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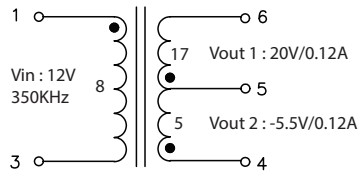
High Frequency Wire Wound Transformers

EP7 Platform SMD

Pulse a YAGEO company



- *3W Flyback Tranformer for SiC drive application*
- *Reinforced insulation per IEC61558-1 & -2/16*
- *8.3mm Creepage*
- *4.3KVdc Hi-pot Isolation Voltage*
- *Full winding automation*

Pulse PN	Electrical Specifications @25°C – Operating Temperature -40°C to 125°C [1]				Schematic
PM9595NL	Pri. Inductance		13uH +/-17% 10uH Min	@ 0A @1.9A	
	Lk. Inductance	(1-3)W/(4,5,6) shorted	0.15	uH Max	
	DCR	(1-3)	55	mΩ Max	
		(4-5)	180		
		(5-6)	600		
	Hi-Pot	Pri-Sec	4300	Vdc	
	K1 Factor[5,6]	160			

Notes:

1. Storage Temperature: -40°C to 125°C
2. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.
3. Pri/Lk. Inductance value is measured at 100Khz/0.1Vrms.
4. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number. Pulse complies with industry standard tape and reel specification EIA481.
5. For flyback topology applications, it is necessary to ensure that the transformer will not saturate in the application. The peak flux density (Bpk) should remain below 270mT. To calculate the peak flux density use the following formula:

   Bpk (mT) = K1_Factor * Ipk(A)

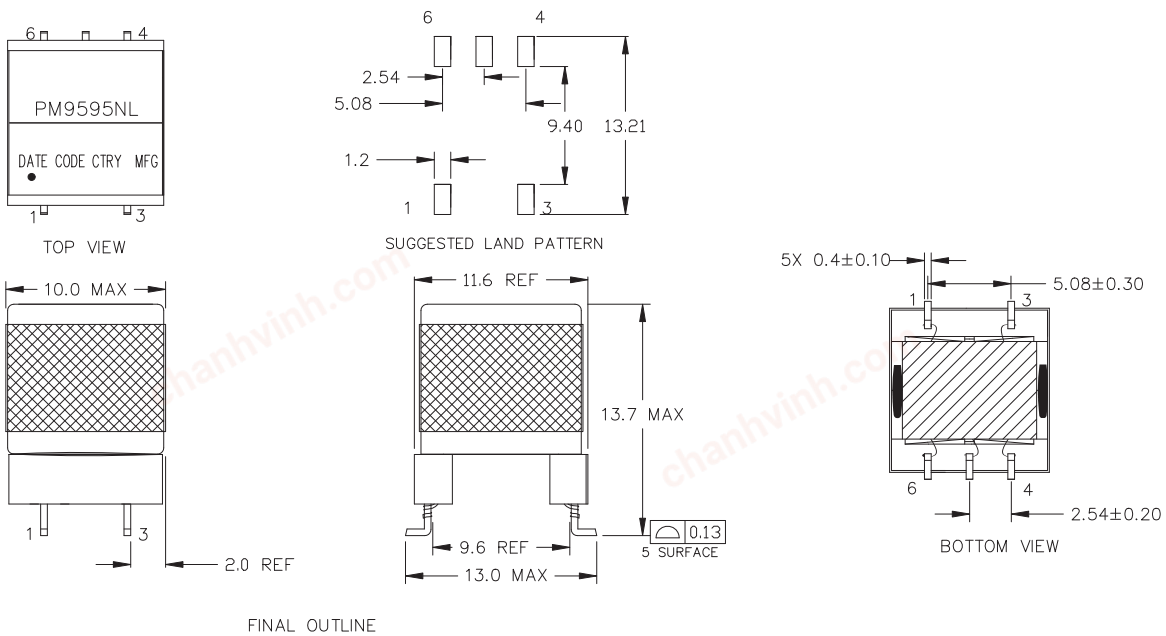
6. In high frequency applications, it is important to calculate the core loss of the transformer. Approximate transformer core loss can be calculated as:

