

Trans-inductor Voltage Regulator (TLVR) Coupled Inductor



ATL-1Z090610S

Request Samples



Check Inventory



9.3 x 6.1 x 10.2 mm

RoHS/RoHS II Compliant

MSL Level = 1

Features

- Ferrite Core
- High Saturation current, up to 98A
- Minimized DC losses due to extremely low DCR
- Inductance up to 220nH
- Low interwinding capacitance
- Compact size for dense designs

Applications

- Servers and data centers
- Networking and telecommunication systems
- Industrial automation and control
- Voltage Regulator Module (VRM) for FPGAs, ASICs and microprocessors
- Point-of-Load (PoL) and Multiphase DC-DC converters

Electrical Specifications

Part Number	OCL@ 0ADC ±15%	OCL@ Isat 1 Min	Leakage Inductance Max	Interwinding Capacitance	DC Resistance ±10%		Isat1	Isat2	Isat3	Irms	
Units	nH	nH	nH	pF	mΩ		A			A	
ATL-1Z090610S	1-4/2-3	1-4	1-4	1-4/2-3	1-4	2-3	1-4			1-4	2-3
ATL-1Z090610SR10LT	100	64	10	7	0.125	0.330	98	83	78	75	40
ATL-1Z090610SR12LT	120	77					79	67	63		
ATL-1Z090610SR15LT	150	96					62	53	49		
ATL-1Z090610SR18LT	180	115					54	46	43		
ATL-1Z090610SR22LT	220	140					50	-	-		

Test Conditions:

Open Circuit Inductance (OCL)@0ADC and @Isat1: 100KHz, 1.0Vrms

Isat1: DC current at which the inductance drops 20% from its nominal value at 25°C.

Isat2: DC current at which the inductance drops 20% from its nominal value at 100°C.

Isat3: DC current at which the inductance drops 20% from its nominal value at 125°C.

Irms: DC current that causes the temperature rise (ΔT , approximate 40 °C) from 25°C ambient.

Max Operating Voltage: 80V

Core to windings breakdown Voltage: 200V

Operating Temperature: -40°C ~ +125°C (including self-temperature rise)

Storage Condition: -40°C ~ +125°C (on board), -10°C ~ +40°C (with packaging) and R.H. 60 max.

ATL-1Z090610S Series is **RoHS Compliant and Pb free.**

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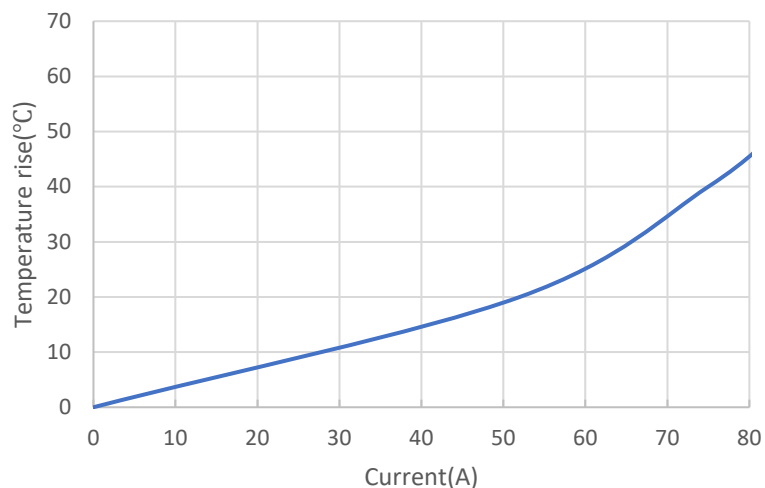
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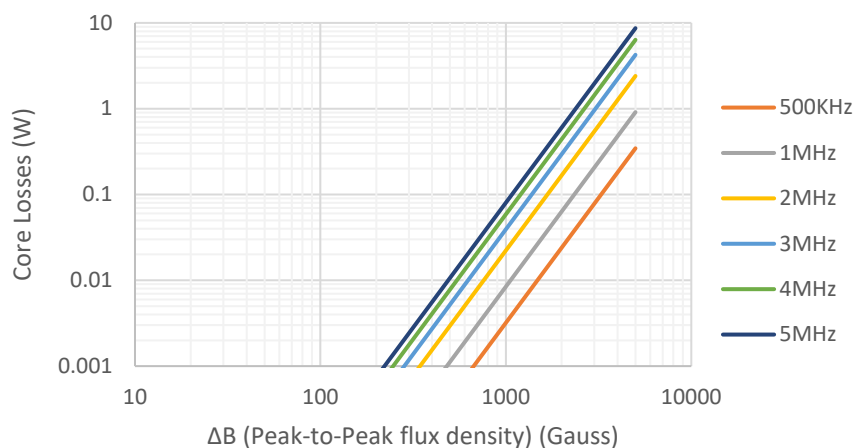
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Electrical Specifications (Cont'd)

