ns
t_{fB}	Output Signal Fall Time (SDAB, SCLB)		-	15	40	ns
t_{pLHA-B}	Low-to-High Propagation Delay, Side A to Side B	0.55 V to $0.7 \times V_{\text{CCB}}$	-	47	70	ns
t_{pHLA-B}	High-to-Low Propagation Delay, Side A to Side B	0.7 V to 0.4 V	-	51	110	ns
PWD_{A-B}	Pulse Width Distortion $ t_{pHLA-B} - t_{pLHA-B} $		-	4	40	ns
t_{pLHB-A}	Low-to-High Propagation Delay, Side B to Side A	$0.4 \times V_{\text{CCB}}$ to $0.7 \times V_{\text{CCA}}$	-	43	70	ns
t_{pHLB-A}	High-to-Low Propagation Delay, Side B to Side A	$0.4 \times V_{\text{CCB}}$ to 0.9 V	-	56	75	ps
PWD_{B-A}	Pulse Width Distortion $ t_{pHLB-A} - t_{pLHB-A} $		-	13	30	ns
t_{LOOP1}	Round-trip propagation delay on Side A	0.4 V to $0.3 \times V_{\text{CCA}}$	-	90	140	ns

(1) Provided by bench test and design simulation.

(2) $t_{sk(CC)}$ & $t_{sk(PP)}$ is the shew of delay time between the different channels of a single device or different devices switching in the same direction while operating at identical supply voltages, temperature, input signals, and loads.

Enhanced High Performance Bidirectional I²C Isolator
Timing Specifications – 5-V Supply

All test conditions: $4.5 \text{ V} \leq \text{VCCA}, \text{VC}_{\text{CB}} = 5.5 \text{ V}$, $T_A = -40^\circ\text{C} \sim +125^\circ\text{C}$. Typical value is in $\text{V}_{\text{CC}} = 5 \text{ V}$, $T_A = +25^\circ\text{C}$, $C_L = 15 \text{ pF}$ to GND, unless otherwise noted.

Parameter		Conditions	Min	Typ	Max	Unit
t_{fA}	Output Signal Fall Time (SDAA, SCLA)		-	18	40	ns
t_{fB}	Output Signal Fall Time (SDAB, SCLB)		-	3	40	ns
t_{pLHA-B}	Low-to-High Propagation Delay, Side A to Side B	0.55 V to $0.7 \times \text{VCCB}$	-	50	70	ns
t_{PHLA-B}	High-to-Low Propagation Delay, Side A to Side B	0.7 V to 0.4 V	-	50	110	ns
PWD_{A-B}	Pulse Width Distortion $ t_{pHLA-B} - t_{pLHA-B} $		-	2	40	ns
t_{PLHB-A}	Low-to-High Propagation Delay, Side B to Side A	$0.4 \times \text{VCCB}$ to $0.7 \times \text{VCCA}$	-	40	70	ns
t_{PHLB-A}	High-to-Low Propagation Delay, Side B to Side A	$0.4 \times \text{VCCB}$ to 0.9 V	-	55	75	ns
PWD_{B-A}	Pulse Width Distortion $ t_{pHLB-A} - t_{pLHB-A} $		-	14	30	ns
t_{LOOP1}	Round-trip propagation delay on Side A	0.4 V to $0.3 \times \text{VCCA}$	-	92	140	ns

(1) Provided by bench test and design simulation.

(2) $t_{sk(CC)}$ & $t_{sk(PP)}$ is the shew of delay time between the different channels of a single device or different devices switching in the same direction while operating at identical supply voltages, temperature, input signals, and loads.

