

Features

- Data Rate: up to 100 Mbps
- Wide Supply Range: 2.25 V to 5.5 V
- Wide Temperature Range: -40°C to $+125^{\circ}\text{C}$
- Low Power Consumption: Typical 1.8 mA per Channel at 1 Mbps
- Low Propagation Delay: Typical 16 ns at 5 V Supply
- CMTI: Typical $\pm 200\text{ kV}/\mu\text{s}$ (Static), $\pm 150\text{ kV}/\mu\text{s}$ (Dynamic)
- Standout Transient Isolation Voltage: $2000\text{ V}_{\text{RMS}}$, $2828\text{ V}_{\text{DC}}$ for DFN2X3-8
- Over 30-year Projected Lifetime under Working Voltage of $450\text{ V}_{\text{RMS}}$, 637 V_{DC} for DFN2X3-8
- Creepage and Clearance: 2.2 mm for a Compact DFN Package.
- Robust Electromagnetic Compatibility (EMC)
- Low Emissions, CISPR32 Class B Qualified
- System-level ESD and EFT Immunity
- Default Output High (TPT762xG) and Low (TPT762xFG)
- Compact Package: DFN2X3-8

Applications

- Server Power Supplies
- Industrial Automation
- Motor Control
- Grid, Electricity Meter
- Building Automation
- Lighting
- Appliances
- Isolated Interface and General-purpose Isolation

Description

The TPT762xG devices are high-performance, 2-channel functional isolators. These compact-package digital isolators are suitable for non-safety applications with strict volume limitations.

The TPT762xG devices provide high reliability and high performance at low power consumption with isolating digital input and output. Each isolation signal channel is separated by a double capacitive silicon dioxide insulation barrier. The TPT7620G device has two channels in the forward direction. The TPT7621G device has one channel in the forward direction and one channel in the reverse direction. The TPT7622G device has one channel in the forward direction and one channel in the reverse direction. In the event of input power or signal loss, the default output is low for devices with the suffix F and high for devices without the suffix F.

The common mode transient immunity (CMTI) and electromagnetic compatibility of the TPT762xG devices have been significantly enhanced through innovative circuit design and optimized structure.

The TPT762xG family is available in the DFN2X3-8 package, and is characterized from -40°C to $+125^{\circ}\text{C}$.

Part Number	Package ⁽¹⁾	Body Size (Nominal)
TPT762xG TPT762xFG	DFN2X3-8	3.00 mm × 2.00 mm

(1) For all available packages, see Order Information at the end of the datasheet.

Functional Block Diagram

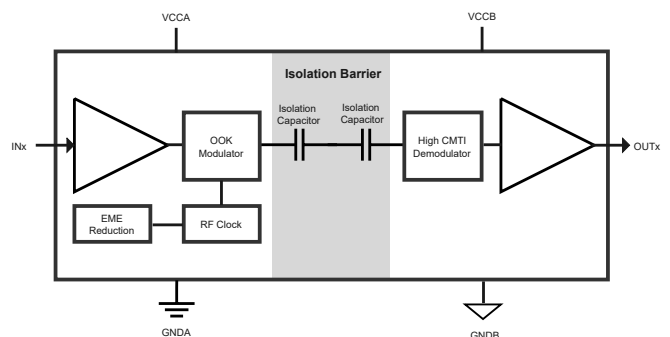


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Revision History

Date	Revision	Notes
2026-07-31	Rev.A.0	Released version.

Pin Configuration and Functions

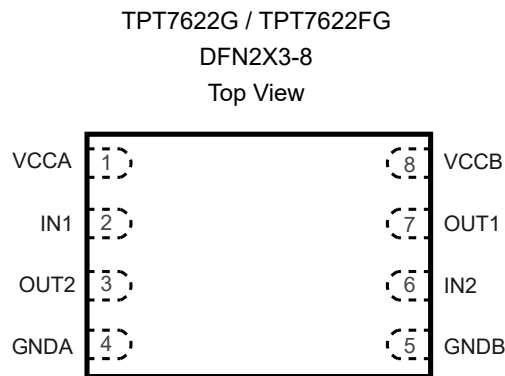
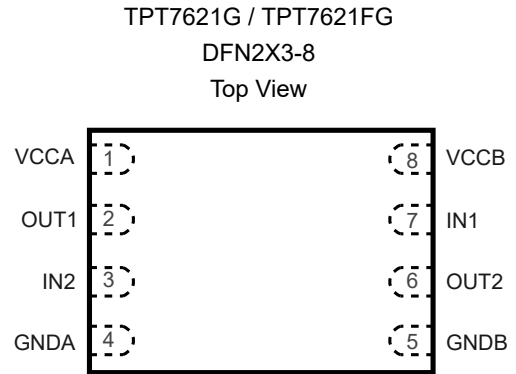
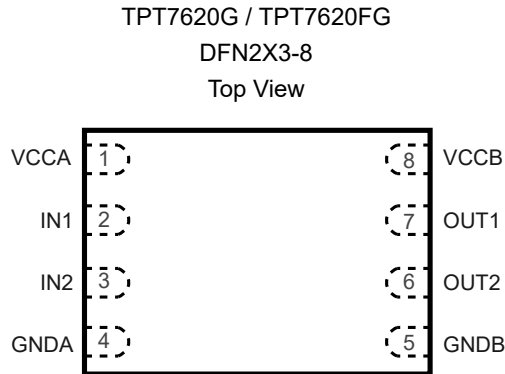


Table 1. Pin Functions: TPT762xG

Pin			Name	I/O	Description
DFN2X3-8					
TPT7620G TPT7620FG	TPT7621G TPT7621FG	TPT7622G TPT7622FG			
1	1	1	VCCA	–	Power supply, VCCA
2	7	2	IN1	I	Input, channel 1
3	3	6	IN2	I	Input, channel 2
4	4	4	GNDA	-	Ground connection for VCCA
5	5	5	GNDB	-	Ground connection for VCCB
6	6	3	OUT2	O	Output, channel 2
7	2	7	OUT1	O	Output, channel 1
8	8	8	VCCB	–	Power supply, VCCB

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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 IN _x , OUT _x	-0.5	V _{CC} + 0.5	V
I _O	Output Current	-15	15	mA
T _J	Operating Virtual Junction Temperature	-	150	°C
T _{stg}	Storage Temperature	-65	150	°C
V _{IOTM}	Transient Isolation Voltage, AC Voltage, t=60s		2000	V _{RMS}
	Transient Isolation Voltage, DC Voltage, t=60s		2828	V _{DC}

(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.

