

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

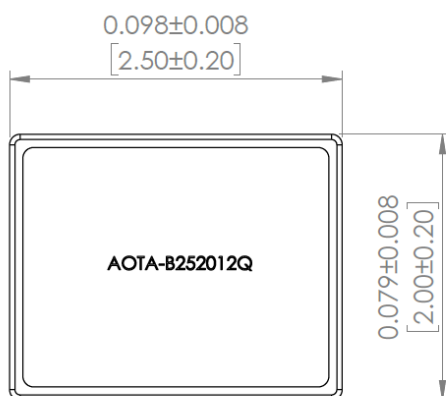
M = $\pm 20\%$

Packaging

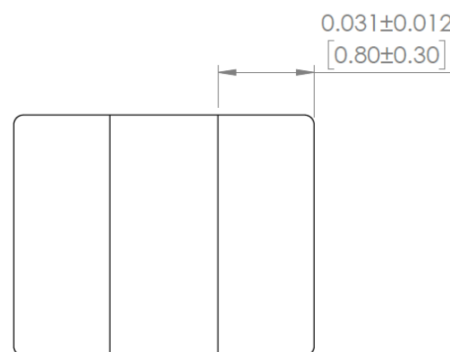
T: Tape and Reel (See Packaging)

B: Bulk

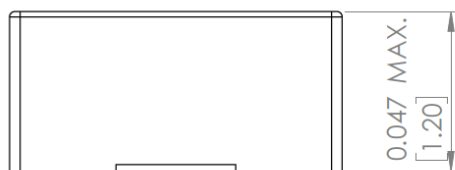
Mechanical Specifications



TOP VIEW

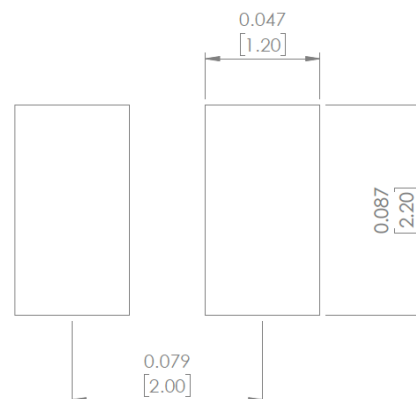


BOTTOM VIEW



FRONT VIEW

Recommended Land Pattern



Marking on Top view is for illustration purposes only

Dimensions: Inches[mm]



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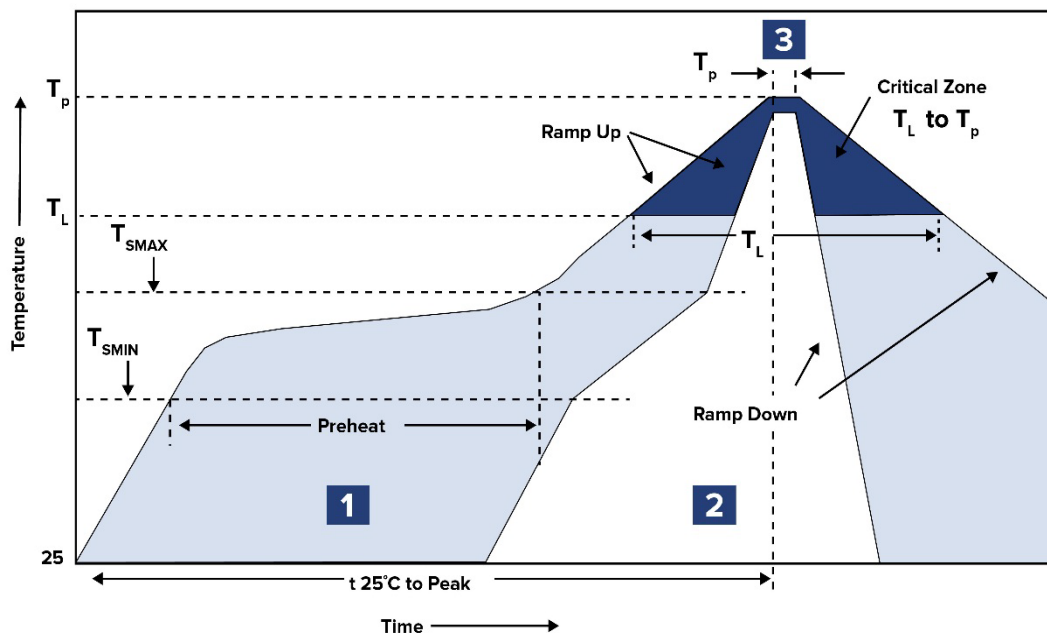


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Reflow Profile



Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°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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