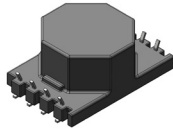






Isolation Power Transformers

Toroid Platform SMD



-  Push Pull Converter Transformer
-  4.4KVrms Isolation (1500Vrms Continuous)
-  Reinforced Insulation: IEC62368-1/UL62368-1 Certified
-  22mm Creepage Distance
-  Footprint: 29.1 x 20x12.5 mm max

Electrical Specifications @ 25°C - Operating Temperature -40°C to +85°C

Part Number	Inductance (1-3) (uH Min)	Leakage Inductance (uH MAX)	DCR (1-2) (3-4) (mohm MAX)	DCR (5-6) (7-8) (mohm MAX)	E*T(1-4) ¹ (V*uSec Max)	Turns Ratio (1-4):(8-5) ±3.0%	Hi-Pot Voltage (Vrms)
PGT6541NLT	25	0.6	100	200	34	1:1.78	4400

Notes:

- The E*T rating limits the peak flux density to 2100 gauss (flux swing 4200 gauss). When used in bipolar drive applications.
- The applied ET may need to be further derated for higher frequencies based on the temperature rise which results from the core and copper losses
 - To calculate total copper loss (W), use the following formula:
$$\text{Copper Loss (W)} = I_{\text{rms_Primary}}^2 \cdot DCR_{\text{Primary}} + I_{\text{rms_Secondary}}^2 \cdot DCR_{\text{Secondary}}$$
 - To calculate total core loss (W), use the following formula:
$$\text{Core Loss (W)} = (3.66E-10) \cdot (\text{Frequency in KHz})^{1.78} \cdot (55 \cdot (ET/ET_{\text{Max}}))^{2.53}$$

Where ET is the applied Volt Second, ET Max is the rated Volt Second for 55mT flux swing, Frequency 410KHz
- To calculate temperature rise, use the following formula: Temperature Rise (°C)
$$= 140 \cdot (\text{Core Loss (W)} + \text{Copper Loss (W)})$$
- For Push-Pull topology, where the voltage is applied across half the primary winding turns, the ET needs to be derated by 50% for the same flux swing.
- 22mm package creepage distance satisfies IEC62368-1 & IEC61558-1/-2-16 reinforced insulation requirements for working voltage to 1500Vrms max, OVC II, Pollution Degree 2 and altitude up to 2000m.
- Unless otherwise specified, all testing is made at 100kHz, 0.1VAC.

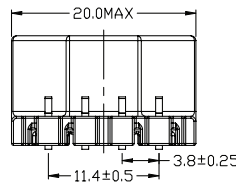
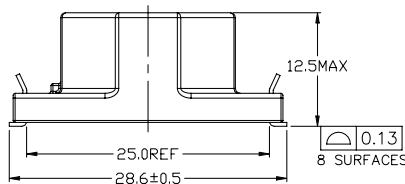
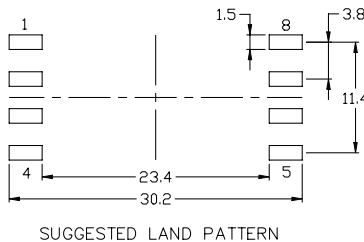
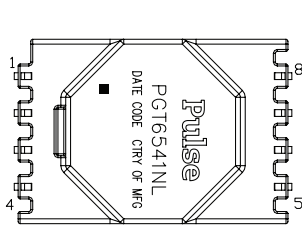
Isolation Power Transformers

Toroid Platform SMD

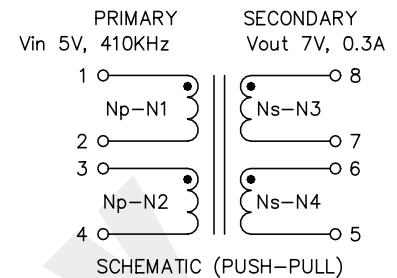
Mechanical

Schematic

PMT6709NLT



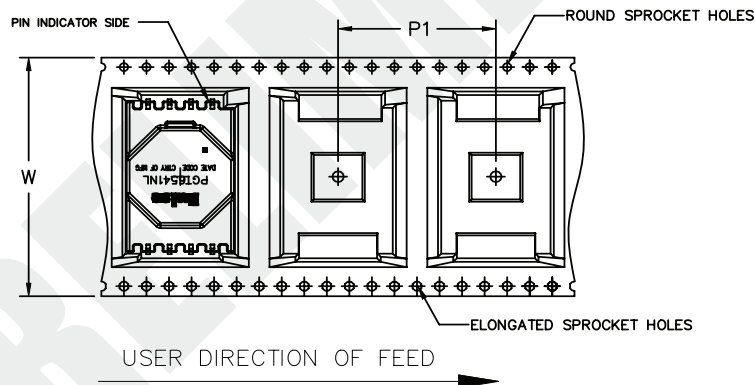
PUSH-PULL



Weight1.6grams

Dimensions: mm
Unless otherwise specified,
all tolerances are ±0.25

TAPE & REEL INFO



SURFACE MOUNTING TYPE, REEL/TAPE LIST

PART NUMBER	REEL SIZE (mm)	TAPE SIZE (mm)				QTY
	A	P ₁	W	K ₀	PCS/REEL	
PGT6541NLT	Ø330	28	44	12.7	330	

For More Information:

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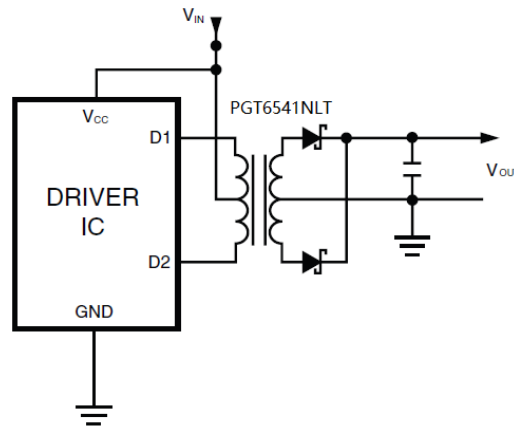
Isolation Power Transformers

Toroid Platform SMD

APPLICATION

PGT6541NLT is one high isolation power supply transformer drivers. Intended to operate in a fixed duty cycle Push Pull topology, it is a part of a low cost solution for delivering lower power (up to 3W) from a low voltage source. A typical implementation would be an isolated RS-485/RS-232 power supply driver circuit, the design is compatible with the SN6505NL.

A schematic diagram for the Push Pull converter topology is given below.



For a fixed 50% duty cycle mode of operation, the output voltage is simply determined by the input voltage and turns ratio. So, with the available turn ratios, a variety of output voltages can be met.

This transformer design has been certified by UL to comply with IEC62368-1:2018 with reinforced insulation for a working voltage up to 1500Vdc 22mm creepage and 4400VAC isolation voltage is guaranteed to meet this requirement. The design also complies with the Pulse's class F insulation system.

For More Information:

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