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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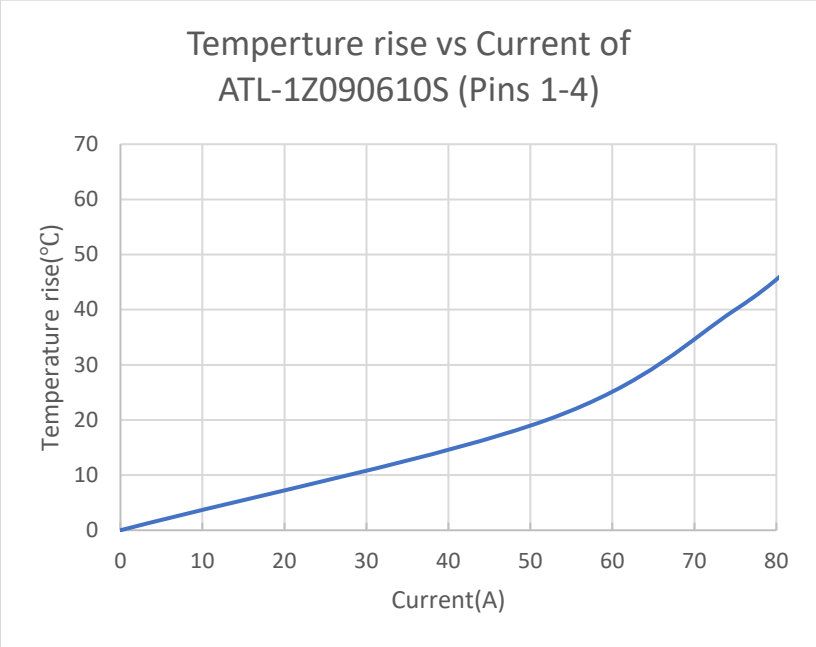


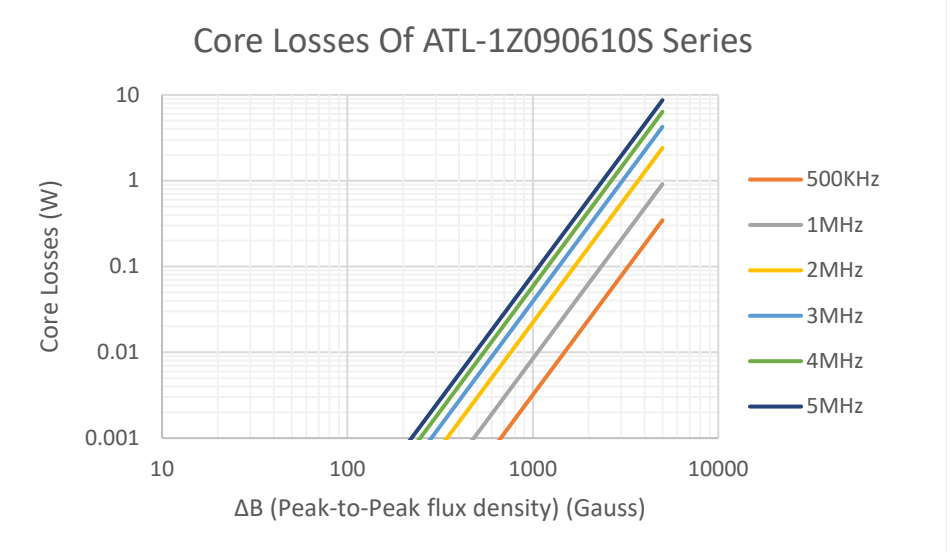
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Electrical Specifications (Cont'd)





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

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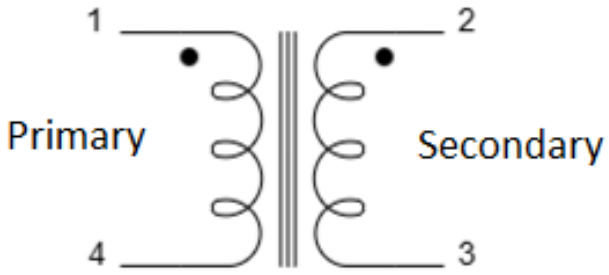
Part Identification

