

Trans-inductor Voltage Regulator (TLVR) Coupled Inductor



ATL-1Z100512S

Request Samples



Check Inventory



10.0 x 5.0 x 12.00 mm
RoHS/RoHS II Compliant
MSL Level = 1

Features

- Ferrite Core
- High Saturation current, up to 127A
- Minimized DC losses due to DCR as low as 0.125mΩ
- Inductance up to 170nH
- Low interwinding capacitance at 10pf maximum.
- 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 ±10%	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-1Z100512S	1-4/2-3	1-4	1-4	1-4/2-3	1-4	2-3	1-4			1-4	2-3
ATL-1Z100512SR07KT	70	50	10	10	0.125	0.450	127	110	100	75	35
ATL-1Z100512SR08KT	80	57					111	96	87		
ATL-1Z100512SR09KT	90	64					98	85	77		
ATL-1Z100512SR10KT	100	72					89	77	70		
ATL-1Z100512SR12KT	120	86					74	64	58		
ATL-1Z100512SR15KT	150	108					59	51	46		
ATL-1Z100512SR17KT	170	122					52	45	41		

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-1Z100512S Series is **RoHS Compliant and Pb free.**



5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISION: IR 12-08-23

ABRACON IS
ISO9001-2015
CERTIFIED

Trans-inductor Voltage Regulator (TLVR) Coupled Inductor



ATL-1Z100512S

Request Samples



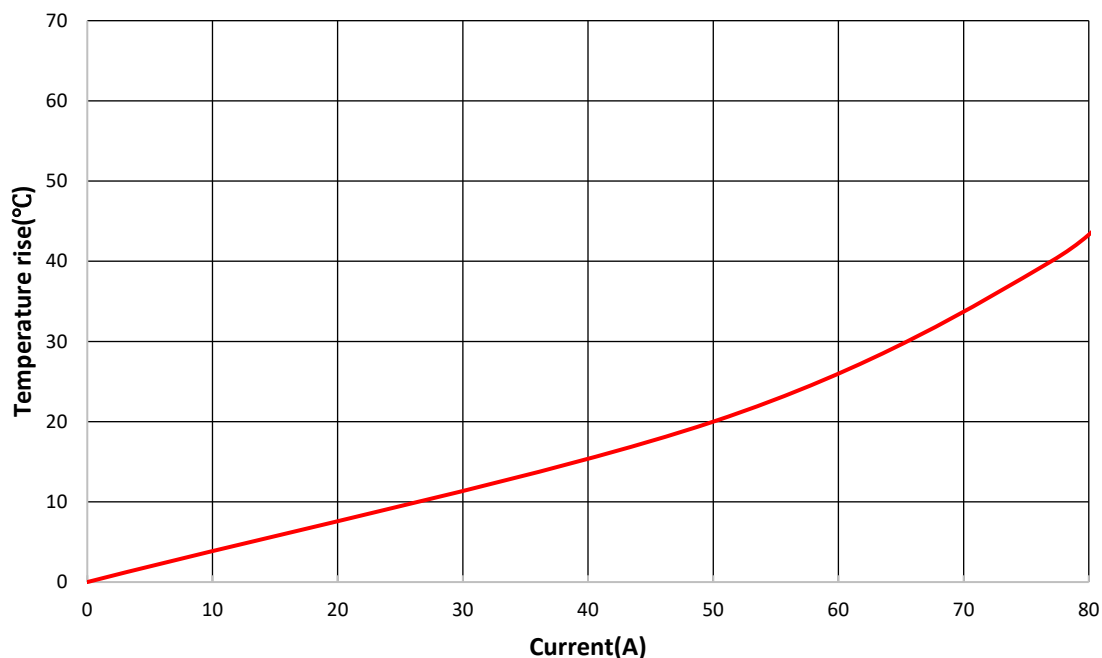
Check Inventory



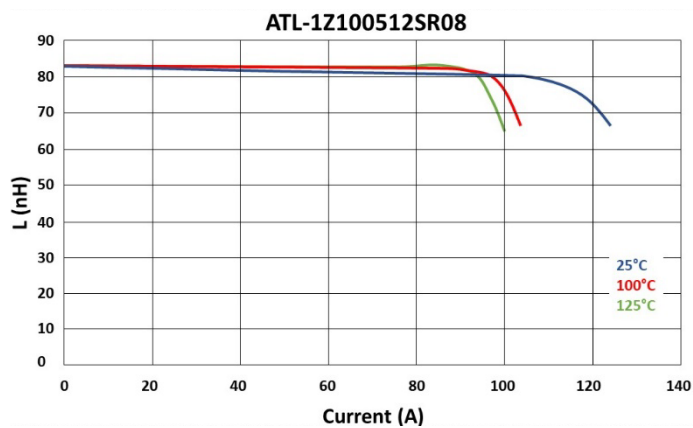
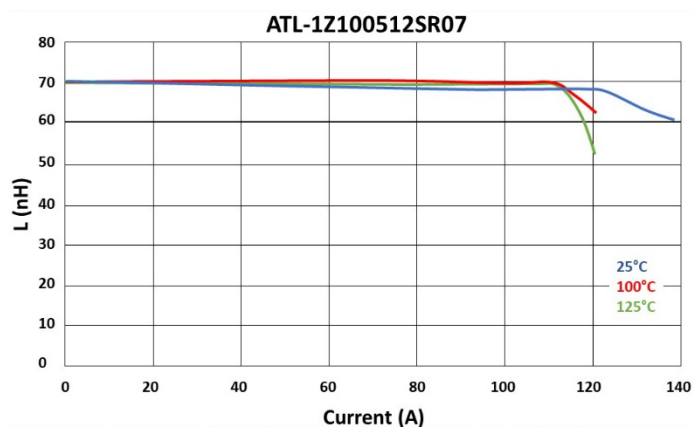
10.0 x 5.0 x 12.00 mm
RoHS/RoHS II Compliant
MSL Level = 1

Performance Graphs

ATL-1Z100512S Series-Temperature Rise vs Current



Saturation Graphs for ATL-1Z100512S Series (Ambient of 25°C, 100°C and 125°C)