Temperture rise vs Current of
ATL-1Z090610S (Pins 1-4)



Core Losses Of ATL-1Z090610S Series



$$\Delta B(\text{Gauss}) = 0.42 * L(\text{nH}) * \Delta I(\text{Amps})$$

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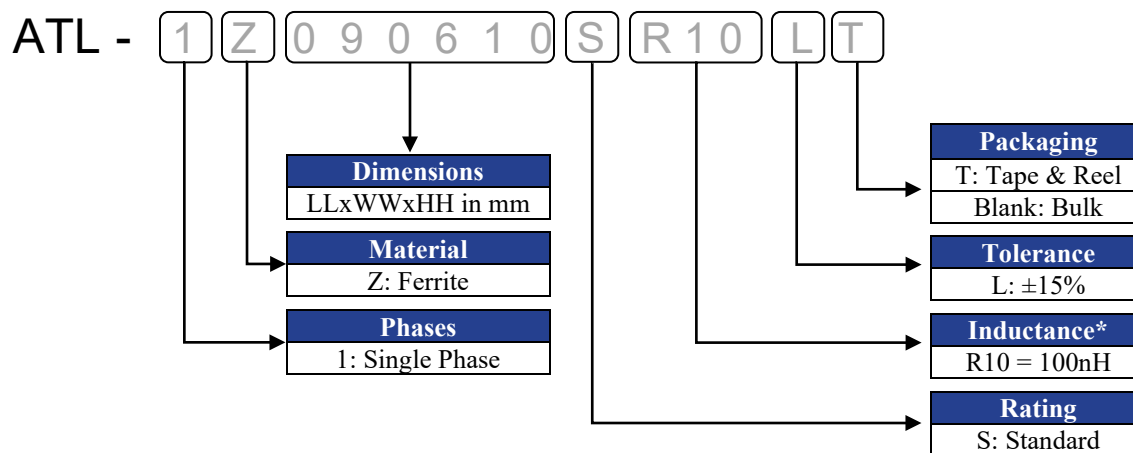


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Part Identification



*Only part numbers listed in the Electrical Specs table are available. For custom builds, please contact Abracon.

Schematic



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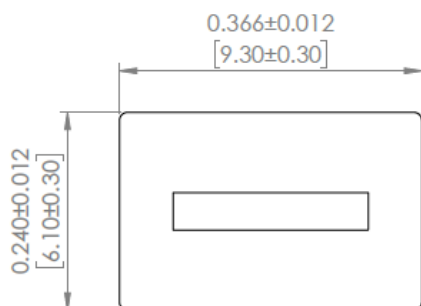