ESD, Electrostatic Discharge Protection

Parameter		Condition	Value	Unit
HBM	HBM, per ANSI/ ESDA/ JEDEC JS-001/ ANSI/ ESD STM5.5.1 ⁽¹⁾	All Pins	±8	kV
CDM	CDM, per ANSI/ ESDA/ JEDEC JS-002 ⁽²⁾	All Pins	±2	kV
LU	Latch-up, per JESD78	All Pins	±600	mA

(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 _{CCX}	Supply Voltage, V _{CCA} , V _{CCB} ⁽¹⁾		2.25	-	5.5	V
V _{CC (UVLO+)}	UVLO Threshold when the supply voltage is rising ⁽²⁾		-	2	2.25	V
V _{CC (UVLO-)}	UVLO Threshold when the supply voltage is falling ⁽²⁾		1.7	1.85	-	V
V _{HYS (UVLO)}	Supply Voltage UVLO Hysteresis		60	150	-	mV
I _{OH}	High-level Output Current	V _{CCB} = 5 V	-4	-	-	mA
		V _{CCB} = 3.3 V	-2	-	-	mA
		V _{CCB} = 2.5 V	-1	-	-	mA
I _{OL}	High-level Output Current	V _{CCB} = 5 V	-	-	4	mA
		V _{CCB} = 3.3 V	-	-	2	mA
		V _{CCB} = 2.5 V	-	-	1	mA
V _{IH}	High-level Input Voltage (Data Input)		0.7 * V _{CC}	-	V _{CC}	V

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Parameter			Min	Typ	Max	Unit
V_{IL}	Low-level Input Voltage (Data Input)		0	-	0.3 * V_{CC}	V
f_{data}	Data Rate ⁽³⁾		0	-	100	Mbps
T_A	Operating Ambient Temperature		-40	25	125	°C
V_{IOWM}	Maximum Working Isolation Voltage	AC voltage; Time-dependent dielectric breakdown (TDDb) Test			450	V_{RMS}
		DC voltage			637	V_{DC}

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

(2) $V_{CC}(UVLO+)$, $V_{CC}(UVLO-)$, $V_{HYS}(UVLO)$ are the same as V_{CCA} and V_{CCB} ;

(3) 100 Mbps is the data rate tested in the lab, although higher data rates are possible.

Thermal Information

Package Type	θ_{JA}	θ_{JB}	θ_{JC}	Unit
DFN2X3-8	131	55.3	62.2	°C/W

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Safety Limiting Values

Safety limiting ⁽¹⁾ intends to minimize potential damage to the isolation barrier upon failure of input or output circuitry.

Parameter		Conditions	Min	Typ	Max	Unit
I _S	Safety Supply Current	R _{θJA} = 131 °C/W, V _I = 5 V, T _J = 150 °C, T _A = 25 °C (SOP8)	-	-	190.84	mA
P _S	Safety Total Power	R _{θJA} = 131 °C/W, T _J = 150 °C, T _A = 25 °C (SOP8)	-	-	954.20	mW
T _S	Maximum Safety Temperature		-	-	150	°C

(1) The maximum safety temperature, T_S, has the same value as the maximum junction temperature, T_J, specified for the device. The I_S and P_S parameters represent the safety current and safety power respectively. The maximum limits of I_S and P_S must not be exceeded. These limits vary with the ambient temperature, T_A.

The junction-to-air thermal resistance, R_{θJA}, in the table is that of a device installed on a high-K test board for leaded surface-mount packages. Use these equations to calculate the value for each parameter:

$T_J = T_A + R_{\theta JA} \times P$, where P is the power dissipated in the device.

$T_{J(max)} = T_S = T_A + R_{\theta JA} \times P_S$, where T_{J(max)} is the maximum allowed junction temperature.

$P_S = I_S \times V_I$, where V_I is the maximum input voltage.

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Electrical Characteristics

All test conditions: $V_{CCA} = V_{CCB} = 2.25\text{ V to }5.5\text{ V}$, $T_A = -40^\circ\text{C to }+125^\circ\text{C}$. Typical values are $V_{CC} = 3.3\text{ V}$, $T_A = +25^\circ\text{C}$, unless otherwise noted.

Parameter		Conditions	Min	Typ	Max	Unit
V_{IT+}	Rising Input Threshold Voltage	Input signal, INx	-	$0.5^* V_{CCI}^{(1)}$	$0.7^* V_{CCI}$	V
V_{IT-}	Falling Input Threshold Voltage	Input signal, INx	$0.3^* V_{CCI}$	$0.36^* V_{CCI}$	-	V
V_{HYS}	Input Threshold Voltage Hysteresis	$V_{IT+} - V_{IT-}$	-	$0.14^* V_{CCI}$	-	V
I_{IH}	High-level Input Current	$V_{IH} = V_{CCI}$ at INx	-	-	20	μA
I_{IL}	Low-level Input Current	$V_{IL} = 0\text{ V}$ at INx	-20	-	-	μA
V_{OH}	High-level Output Voltage	$V_{CCO}^{(1)} = 5\text{ V} \pm 10\%$, $I_{OH} = -4\text{ mA}$; Test OUTx	$V_{CCO} - 0.4$	$V_{CCO} - 0.2$	-	V
		$V_{CCO} = 3.3\text{ V} \pm 10\%$, $I_{OH} = -2\text{ mA}$; Test OUTx	$V_{CCO} - 0.3$	$V_{CCO} - 0.1$	-	
		$V_{CCO} = 2.5\text{ V} \pm 10\%$, $I_{OH} = -1\text{ mA}$; Test OUTx	$V_{CCO} - 0.2$	$V_{CCO} - 0.05$	-	
V_{OL}	Low-level Output Voltage	$V_{CCO} = 5\text{ V} \pm 10\%$, $I_{OL} = 4\text{ mA}$; Test OUTx	-	0.17	0.4	V
		$V_{CCO} = 3.3\text{ V} \pm 10\%$, $I_{OL} = 2\text{ mA}$; Test OUTx	-	0.1	0.3	
		$V_{CCO} = 2.5\text{ V} \pm 10\%$, $I_{OL} = 1\text{ mA}$; Test OUTx	-	0.05	0.2	
CMTI	Common-mode Transient Immunity	Static CMTI	-	200	-	kV/ μs
		Dynamic CMTI	-	150	-	kV/ μs
C_i	Input Capacitance ⁽²⁾		-	2	-	pF