Test Circuits and Waveforms

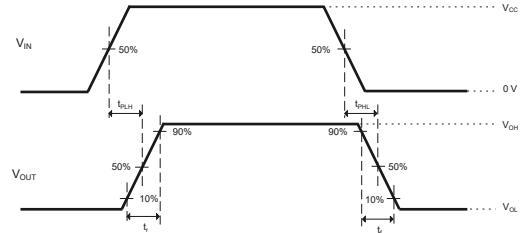
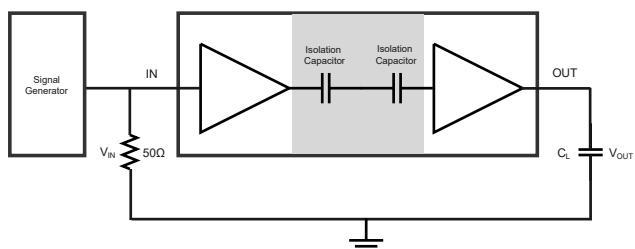


Figure 1. Swtching Characteristics Test circuit and Waveforms

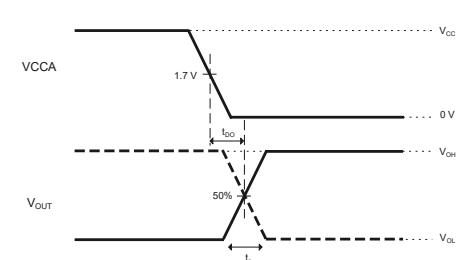
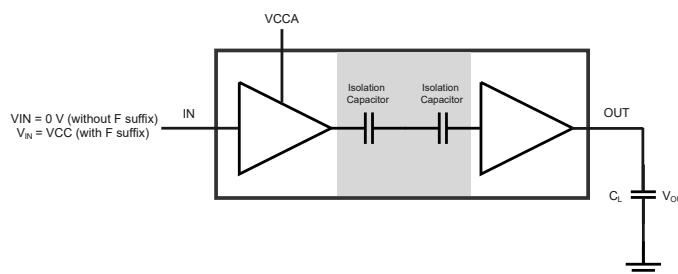


Figure 2. Default Output Delay Time Test Circuit and Voltage Waveforms

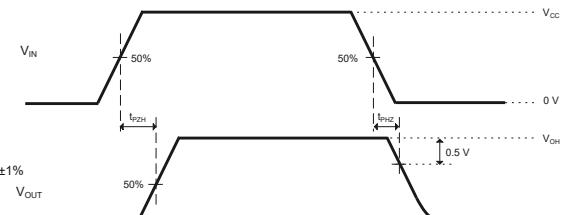
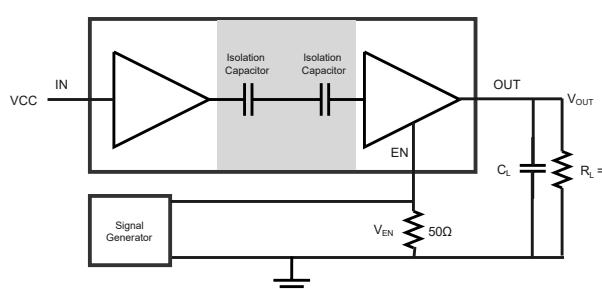
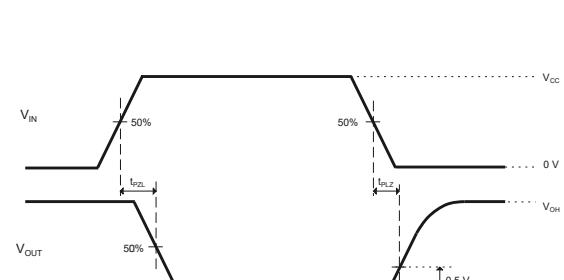
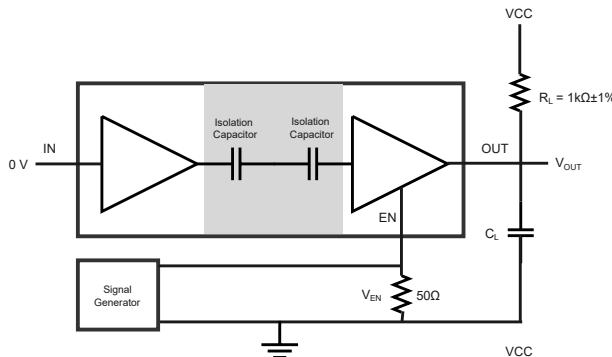
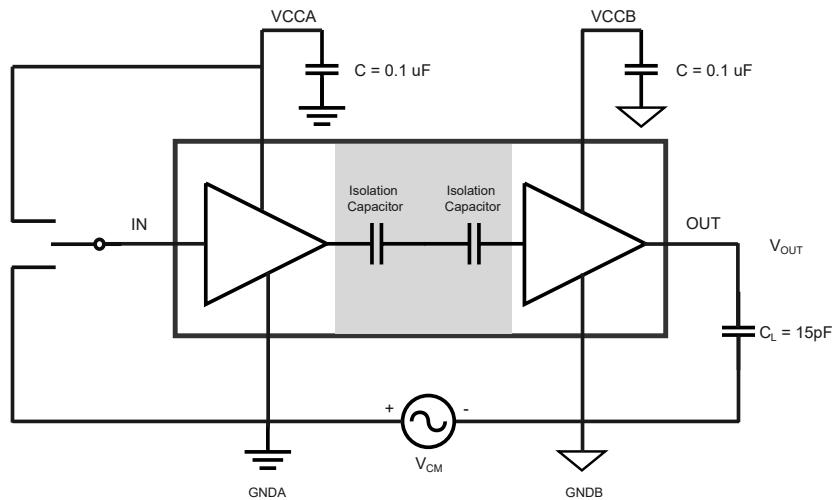