   CoreLoss 100°C (W) = 8.5E-12 * (Freq_kHz)$^{1.88}$ * (ΔB_mT)$^{2.52}$

   where: ΔB_mT = K1_Factor * ΔI(A)(mT)

Mechanical

PM9595NL

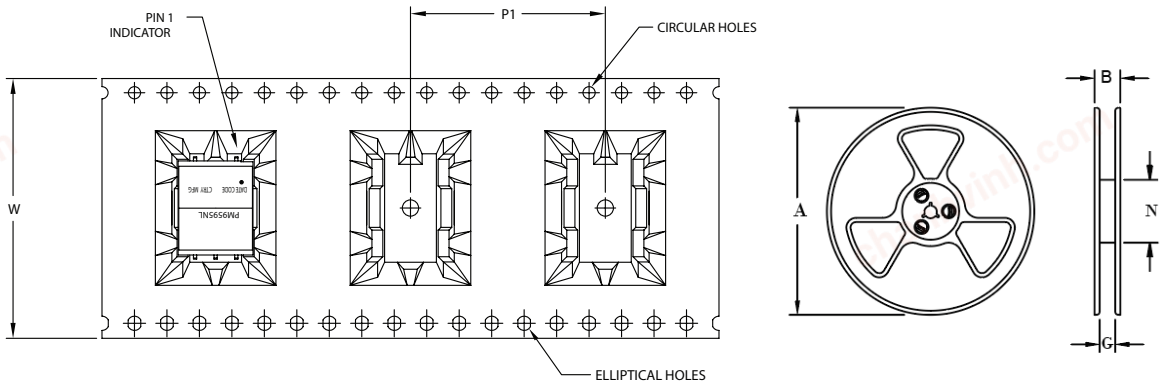


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TAPE & REEL INFO

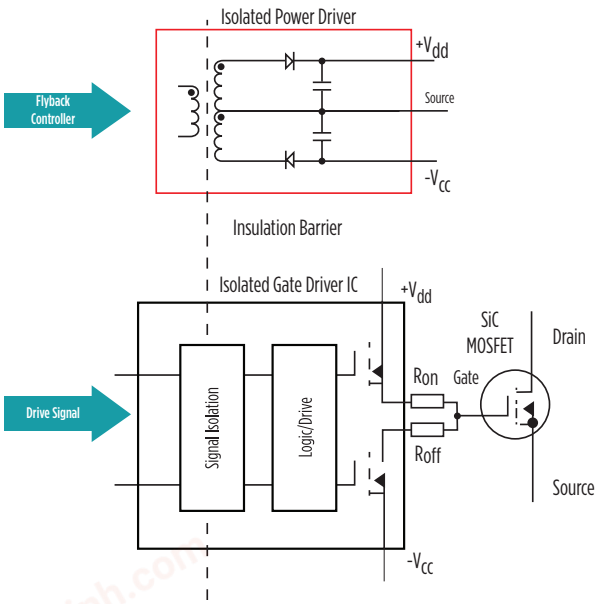


SURFACE MOUNTING TYPE, REEL/TAPE LIST

PART NUMBER	REEL SIZE (mm)				TAPE SIZE (mm)			QTY
	A	B	G	N	P_1	W	K_0	PCS/REEL
PM9595NLT	Ø330	38.4	32.4	100	24	32	13.9	150

Application

PM9595NL is a flyback transformer designed for a low-power isolated auxiliary supply to provide positive and negative voltage for SiC device switching. The voltage required across the gate-source terminals of a SiC-MOSFET are typically found in the range of 14 to 20 V for full turn-on and 0 to -5 V for robust turn-off. The transformer is compatible with flyback controllers such as ADI 8301/2 for a system connection as shown below



In addition to the providing galvanic isolation between the high-voltage and low-voltage sides, the purpose of the transformer is to satisfy the requirements of the relevant safety standards. PM9595NL is designed to comply with the IEC61558-1 & -2/16 for basic and reinforced insulation. With 8.3mm creepage distance and based on material group III, OVCII and 5000m altitude, this corresponds to a maximum working voltage of 800Vrms for basic insulation and 390Vrms for reinforced insulation.
Contact your Pulse Electronics representative for other required output voltages and safety requirements.

For More Information:

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