Trans-inductor Voltage Regulator (TLVR) Coupled Inductor



ATL-1Z100512S

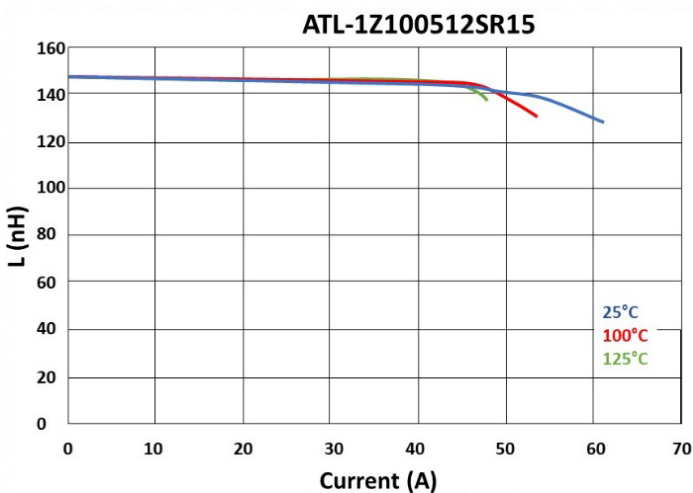
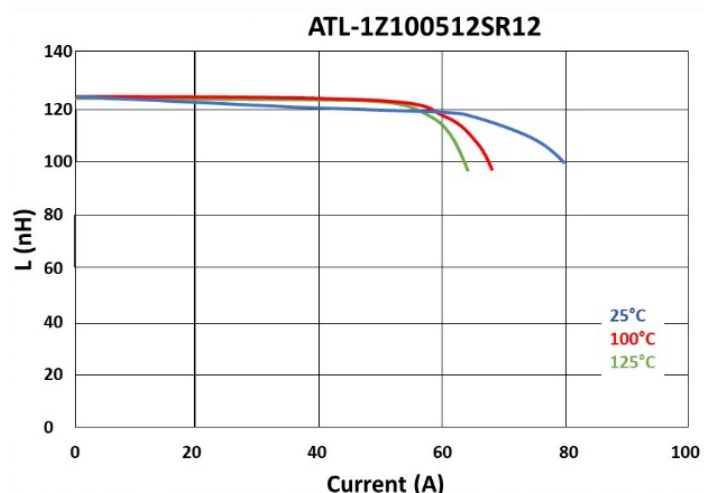
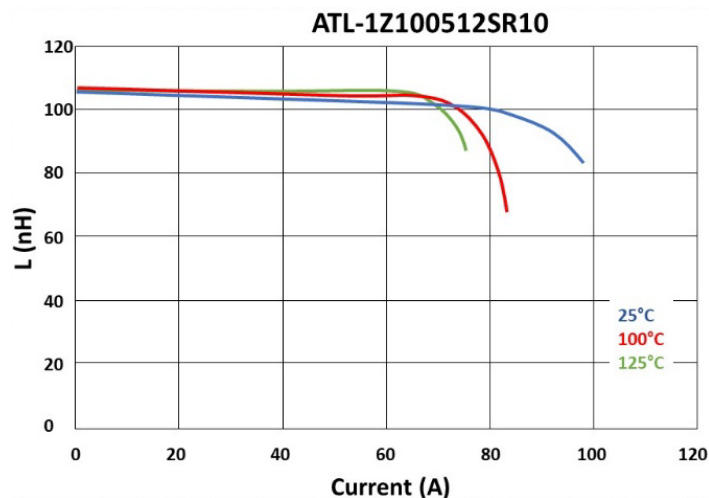
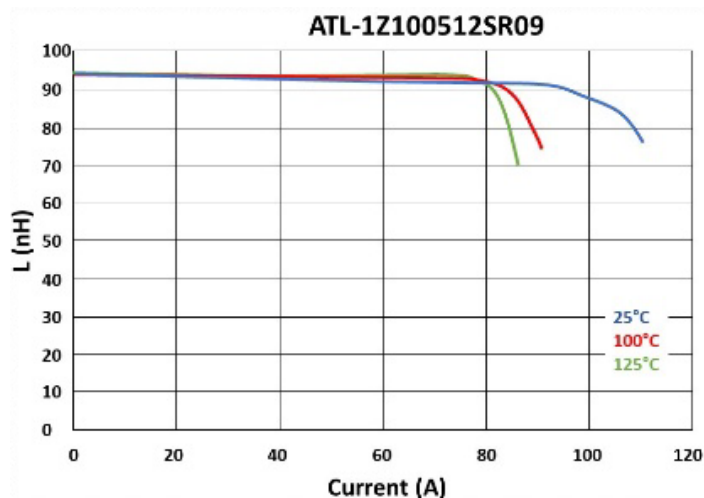
Request Samples