Figure 3. Enable/Disable propagation delay Test circuit and Waveforms

Enhanced High Performance Bidirectional I²C Isolator**Figure 4. Common-Mode Transient Immunity Test Circuit**

Enhanced High Performance Bidirectional I²C Isolator

Detailed Description

Overview

The TPT7261x family designs an ON-OFF keying (OOK) modulation circuit to transmit the digital data by the isolation barrier. The transmitter sends a high-frequency carrier across the barrier to represent one digital state and sends no signal to represent the other digital state. The receiver demodulates the signal after advanced signal conditioning and produces the output through a buffer stage, which builds in an H-CMTI (High-performance Common-mode Transient Immunity) circuit to protect the normal signal transmission and minimize the radiated emissions due to the high-frequency carrier and IO buffer switching. The block diagram of a digital capacitive isolator shows a functional block diagram of a typical channel in the following figure.

Functional Block Diagram

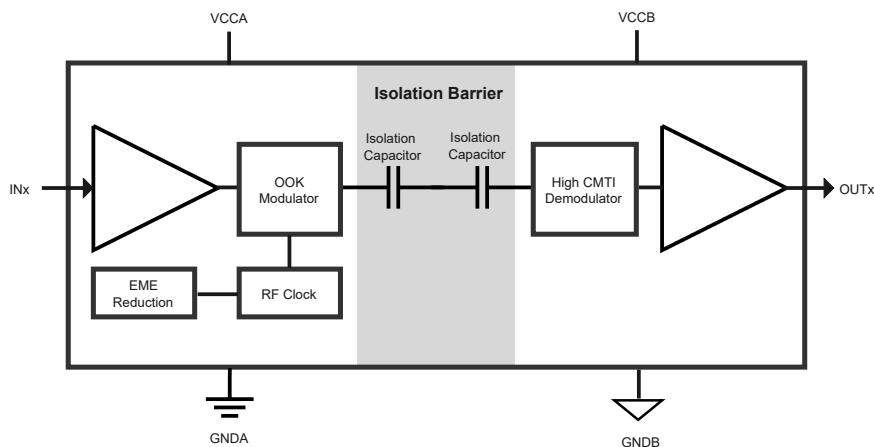


