

AEC-Q200 Automotive Mini Molded Power Inductor



AOTA-B322512Q

Request Samples



Check Inventory



3.2 x 2.5 x 1.2mm
RoHS/RoHS II Compliant
MSL Level = 1

Features

- PPAP ready and supported
- TS16949 certified production lines
- AEC-Q200 Grade 1 qualified (-40C ~ +125°C)
- Shielded construction
- Soft saturation
- Low DCR, High Efficiency
- High temperature current rating

Applications

- Body electronics and comfort system
- Infotainment and entertainment
- Electric vehicles
- Lighting
- Solar inverters and power
- Industrial and robotics
- Medium and high-power switch mode power supplies.

Electrical Specifications

Part Number*	Inductance	Tolerance	DC Resistance		Saturation Current		Temperature Rise Current	
	1MHz/1.0V		Typ.	Max	Typ.	Max	Typ.	Max
Units	μH	%	mΩ		A		A	
Symbol	L	M	DCR		Isat		Irms	
AOTA-B322512QR10MT	0.10	20	5.0	9.0	14.0	12.0	11.0	8.0
AOTA-B322512QR24MT	0.24	20	6.0	11	13.4	11.5	9.5	7.0
AOTA-B322512QR33MT	0.33	20	10	15	9.5	8.6	7.3	6.0
AOTA-B322512QR47MT	0.47	20	16	21	8.2	7.0	6.1	5.3
AOTA-B322512Q1R0MT	1.0	20	30	36	5.2	4.6	4.4	4.0
AOTA-B322512Q1R5MT	1.5	20	45	54	4.5	4.0	3.5	3.2
AOTA-B322512Q2R2MT	2.2	20	62	75	3.8	3.3	3.0	2.7
AOTA-B322512Q3R3MT	3.3	20	97	113	2.9	2.5	2.5	2.3
AOTA-B322512Q4R7MT	4.7	20	127	151	2.5	2.2	2.1	1.9

*The “T” at the end of the part numbers refers to “Tape & Reel” packaging. For other options, please refer to the Part Identification section.

Test Conditions

Isat: DC current at which the inductance drops 30% from its initial value.

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

Operating Temperature: -50°C ~ +150°C (including self-temperature rise)

Storage Condition: -50°C ~ +150°C (on board), -10°C ~ +40°C (with packaging) and R.H. 70% max.

AOTA-B322512Q Series is RoHS Compliant and Pb free.

AOTA-B322512Q is AEC-Q200 Automotive qualified (Grade 0)

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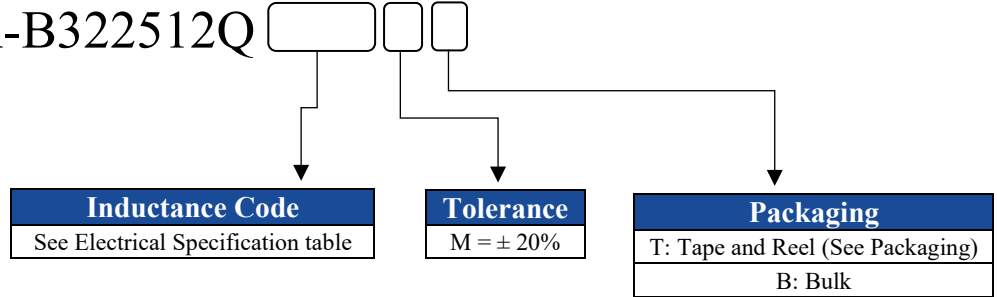
Check Inventory



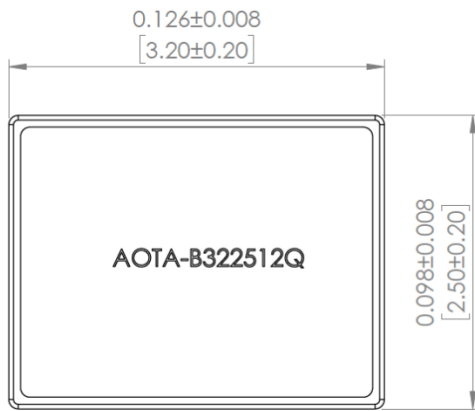
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Part Identification

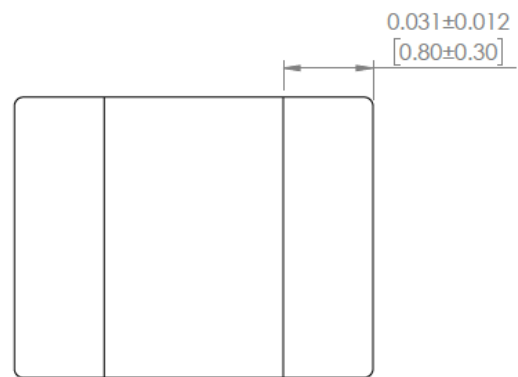
AOTA-B322512Q



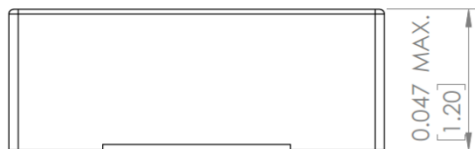
Mechanical Specifications



TOP VIEW

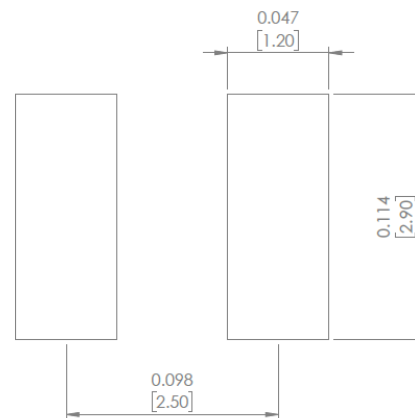


BOTTOM VIEW



FRONT VIEW

Recommended Land Pattern



Marking on Top view is for illustration purposes only

Dimensions: Inches[mm]