(1) V_{CCI} = Input-side V_{CC} ; V_{CCO} = Output-side V_{CC}

(2) Provided by bench test and design simulation.

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Timing Specifications – 5 V Supply

All test conditions: $V_{CCA} = V_{CCB} = 5\text{ V} \pm 10\%$, $T_A = -40^\circ\text{C}$ to $+125^\circ\text{C}$. Typical values are $V_{CC} = 5\text{ V}$, $T_A = +25^\circ\text{C}$, $C_L = 15\text{ pF}$ to GND, unless otherwise noted.

Parameter		Conditions	Min	Typ	Max	Unit
f_{DATA}	Translation data rate		-	-	100	Mbps
t_{PLH}	Propagation delay time, low-to-high		-	16	26	ns
t_{PHL}	Propagation delay time, high-to-low		-	17	26	ns
PWD	Pulse width distortion ⁽¹⁾ $ t_{\text{PHL}} - t_{\text{PLH}} $		-	1	7	ns
$t_{\text{sk (CC)}}$	Channel-to-channel output skew time ⁽¹⁾⁽²⁾	Same direction channels	-	-	4	ns
$t_{\text{sk (PP)}}$	Part-to-part output skew time ⁽¹⁾⁽²⁾	Same direction channels	-	-	4.5	ns
t_r	Output signal rise time ⁽¹⁾		-	2.3	4	ns
t_f	Output signal fall time ⁽¹⁾		-	1.4	4	ns
t_{DO}	Default output delay time from input power loss	Measured from the time V_{CC} goes below 1.7 V	-	26	60	ns
t_{SU}	Setup time		-	35	60	μs

(1) Provided by bench test and design simulation.

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

Supply Current Characteristics – 5 V Supply

All test conditions: $V_{CCA} = V_{CCB} = 5\text{ V} \pm 10\%$, $T_A = -40^\circ\text{C}$ to $+125^\circ\text{C}$. Typical values are $V_{CC} = 5\text{ V}$, $T_A = +25^\circ\text{C}$, $C_L = 15\text{ pF}$ to GND, unless otherwise noted.

Parameter	Description		Supply Current	Min	Typ	Max	Unit
TPT7620G							
Supply current - DC signal	$V_I = 0\text{ V}$ (TPT7620FG) $V_I = V_{CC_I}$ (TPT7620G)		I_{CCA}	-	0.6	1.0	mA
			I_{CCB}	-	1.2	1.8	
	$V_I = V_{CC_I}$ (TPT7620FG) $V_I = 0\text{ V}$ (TPT7620G)		I_{CCA}	-	3.3	3.7	
			I_{CCB}	-	1.1	1.7	
Supply current - AC signal	All channels switching with square wave clock input; $C_L = 15\text{ pF}$	1 Mbps	I_{CCA}	-	1.9	2.5	
			I_{CCB}	-	1.2	1.8	
		10 Mbps	I_{CCA}	-	2.0	2.3	
			I_{CCB}	-	2.0	3.4	
		100 Mbps	$I_{CCA}^{(1)}$	-	2.8	-	
			$I_{CCB}^{(1)}$	-	9.6	-	
TPT7621G							
Supply current - DC signal	$V_I = 0\text{ V}$ (TPT7621FG) $V_I = V_{CC_I}$ (TPT7621G)		I_{CCA}	-	1.1	1.4	mA
			I_{CCB}	-	1.1	1.4	
	$V_I = V_{CC_I}$ (TPT7621FG) $V_I = 0\text{ V}$ (TPT7621G)		I_{CCA}	-	2.4	2.9	
			I_{CCB}	-	2.4	2.9	
Supply current - AC signal	All channels switching with square wave clock input; $C_L = 15\text{ pF}$	1 Mbps	I_{CCA}	-	1.8	2.4	
			I_{CCB}	-	1.8	2.4	
		10 Mbps	I_{CCA}	-	2.6	3.3	
			I_{CCB}	-	2.6	3.3	
		100 Mbps	$I_{CCA}^{(1)}$	-	6.3	-	
			$I_{CCB}^{(1)}$	-	6.3	-	

(1) Provided by bench test and design simulation.

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Timing Specifications – 3.3 V Supply

All test conditions: $V_{CCA} = V_{CCB} = 3.3 \text{ V} \pm 10\%$, $T_A = -40^\circ\text{C}$ to $+125^\circ\text{C}$. Typical values are $V_{CC} = 3.3 \text{ V}$, $T_A = +25^\circ\text{C}$, $C_L = 15 \text{ pF}$ to GND, unless otherwise noted.