ATL - 1 Z 0 9 0 6 1 0 S R 1 0 L T

Dimensions	LLxWWxHH in mm
Material	Z: Ferrite
Phases	1: Single Phase
Packaging	T: Tape & Reel Blank: Bulk
Tolerance	L: ±15%
Inductance*	R10 = 100nH
Rating	S: Standard

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

Schematic



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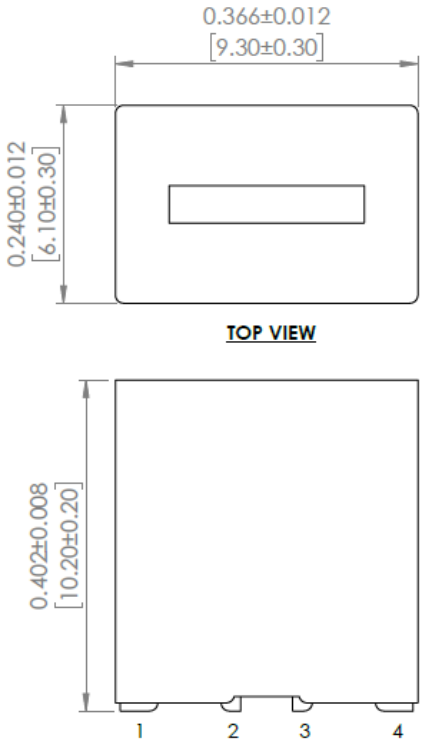


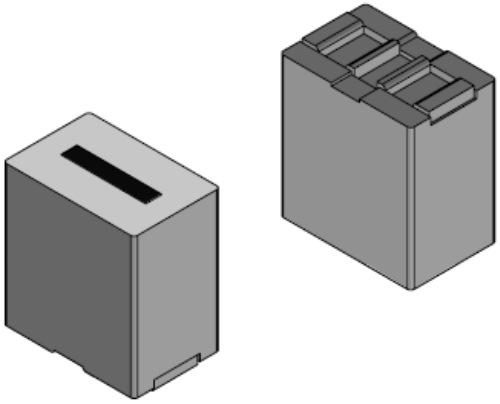
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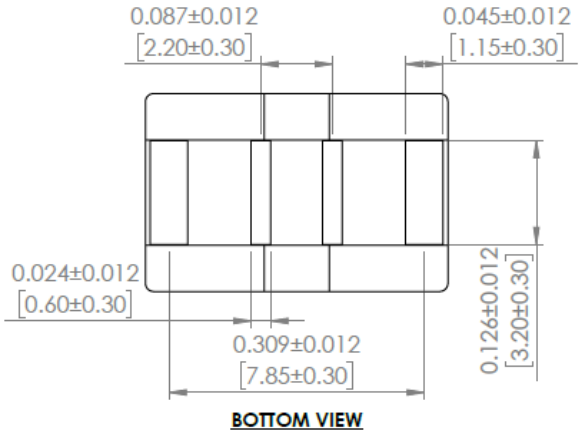
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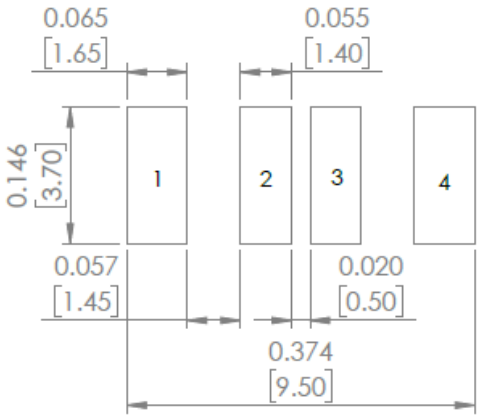
Mechanical Specifications







Recommended Land Pattern



Dimensions: Inches[mm]