Check Inventory



10.0 x 5.0 x 12.00 mm
RoHS/RoHS II Compliant
MSL Level = 1



Trans-inductor Voltage Regulator (TLVR) Coupled Inductor



ATL-1Z100512S

Request Samples

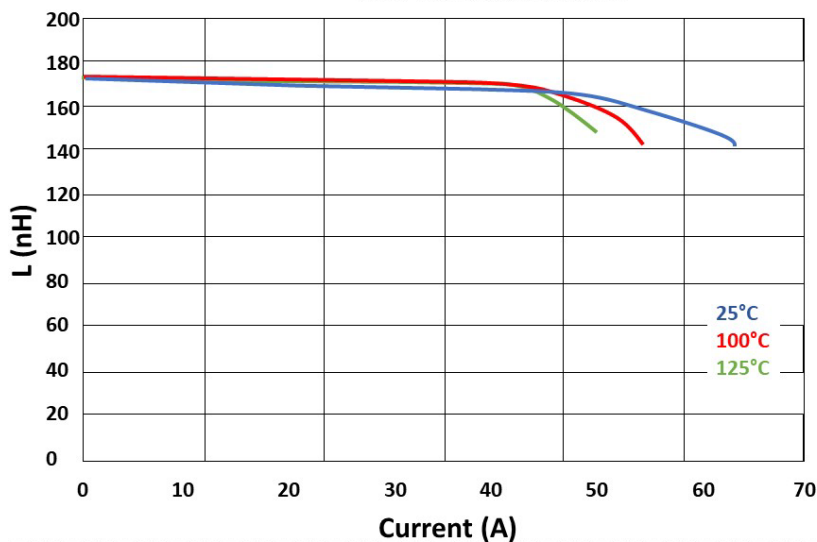


Check Inventory

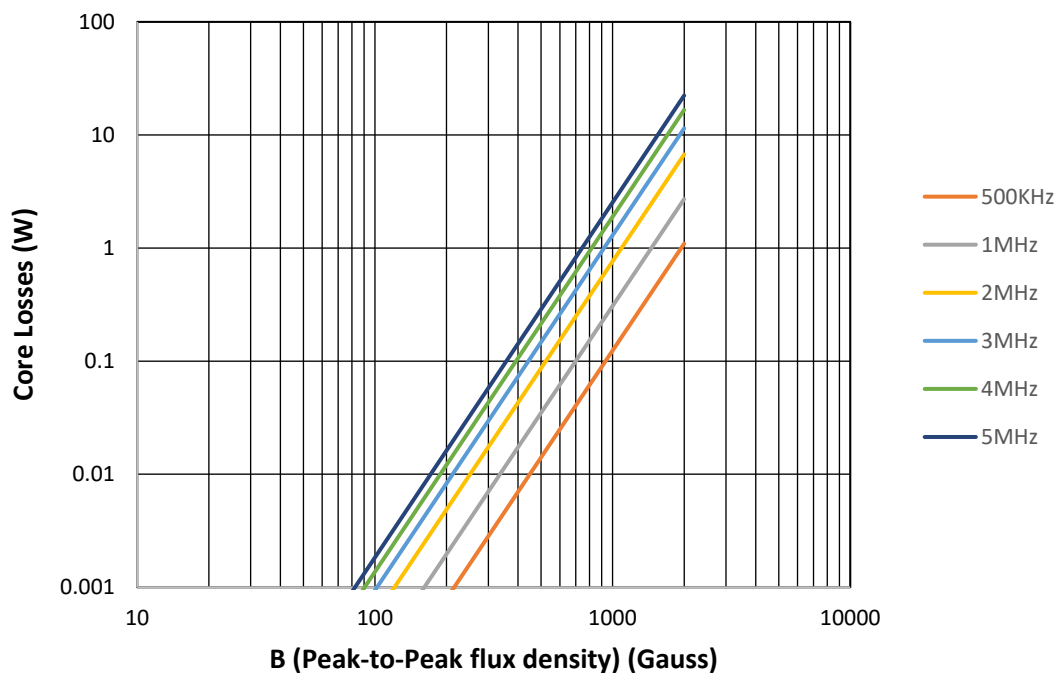


10.0 x 5.0 x 12.00 mm
RoHS/RoHS II Compliant
MSL Level = 1

ATL-1Z100512SR17



Core Losses of ATL-1Z100512S Series



$$\Delta B(\text{Gauss}) = 0.33 * L(\text{nH}) * \Delta I(\text{Amps})$$

Trans-inductor Voltage Regulator (TLVR) Coupled Inductor