Parameter		Conditions	Min	Typ	Max	Unit
f_{DATA}	Translation data rate		-	-	100	Mbps
t_{PLH}	Propagation delay time, low-to-high		-	17	26	ns
t_{PHL}	Propagation delay time, high-to-low		-	18	26	ns
PWD	Pulse width distortion ⁽¹⁾ $ t_{\text{PHL}} - t_{\text{PLH}} $		-	1	6	ns
$t_{\text{sk (CC)}}$	Channel-to-channel output skew time ⁽¹⁾⁽²⁾	Same direction channels	-	-	4	ns
$t_{\text{sk (PP)}}$	Part-to-part output skew time ⁽¹⁾⁽²⁾	Same direction channels	-	-	4.5	ns
t_r	Output signal rise time ⁽¹⁾		-	3	4.5	ns
t_f	Output signal fall time ⁽¹⁾		-	1.5	4.5	ns
t_{DO}	Default output delay time from input power loss	Measured from the time V_{CC} goes below 1.7 V.	-	26	60	ns
t_{SU}	Setup time		-	35	60	μs

(1) Provided by bench test and design simulation.

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

Supply Current Characteristics – 3.3 V Supply

All test conditions: $V_{CCA} = V_{CCB} = 3.3 \text{ V} \pm 10\%$, $T_A = -40^\circ\text{C}$ to $+125^\circ\text{C}$. Typical values are $V_{CC} = 3.3 \text{ V}$, $T_A = +25^\circ\text{C}$, $C_L = 15 \text{ pF}$ to GND, unless otherwise noted.

Parameter	Description		Supply Current	Min	Typ	Max	Unit
TPT7620G							
Supply current - DC signal	$V_I = 0\text{ V}$ (TPT7620FG) $V_I = V_{CC_I}$ (TPT7620G)		I_{CCA}	-	0.6	1.0	mA
			I_{CCB}	-	1.1	1.8	
	$V_I = V_{CC_I}$ (TPT7620FG) $V_I = 0\text{ V}$ (TPT7620G)		I_{CCA}	-	3.2	3.6	
			I_{CCB}	-	1.1	1.7	
Supply current - AC signal	All channels switching with square wave clock input; $C_L = 15\text{ pF}$	1 Mbps	I_{CCA}	-	1.9	2.5	
			I_{CCB}	-	1.2	1.8	
		10 Mbps	I_{CCA}	-	2.0	2.3	
			I_{CCB}	-	1.7	2.8	
		100 Mbps	$I_{CCA}^{(1)}$	-	2.7	-	
			$I_{CCB}^{(1)}$	-	6.5	-	
TPT7621G							
Supply current - DC signal	$V_I = 0\text{ V}$ (TPT7621FG) $V_I = V_{CC_I}$ (TPT7621G)		I_{CCA}	-	1.1	1.3	mA
			I_{CCB}	-	1.0	1.3	
	$V_I = V_{CC_I}$ (TPT7621FG) $V_I = 0\text{ V}$ (TPT7621G)		I_{CCA}	-	2.3	2.8	
			I_{CCB}	-	2.3	2.8	
Supply current - AC signal	All channels switching with square wave clock input; $C_L = 15\text{ pF}$	1 Mbps	I_{CCA}	-	1.7	2.3	
			I_{CCB}	-	1.7	2.3	
		10 Mbps	I_{CCA}	-	2.2	2.8	
			I_{CCB}	-	2.2	2.8	
		100 Mbps	$I_{CCA}^{(1)}$	-	4.7	-	
			$I_{CCB}^{(1)}$	-	4.7	-	

(1) Provided by bench test and design simulation.

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Timing Specifications – 2.5 V Supply

All test conditions: $V_{CCA} = V_{CCB} = 2.5 \text{ V} \pm 10\%$, $T_A = -40^\circ\text{C}$ to $+125^\circ\text{C}$. Typical values are $V_{CC} = 2.5 \text{ V}$, $T_A = +25^\circ\text{C}$, $C_L = 15 \text{ pF}$ to GND, unless otherwise noted.

Parameter		Conditions	Min	Typ	Max	Unit
f_{DATA}	Translation data rate		-	-	100	Mbps
t_{PLH}	Propagation delay time, low-to-high		-	18	26	ns
t_{PHL}	Propagation delay time, high-to-low		-	19	26	ns
PWD	Pulse width distortion ⁽¹⁾ $ t_{\text{PHL}} - t_{\text{PLH}} $		-	0.7	6	ns
$t_{\text{sk (CC)}}$	Channel-to-channel output skew time ⁽¹⁾⁽²⁾	Same direction channels	-	-	4	ns
$t_{\text{sk (PP)}}$	Part-to-part output skew time ⁽¹⁾⁽²⁾	Same direction channels	-	-	4.5	ns
t_r	Output signal rise time ⁽¹⁾		-	3.7	4.5	ns
t_f	Output signal fall time ⁽¹⁾		-	1.7	4.5	ns
t_{DO}	Default output delay time from input power loss	Measured from the time V_{CC} goes below 1.7 V.	-	22	60	ns
t_{SU}	Setup time		-	35	60	μs

(1) Provided by bench test and design simulation.

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

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Supply Current Characteristics – 2.5 V Supply

All test conditions: $V_{CCA} = V_{CCB} = 2.5 \text{ V} \pm 10\%$, $T_A = -40^\circ\text{C}$ to $+125^\circ\text{C}$. Typical values are $V_{CC} = 2.5 \text{ V}$, $T_A = +25^\circ\text{C}$, $C_L = 15 \text{ pF}$ to GND, unless otherwise noted.

