

AEC-Q200 Automotive Mini Molded Power Inductor



AOTA-B252012Q

Request Samples



Check Inventory



2.5 x 2.0 x 1.2mm

RoHS/RoHS II Compliant

MSL Level = 1

Features

- PPAP ready and supported
- TS16949 certified production lines
- AEC-Q200 Grade 1 qualified ($-50^{\circ}\text{C} \sim +150^{\circ}\text{C}$)
- 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	%	$\text{m}\Omega$		A		A	
Symbol	L	M	DCR		Isat		Irms	
AOTA-B252012QR10MT	0.10	20	4	9	12.8	11.0	12.0	8.0
AOTA-B252012QR24MT	0.24	20	8	13	9.0	8.0	8.5	6.7
AOTA-B252012QR33MT	0.33	20	12	15	8.9	8.0	6.6	5.7
AOTA-B252012QR47MT	0.47	20	17	20	6.5	5.9	5.4	5.0
AOTA-B252012Q1R0MT	1.0	20	35	41	4.8	4.4	4.1	3.7
AOTA-B252012Q1R5MT	1.5	20	50	57	3.9	3.3	3.3	3.1
AOTA-B252012Q2R2MT	2.2	20	67	77	3.5	3.0	2.8	2.6
AOTA-B252012Q3R3MT	3.3	20	114	131	2.7	2.3	2.2	2.0

*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: $-50^{\circ}\text{C} \sim +150^{\circ}\text{C}$ (including self-temperature rise)

Storage Condition: $-50^{\circ}\text{C} \sim +150^{\circ}\text{C}$ (on board), $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$ (with packaging) and R.H. 70% max.

AOTA-B252012Q Series is **RoHS Compliant and Pb free**.

AOTA-B252012Q is AEC-Q200 qualified (grade 0)



5101 Hidden Creek Ln Spicewood TX 78669
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Part Identification

AOTA-B252012Q

Inductance Code

See Electrical Specification table

Tolerance

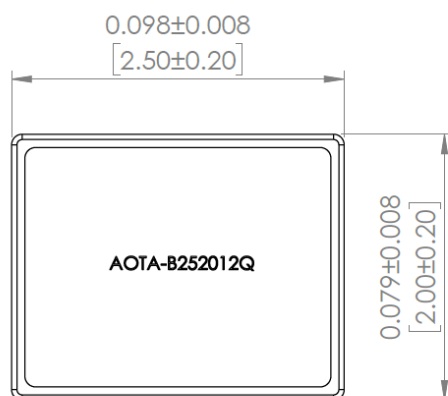
M = $\pm 20\%$

Packaging

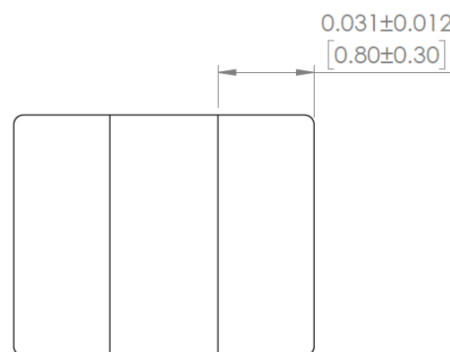
T: Tape and Reel (See Packaging)

B: Bulk

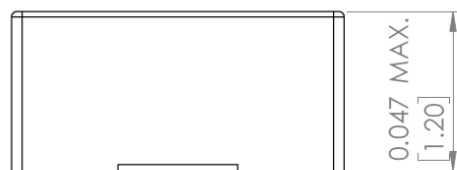
Mechanical Specifications



TOP VIEW

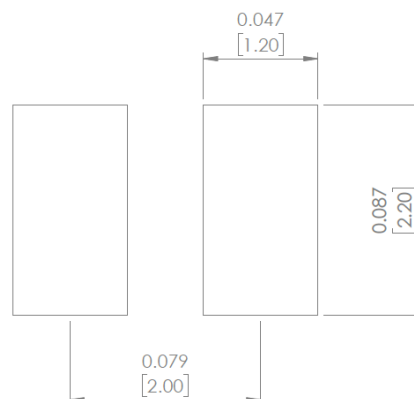


BOTTOM VIEW



FRONT VIEW

Recommended Land Pattern



Marking on Top view is for illustration purposes only

Dimensions: Inches[mm]