ATL-1Z100512S

Request Samples

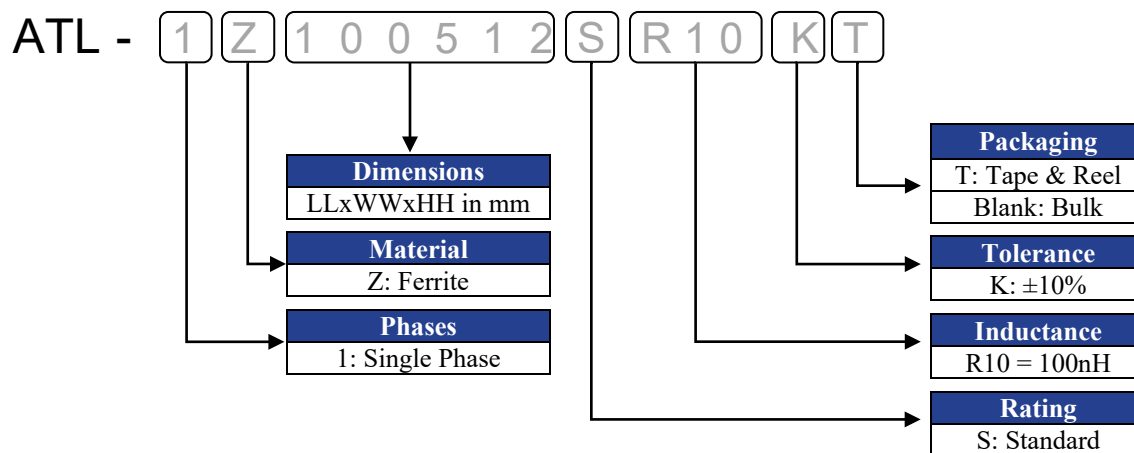


Check Inventory



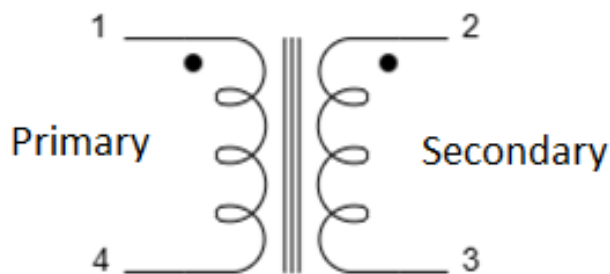
10.0 x 5.0 x 12.00 mm
RoHS/RoHS II Compliant
MSL Level = 1

Part Identification



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

Schematic



Trans-inductor Voltage Regulator (TLVR) Coupled Inductor



ATL-1Z100512S

Request Samples

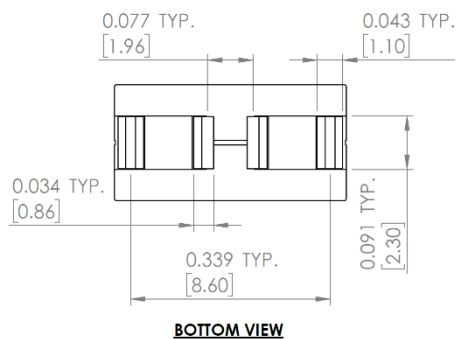
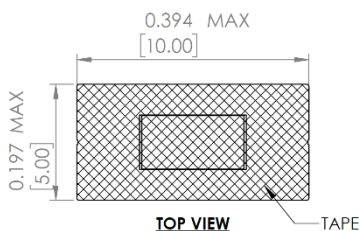
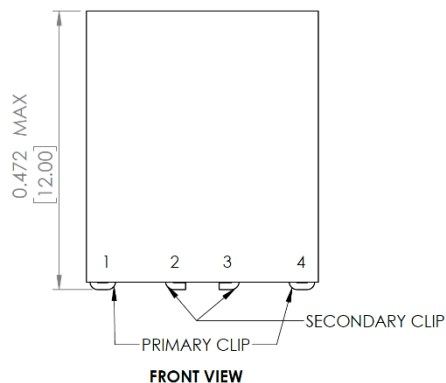