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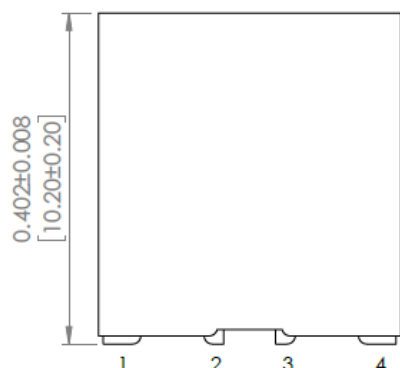


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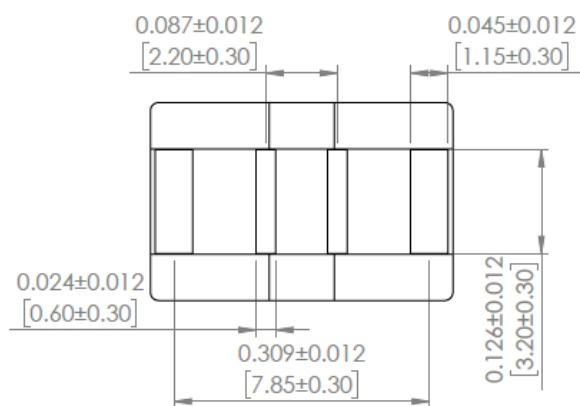
Mechanical Specifications



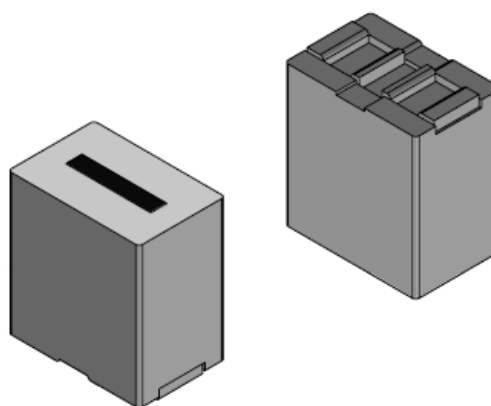
TOP VIEW



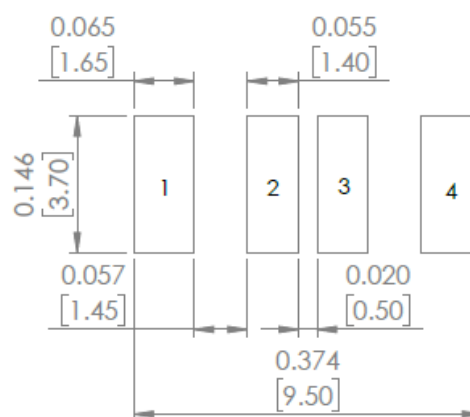
FRONT VIEW



BOTTOM VIEW



Recommended Land Pattern



Dimensions: Inches[mm]



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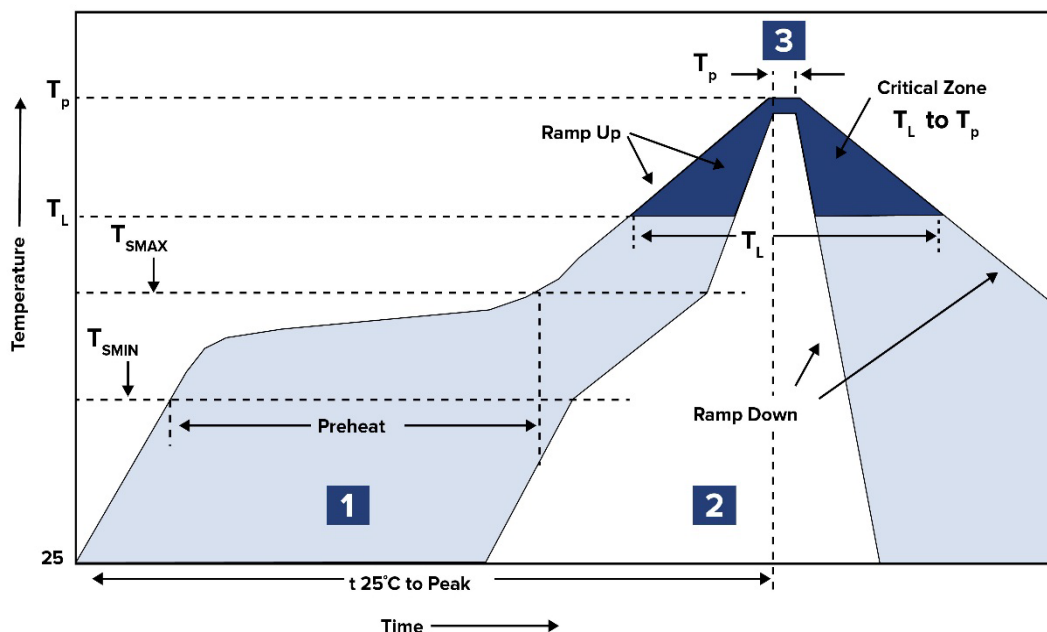