Parameter	Description		Supply Current	Min	Typ	Max	Unit
TPT7620G							
Supply current - DC signal	$V_I = 0\text{ V}$ (TPT7620FG) $V_I = V_{CC_I}$ (TPT7620G)		I_{CCA}	-	0.6	1.0	mA
			I_{CCB}	-	1.1	1.8	
	$V_I = V_{CC_I}$ (TPT7620FG) $V_I = 0\text{ V}$ (TPT7620G)		I_{CCA}	-	3.2	3.7	
			I_{CCB}	-	1.1	1.7	
Supply current - AC signal	All channels switching with square wave clock input; $C_L = 15\text{ pF}$	1 Mbps	I_{CCA}	-	1.9	2.5	
			I_{CCB}	-	1.1	1.8	
		10 Mbps	I_{CCA}	-	2.0	2.3	
			I_{CCB}	-	1.5	2.5	
		100 Mbps	$I_{CCA}^{(1)}$	-	2.7	-	
			$I_{CCB}^{(1)}$	-	5.3	-	
TPT7621G							
Supply current - DC signal	$V_I = 0\text{ V}$ (TPT7621FG) $V_I = V_{CC_I}$ (TPT7621G)		I_{CCA}	-	1.1	1.3	mA
			I_{CCB}	-	1.1	1.3	
	$V_I = V_{CC_I}$ (TPT7621FG) $V_I = 0\text{ V}$ (TPT7621G)		I_{CCA}	-	2.3	2.8	
			I_{CCB}	-	2.3	2.8	
Supply current - AC signal	All channels switching with square wave clock input; $C_L = 15\text{ pF}$	1 Mbps	I_{CCA}	-	1.7	2.2	
			I_{CCB}	-	1.7	2.2	
		10 Mbps	I_{CCA}	-	2.1	2.5	
			I_{CCB}	-	2.1	2.5	
		100 Mbps	$I_{CCA}^{(1)}$	-	4.0	-	
			$I_{CCB}^{(1)}$	-	4.0	-	

(1) Provided by bench test and design simulation.

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Test Circuits and Waveforms

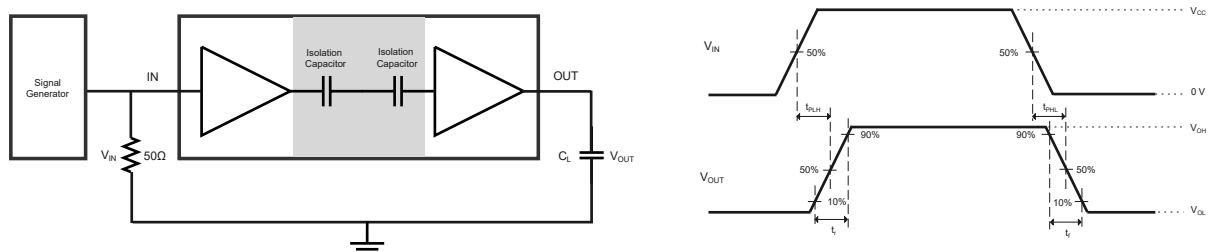


Figure 1. Switching Characteristics Test Circuit and Waveforms

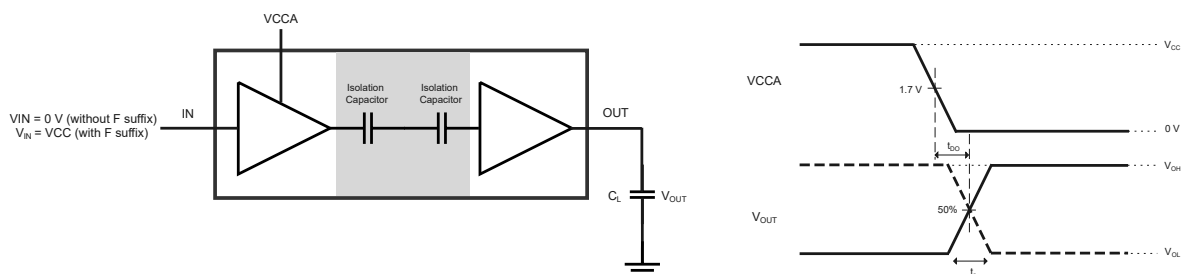


Figure 2. Default Output Delay Time Test Circuit and Voltage Waveforms

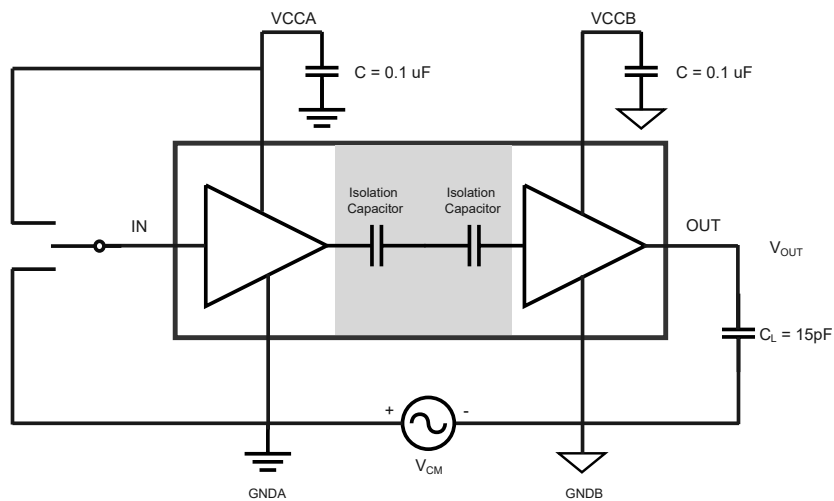


Figure 3. Common-mode Transient Immunity Test Circuit

Detailed Description

Overview

The TPT762xG device utilizes an ON-OFF Keying (OOK) modulation circuit to transmit the digital data through the isolation barrier. The transmitter sends an HF carrier to represent digital state One and sends no signal to represent the digital state Zero. Once the modulated signal passes through the barrier, the receiver demodulates the signal following the process of signal conditioning and brings the output via a buffer stage. The device also utilizes advanced circuit design to maximize the CMTI performance and minimize the radiated emissions due to the HF carrier and IO buffer switching. The block diagram below shows a functional block diagram of a typical channel.