Check Inventory

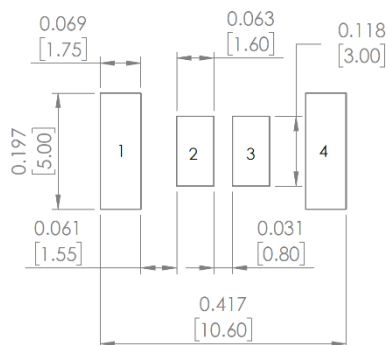


10.0 x 5.0 x 12.00 mm
RoHS/RoHS II Compliant
MSL Level = 1

Mechanical Specifications

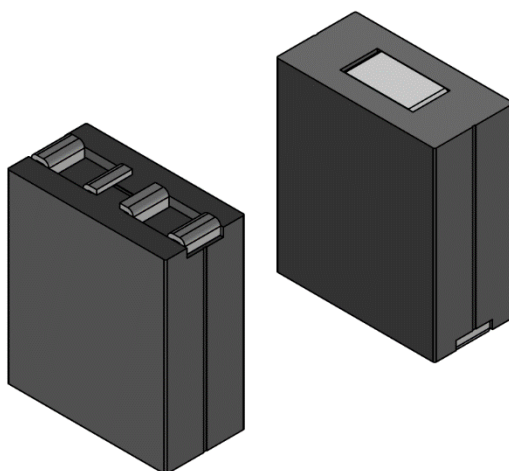


Recommended Land Pattern



Dimensions: Inches[mm]