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REVISION: IR 09-20-24

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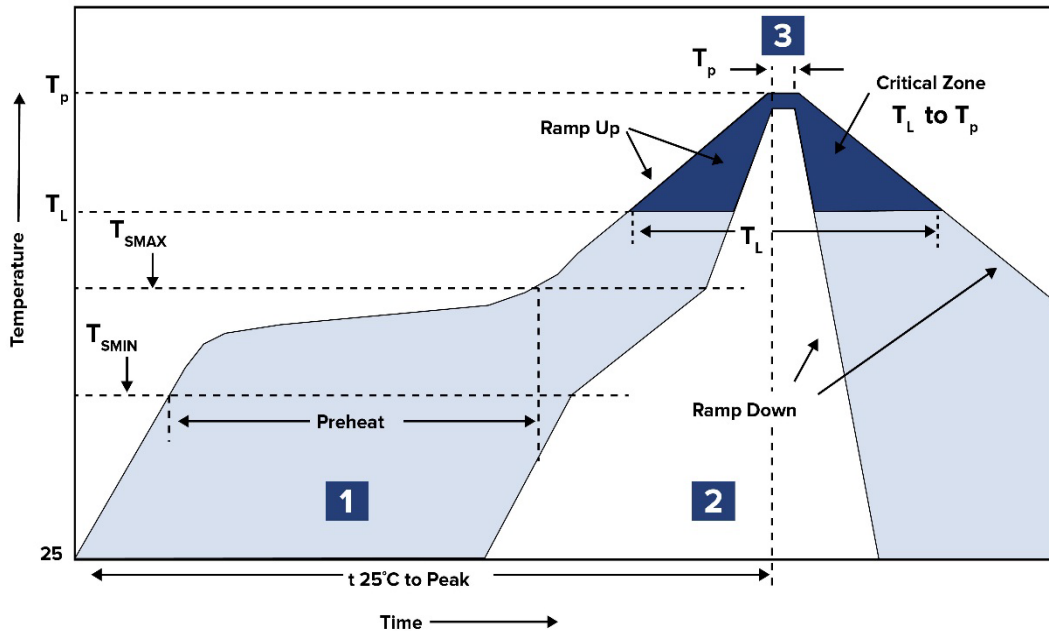


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Reflow Profile



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 ~ 90 sec.
3	Peak heat	T_P 260°C	5 sec. MAX

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

Ramp up rate: 3°C/s Max.

Ramp down rate: 6°C/s Max.

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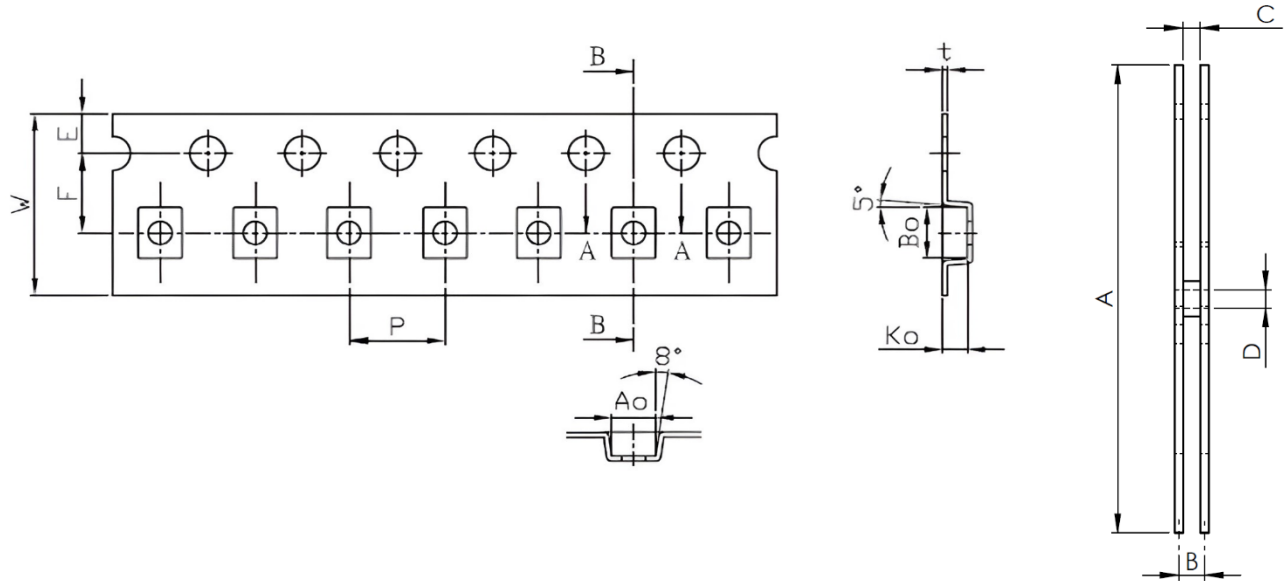
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Packaging

Tape & Reel: 2000 pcs/reel



W	F	E	P	Ao	Bo	K0	t	A	B	C	D
8.0 ±0.1	3.5 ±0.05	1.75 ±0.1	4.0 ±0.1	2.8 ±0.1	3.5 ±0.1	1.35 ±0.1	0.25 ±0.05	178 ±2.0	14.4 Max.	8.4 +1.5/-0.0	13.5 ±0.2

Dimensions: mm

ATTENTION: Abracon LLC's products are Commercial-Off-The-Shelf (COTS, which are designed, intended and validated for use in commercial, industrial and automotive applications. The customer is responsible for testing and verifying the performance of an Abracon solution to meet their system-level requirements.



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