Functional Block Diagram

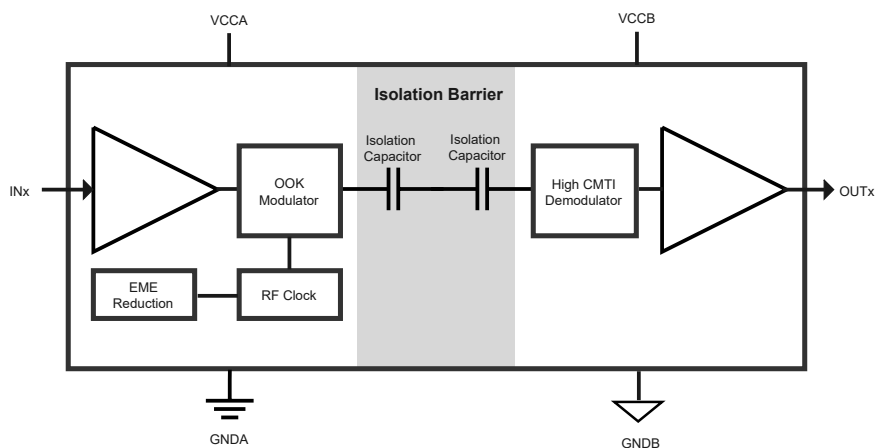


Figure 4. Block Diagram of Digital Capacitive Isolator

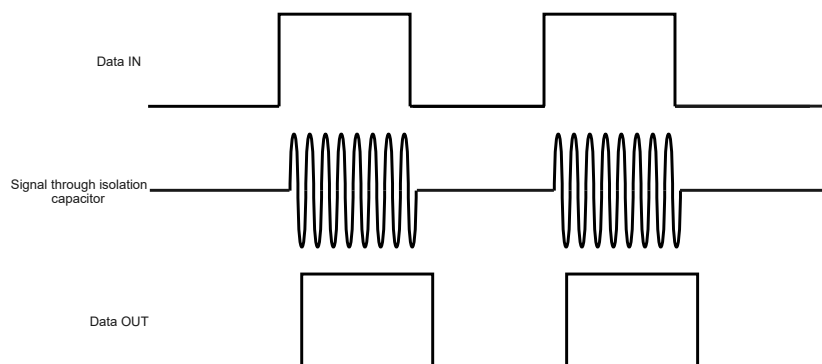


Figure 5. On-off Keying (OOK) Based Modulation Scheme

2-Channel Reinforced Functional Digital Isolator

Feature Description

The TPT762xG device is available in three channel configurations and two default output state options to enable a variety of application uses. The table below lists the device features of the TPT762xG device.

Part Number	Max Data Rate	Channel Direction	Default Output State	Package	Rating Isolation
TPT7620G	100 Mbps	2 forward, 0 reverse	High	DFN2X3-8	2000 V _{RMS} / 2828 V _{PK}
TPT7620FG	100 Mbps	2 forward, 0 reverse	Low	DFN2X3-8	2000 V _{RMS} / 2828 V _{PK}
TPT7621G	100 Mbps	1 forward, 1 reverse	High	DFN2X3-8	2000 V _{RMS} / 2828 V _{PK}
TPT7621FG	100 Mbps	1 forward, 1 reverse	Low	DFN2X3-8	2000 V _{RMS} / 2828 V _{PK}
TPT7622G	100 Mbps	1 forward, 1 reverse	High	DFN2X3-8	2000 V _{RMS} / 2828 V _{PK}
TPT7622FG	100 Mbps	1 forward, 1 reverse	Low	DFN2X3-8	2000 V _{RMS} / 2828 V _{PK}

Device Functional Modes

The table below lists the functional modes for the TPT762xG device.

V _{CCI}	V _{CCO}	Input (IN _x)	Output (OUT _x)	Comments
Power up	Power up	High	High	Normal Operation.
		Low	Low	
		Open	Default	Default mode. The default is High for TPT762xG and Low for TPT762xFG.
Power down	Power up	X	Default	Default mode. When V _{CCI} is unpowered, the default is High for TPT762xG and Low for TPT762xFG.
X	Power down	X	Undetermined	When V _{CCO} is unpowered, a channel output is undetermined.

(1) V_{CCI} = Input-side V_{CCA}; V_{CCO} = Output-side V_{CCB}; Power up means V_{CC} ≥ 2.25 V; Power down means V_{CC} ≤ 1.7 V; X = Irrelevant; Z = High impedance

(2) The outputs are in the undetermined state when 1.7 V < V_{CCI} & V_{CCO} < 2.25 V.

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.

Typical Application

Figure 6, Figure 7 and Figure 8 are the TPT762xG typical applications. The two external bypass capacitors need to be close to the VCC power pin. The maximum distance is 2 mm.