Figure 5. Block Diagram of Digital Capacitive Isolator

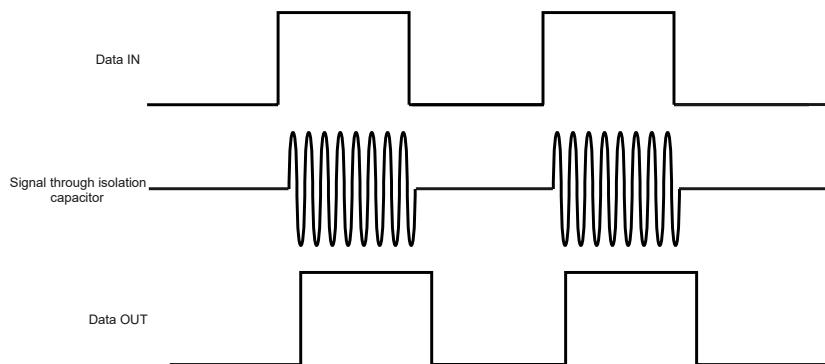


Figure 6. On-Off Keying (OOK) based Modulation Scheme

Enhanced High Performance Bidirectional I²C Isolator**Feature Description**

The following table lists the device features of the TPT7261x devices.

Part Number	Max Data Rate	Channel Direction	Package	Rating Isolation
TPT72616	1 MHz	Unidirectional (SCL) Bidirectional (SDA)	SOP8	3750 V _{RMS} / 5250 V _{PK}
TPT72617	1 MHz	Bidirectional (SCL) Bidirectional (SDA)	SOP8	3750 V _{RMS} / 5250 V _{PK}

Device Functional Modes

The table below lists the functional modes for the TPT7261x devices.

Power State	Input	Output
VCCA or VCCB < 2.1 V	X	Z
VCCA and VCCB > 2.8 V	L	L
VCCA and VCCB > 2.8 V	H	Z
VCCA and VCCB > 2.8 V	Z ⁽²⁾	?

(1) H = High Level; L = Low Level; Z = High Impedance or Float; X = Irrelevant; ? = Indeterminate.

(2) Invalid input condition as an I²C system requires that a pullup resistor to VCC is connected.



TPT72616/TPT72617

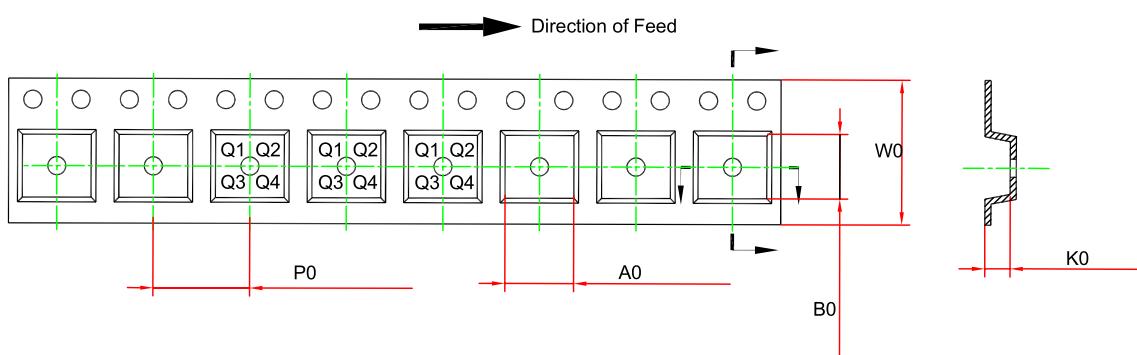
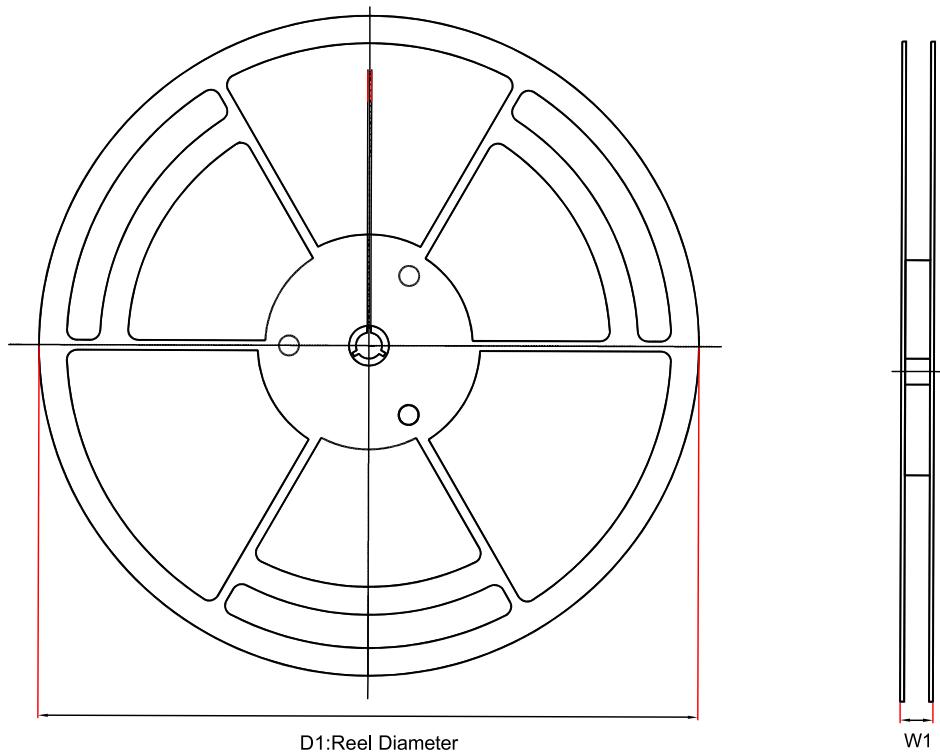
Enhanced High Performance Bidirectional I²C Isolator