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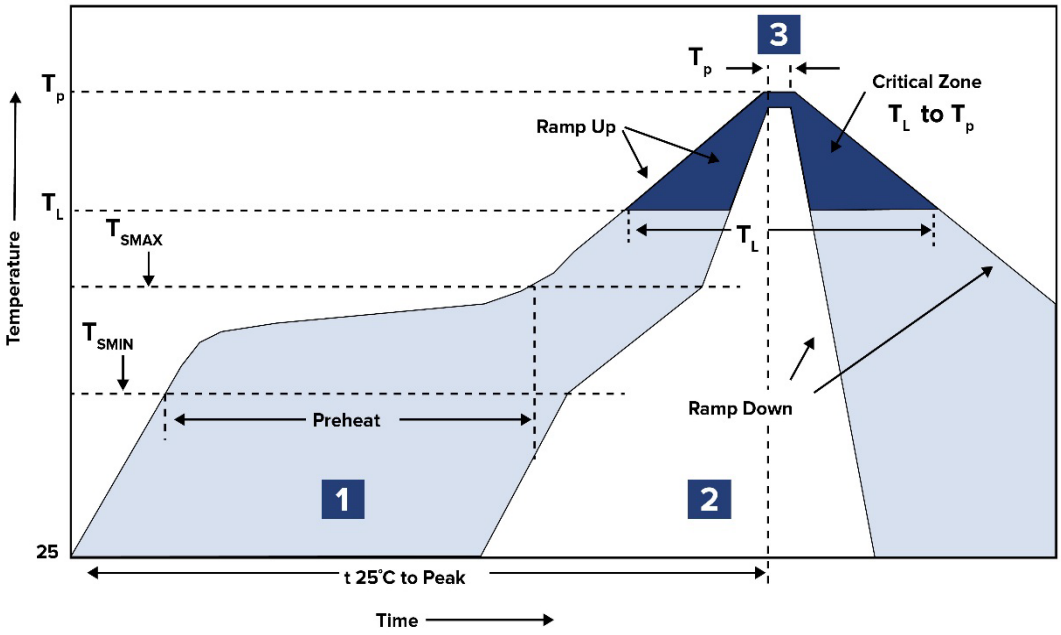


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Reflow Profile



Zone	Description	Temperature	Times
1	Preheat	T_{SMIN} ~ T_{SMAX} 150°C ~ 200°C	60 ~ 120 sec.
2	Reflow	T_L 217°C	60 ~ 150 sec.
3	Peak Temperature	Tc 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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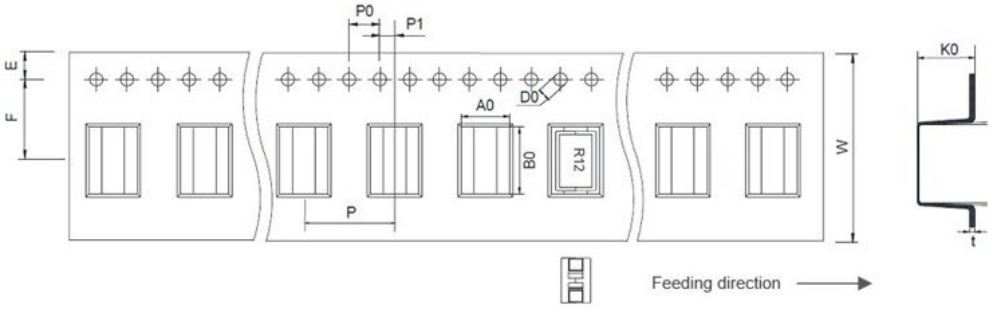
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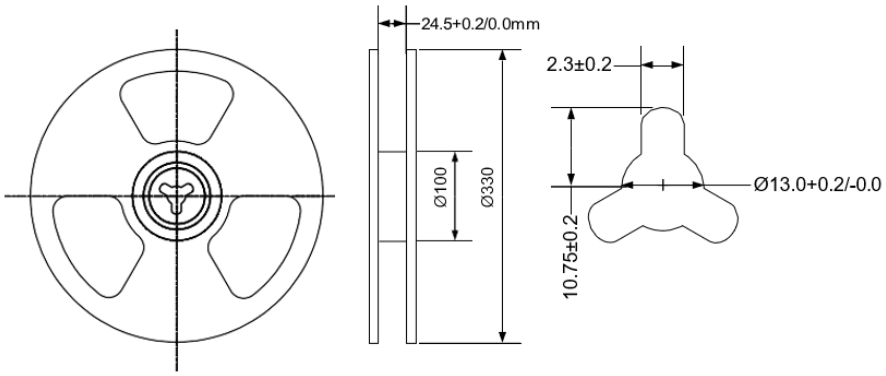
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Packaging

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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