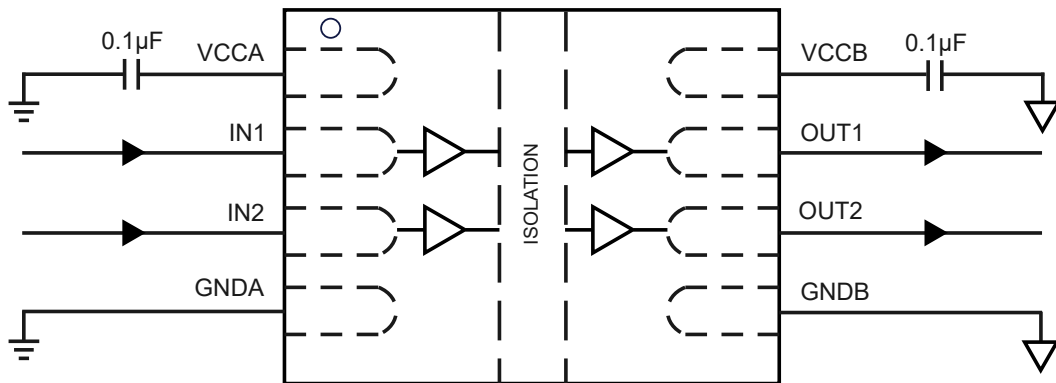


Figure 6. TPT7620G/TPT7620FG DFN2X3-8

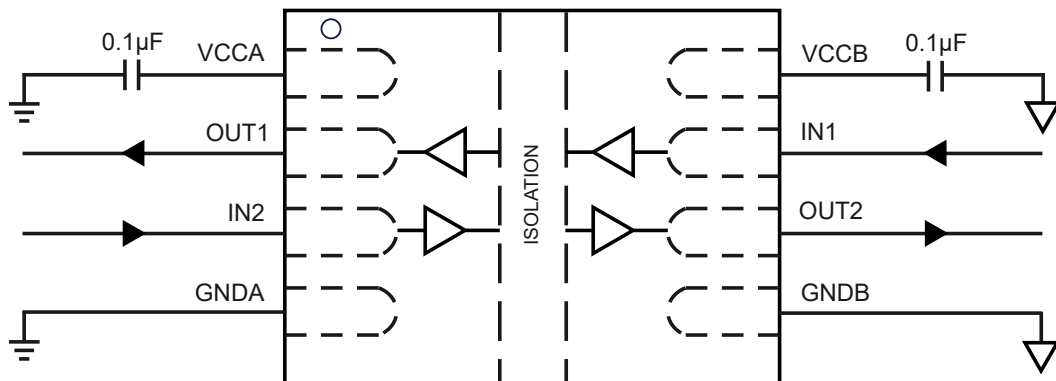


Figure 7. TPT7621G/TPT7621FG DFN2X3-8

2-Channel Reinforced Functional Digital Isolator

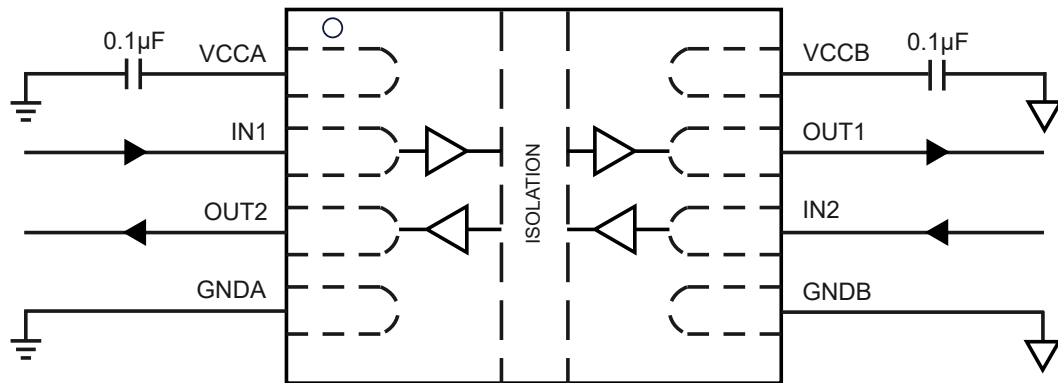
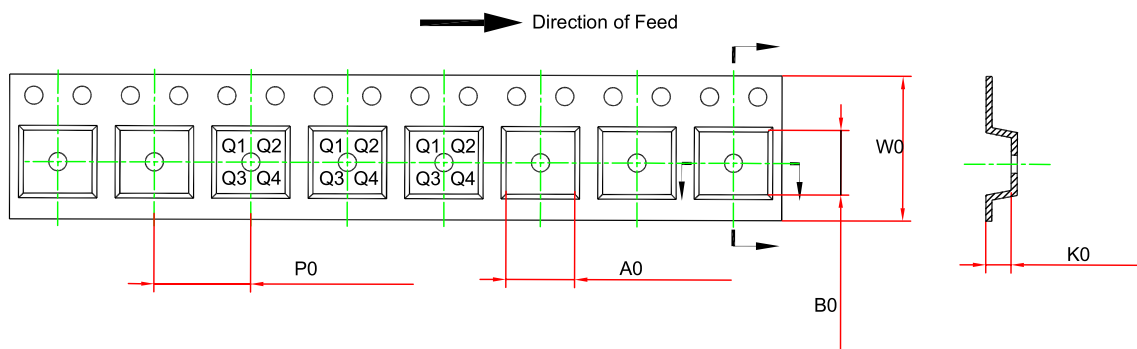
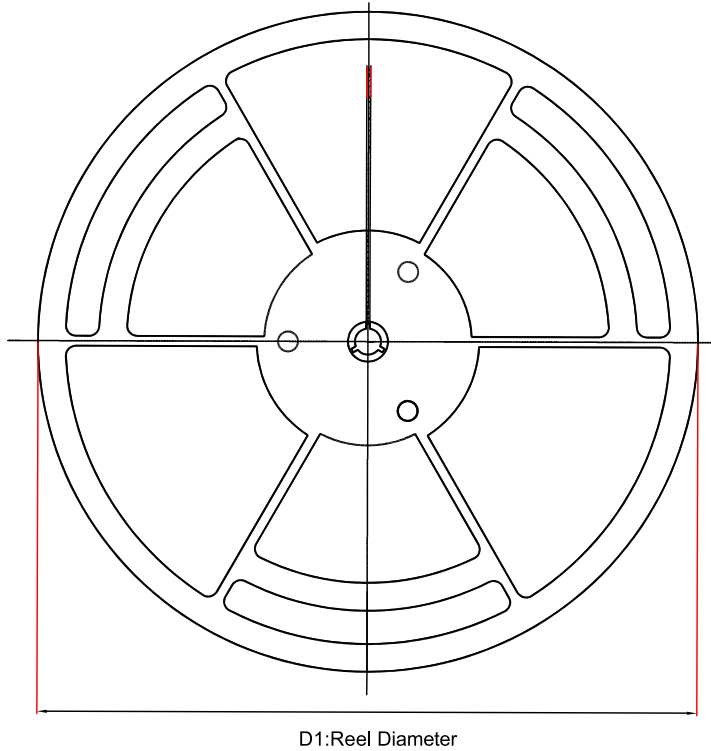