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Reflow Profile



Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C	60 ~ 120 sec.
2	Reflow	T_L 217°C	60 ~ 150 sec.
3	Peak Temperature	T_c 260°C	5 sec. max

Max. ramp up rate: 3°C/sec.

Max. ramp down rate: 6°C/sec.

Time from 25°C to peak Temperature: 8mins max.

Ref. Solder paste: Sn/3.0Ag/0.5Cu

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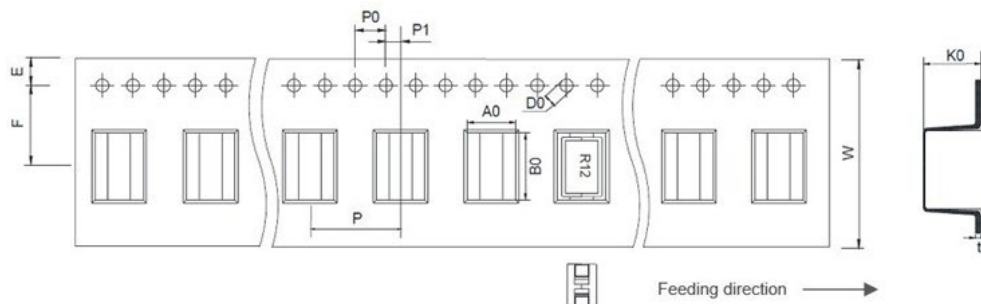
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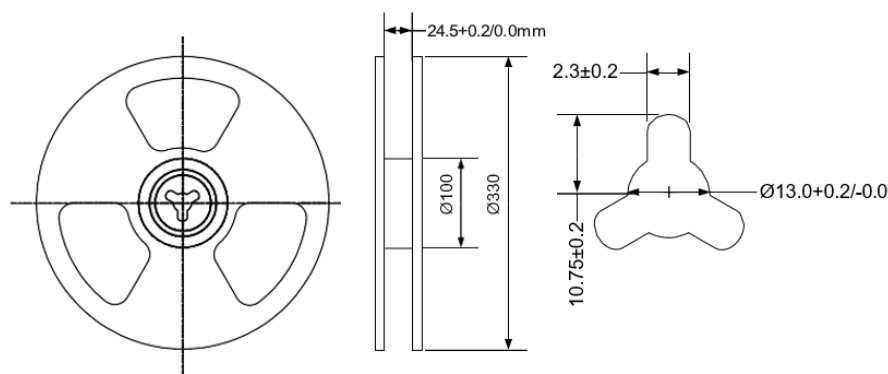
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Packaging

Tape & Reel: 500 pcs/reel



Series	W	E	F	P0	P1	D0	A0	B0	T	K0
ATL-1Z090610S	24.00 ±0.30	1.75 ±0.10	11.50 ±0.10	4.00 ±0.10	2.00 ±0.10	1.50 ±0.10	6.60 ±0.30	9.80 ±0.30	0.50 ±0.05	10.70 ±0.30



Dimensions: mm

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