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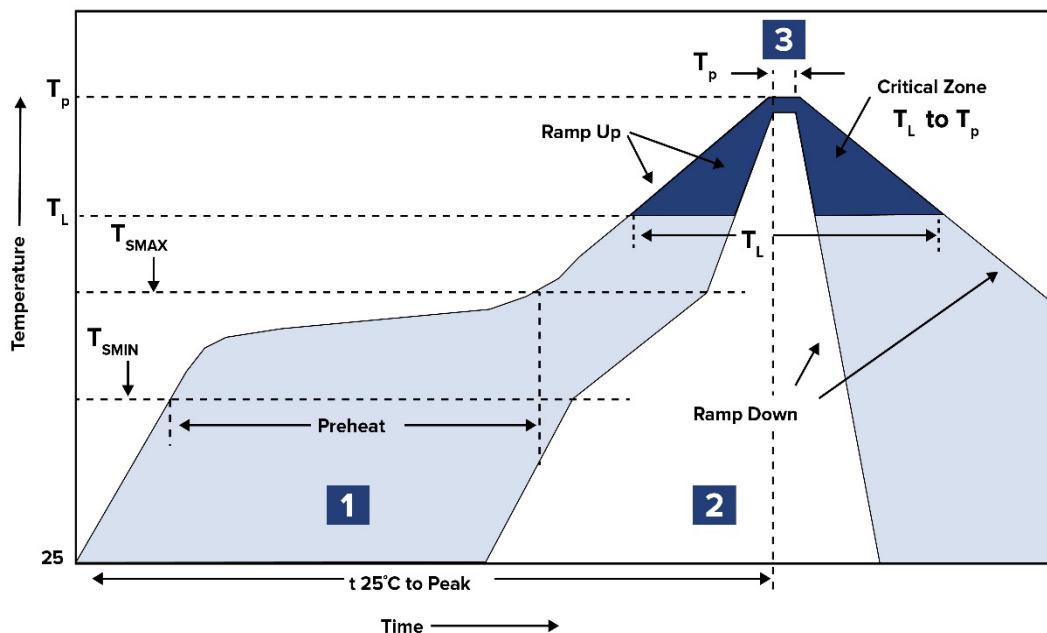


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Reflow Profile



Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ $150^{\circ}\text{C} \sim 200^{\circ}\text{C}$	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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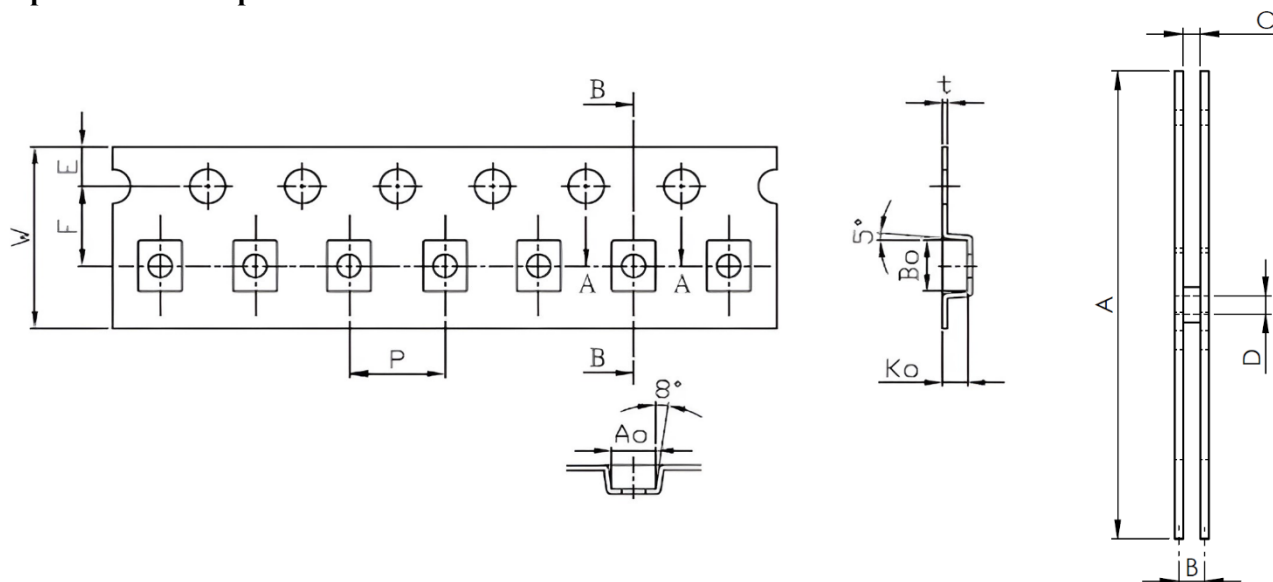
Check Inventory



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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	2.3 ±0.1	2.8 ±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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