Figure 8. TPT7622G/TPT7622FG DFN2X3-8

2-Channel Reinforced Functional Digital Isolator

Tape and Reel Information

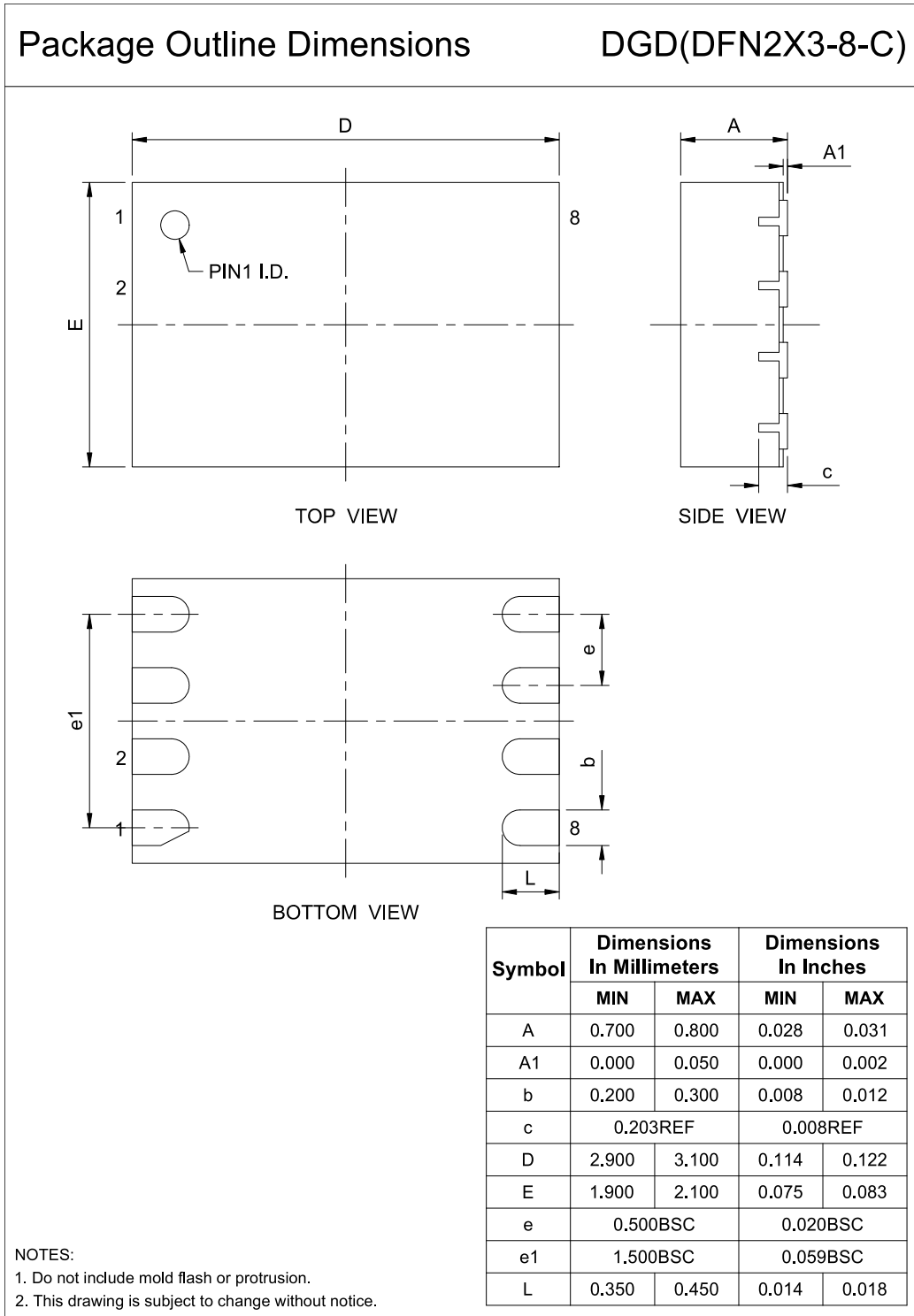


2-Channel Reinforced Functional Digital Isolator

Order Number	Package	D1 (mm)	W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P0 (mm)	W0 (mm)	Pin1 Quadrant
TPT7620G-DFDR	DFN2X3-8	178	12.1	3.3	2.3	1.1	4	8	Q2
TPT7620FG-DFDR	DFN2X3-8	178	12.1	3.3	2.3	1.1	4	8	Q2
TPT7621G-DFDR	DFN2X3-8	178	12.1	3.3	2.3	1.1	4	8	Q2
TPT7621FG-DFDR	DFN2X3-8	178	12.1	3.3	2.3	1.1	4	8	Q2
TPT7622G-DFDR	DFN2X3-8	178	12.1	3.3	2.3	1.1	4	8	Q2
TPT7622FG-DFDR	DFN2X3-8	178	12.1	3.3	2.3	1.1	4	8	Q2

Package Outline Dimensions

DFN2X3-8



Order Information

Order Number	Operating Temperature Range	Package	Marking	MSL	Transport Media & Quantity	Eco plan
TPT7620G-DFDR ⁽¹⁾	-40 to 125°C	DFN2X3-8	20	MSL1	Tape and Reel, 4000	Green
TPT7620FG-DFDR	-40 to 125°C	DFN2X3-8	20F	MSL1	Tape and Reel, 4000	Green
TPT7621G-DFDR ⁽¹⁾	-40 to 125°C	DFN2X3-8	21	MSL1	Tape and Reel, 4000	Green
TPT7621FG-DFDR	-40 to 125°C	DFN2X3-8	21F	MSL1	Tape and Reel, 4000	Green
TPT7622G-DFDR ⁽¹⁾	-40 to 125°C	DFN2X3-8	22	MSL1	Tape and Reel, 4000	Green
TPT7622FG-DFDR ⁽¹⁾	-40 to 125°C	DFN2X3-8	22F	MSL1	Tape and Reel, 4000	Green

(1) For future products, contact the 3PEAK factory for more information and samples.

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

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