General Appearance



5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISION: IR 12-08-23

ABRACON IS
ISO9001-2015
CERTIFIED

Trans-inductor Voltage Regulator (TLVR) Coupled Inductor



ATL-1Z100512S

Request Samples

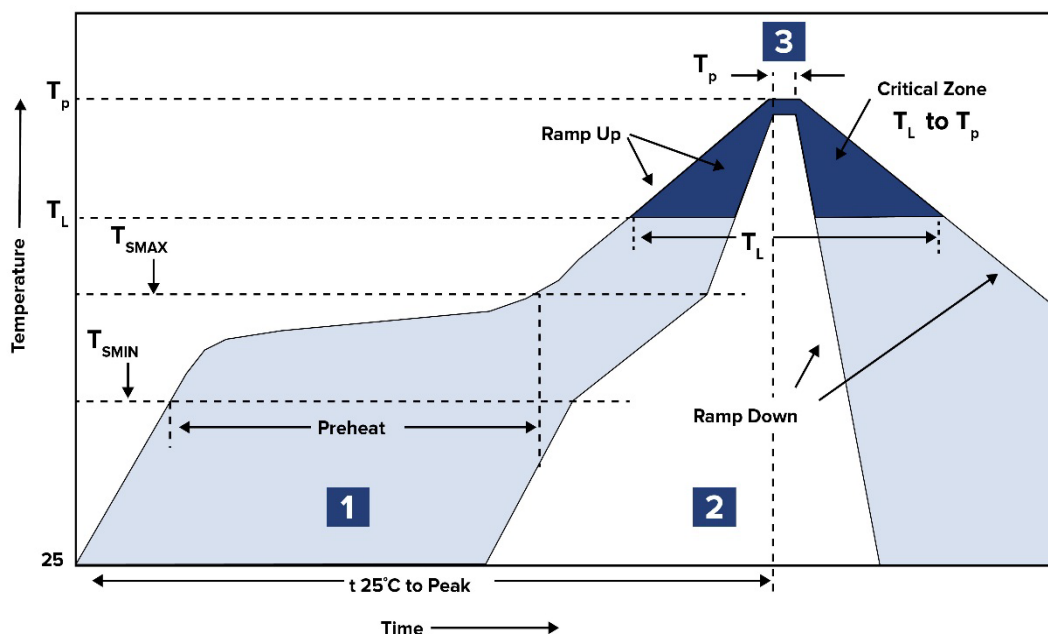


Check Inventory



10.0 x 5.0 x 12.00 mm
RoHS/RoHS II Compliant
MSL Level = 1

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

Trans-inductor Voltage Regulator (TLVR) Coupled Inductor



ATL-1Z100512S

Request Samples



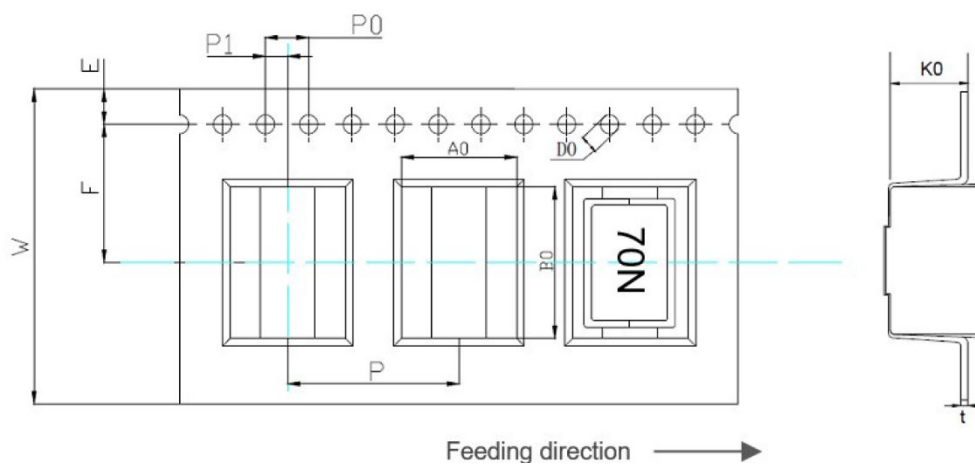
Check Inventory



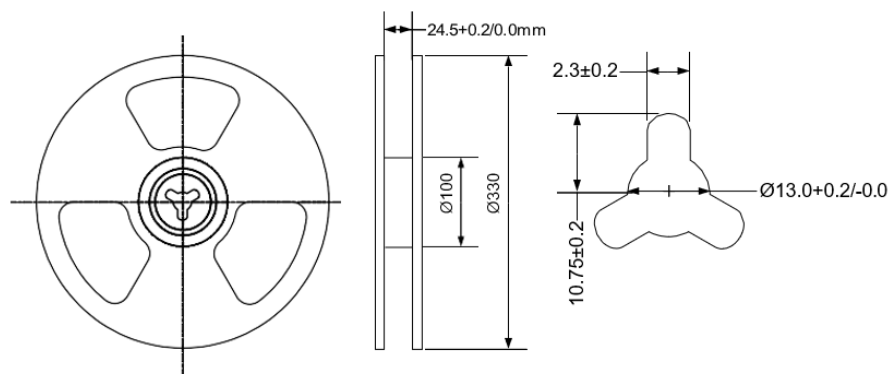
10.0 x 5.0 x 12.00 mm
RoHS/RoHS II Compliant
MSL Level = 1

Packaging

Tape & Reel: 300 pcs/reel



Series	W	E	F	P	P0	P1	D0	A0	B0	t	K0
ATL-1Z100512S	24.00 ±0.30	1.75 ±0.10	11.50 ±0.10	16.00 ±0.10	4.00 ±0.10	2.00 ±0.10	1.50 ±0.10	5.20 ±0.10	10.20 ±0.10	0.40 ±0.05	12.20 ±0.10



Dimensions: mm

ATTENTION: Abracon LLC's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependent Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon LLC is required. Please contact Abracon LLC for more information.



5101 Hidden Creek Ln Spicewood TX 78669
 Phone: 512-371-6159 | Fax: 512-351-8858
 For terms and conditions of sales, please visit:
www.abracon.com

REVISION: IR 12-08-23

ABRACON IS
 ISO9001-2015
 CERTIFIED

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[ABRACON:](#)

[ATL-1Z100512SR07KT](#) [ATL-1Z100512SR08KT](#) [ATL-1Z100512SR09KT](#) [ATL-1Z100512SR10KT](#) [ATL-1Z100512SR15KT](#) [ATL-1Z100512SR12KT](#) [ATL-1Z100512SR17KT](#)