Application and Implementation

Note

Information in the following application sections is not part of the 3PEAK's component specification and 3PEAK does not warrant its accuracy or completeness. 3PEAK's customers are responsible for determining suitability of components for their purposes. Customers should validate and test their design implementation to confirm system functionality.

Tape and Reel Information



Order Number	Package	D1 (mm)	W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P0 (mm)	W0 (mm)	Pin1 Quadrant
TPT72616-SO1R	SOP8	330.0	17.6	6.4	5.4	2.1	8.0	12.0	Q1
TPT72617-SO1R	SOP8	330.0	17.6	6.4	5.4	2.1	8.0	12.0	Q1

Package Outline Dimensions

SOP8

Package Outline Dimensions		SO1(SOP-8-A)			
Symbol	Dimensions In Millimeters		Dimensions In Inches		
	MIN	MAX	MIN	MAX	
A	1.350	1.750	0.053	0.069	
A1	0.050	0.250	0.002	0.010	
A2	1.250	1.550	0.049	0.061	
b	0.330	0.510	0.013	0.020	
c	0.170	0.250	0.007	0.010	
D	4.700	5.100	0.185	0.201	
E	5.800	6.200	0.228	0.244	
E1	3.800	4.000	0.150	0.157	
e	1.270 BSC		0.050 BSC		
L	0.400	1.000	0.016	0.039	
θ	0	8°	0	8°	

NOTES

1. Do not include mold flash or protrusion.
2. This drawing is subject to change without notice.

Enhanced High Performance Bidirectional I²C Isolator

Order Information

Order Number	Operating Temperature Range	Package	Marking Information	MSL	Transport Media, Quantity	Eco Plan
TPT72616-SO1R	-40 to 125°C	SOP8	T7216	MSL3	Tape and Reel, 4000	Green
TPT72617-SO1R	-40 to 125°C	SOP8	T7217	MSL3	Tape and Reel, 4000	Green

Green: 3PEAK defines "Green" to mean RoHS compatible and free of halogen substances.



TPT72616/TPT72617

Enhanced High Performance Bidirectional I²C Isolator

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