APPROVAL SHEET

WQPMA0A040*LC Series
SMD Molded Power Inductors
AEC-Q200 Compliant

RoHS COMPLIANT

Pb Pb-Free

*Contents in this sheet are subject to change without prior notice.

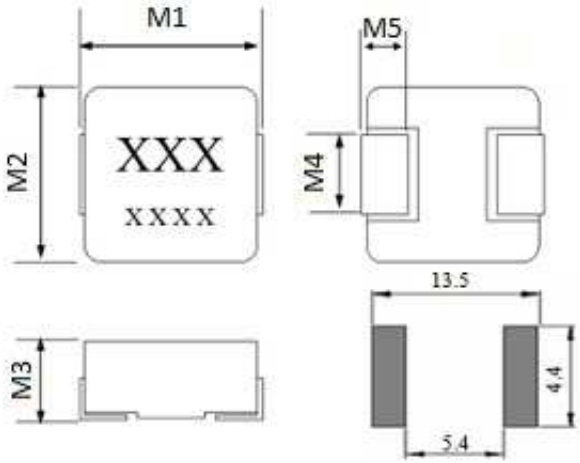
Features

1. Shielded construction.
2. Ultra low buzz noise.
3. Low DCR/μH.
4. Handles high transient current spikes without saturation.
5. Encapsulated body offers improved environmental protection and moisture resistance.
6. Higher dielectric withstanding voltage.
7. Corrosion resistant package.
8. RoHS Compliance.

Applications

1. PDA/Notebook/Desktop/Server applications high current and low profile power supplier.
2. High current POL converters.
3. Battery powered devices.

Shape and Dimension



Recommend Pattern

UNIT: mm

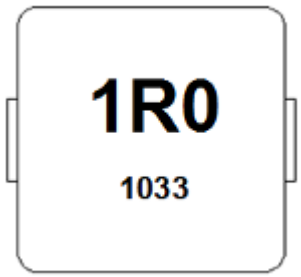
	DIM.	TOL.
M1	11.15	±0.35
M2	10.0	±0.3
M3	4.0	Max
M4	3.0	±0.5
M5	2.0	±0.5

MARKING AND DATE CODE

Marking ex:1.0uH ➔1R0

Date code

XX XX➔year and weekly ex:1033



Ordering Information

WQ	PM	A0A0	40	M	R22	L	C
Product Code WQ: Inductor AEC-Q200	**Series** SMD Molded power inductor.	**Dimensions** 11.15 * 10mm	**Thickness** 4.0mm	**Tolerance** M: ± 20%	**Value** R22=0.22uH 2R2=2.2uH 220=22.0uH	**Packing Code** L=13" Reeled (Embossed tape)	C:

Electrical Characteristics

Part number	Inductance (uH) ±20%	DC Resistance (mΩ)		Rated Current (A) Typical	I sat (A) Typical
		Typical	Max		
WQPMA0A040MR22LC	0.22	0.80	1.0	30	50
WQPMA0A040MR36LC	0.36	1.1	1.2	34	40
WQPMA0A040MR47LC	0.47	1.3	1.55	25	35
WQPMA0A040MR56LC	0.56	1.6	1.8	25	32
WQPMA0A040MR68LC	0.68	2.4	2.7	22	30
WQPMA0A040M1R0LC	1.0	3.0	3.3	18	28
WQPMA0A040M1R5LC	1.5	3.8	4.2	16	21
WQPMA0A040M2R2LC	2.2	6.7	7.0	12	18
WQPMA0A040M3R3LC	3.3	10.8	11.8	10	16
WQPMA0A040M4R7LC	4.7	17	20	8.5	15
WQPMA0A040M6R8LC	6.8	22.5	25	6.5	9
WQPMA0A040M8R2LC	8.2	26	29	7	9
WQPMA0A040M100LC	10	27	30	7.5	8.5
WQPMA0A040M150LC	15	40	45	6.25	7.0
WQPMA0A040M220LC	22	60	66	5	5.5
WQPMA0A040M330LC	33	85	92	4.4	5.0
WQPMA0A040M470LC	47	130	145	3.3	3.5

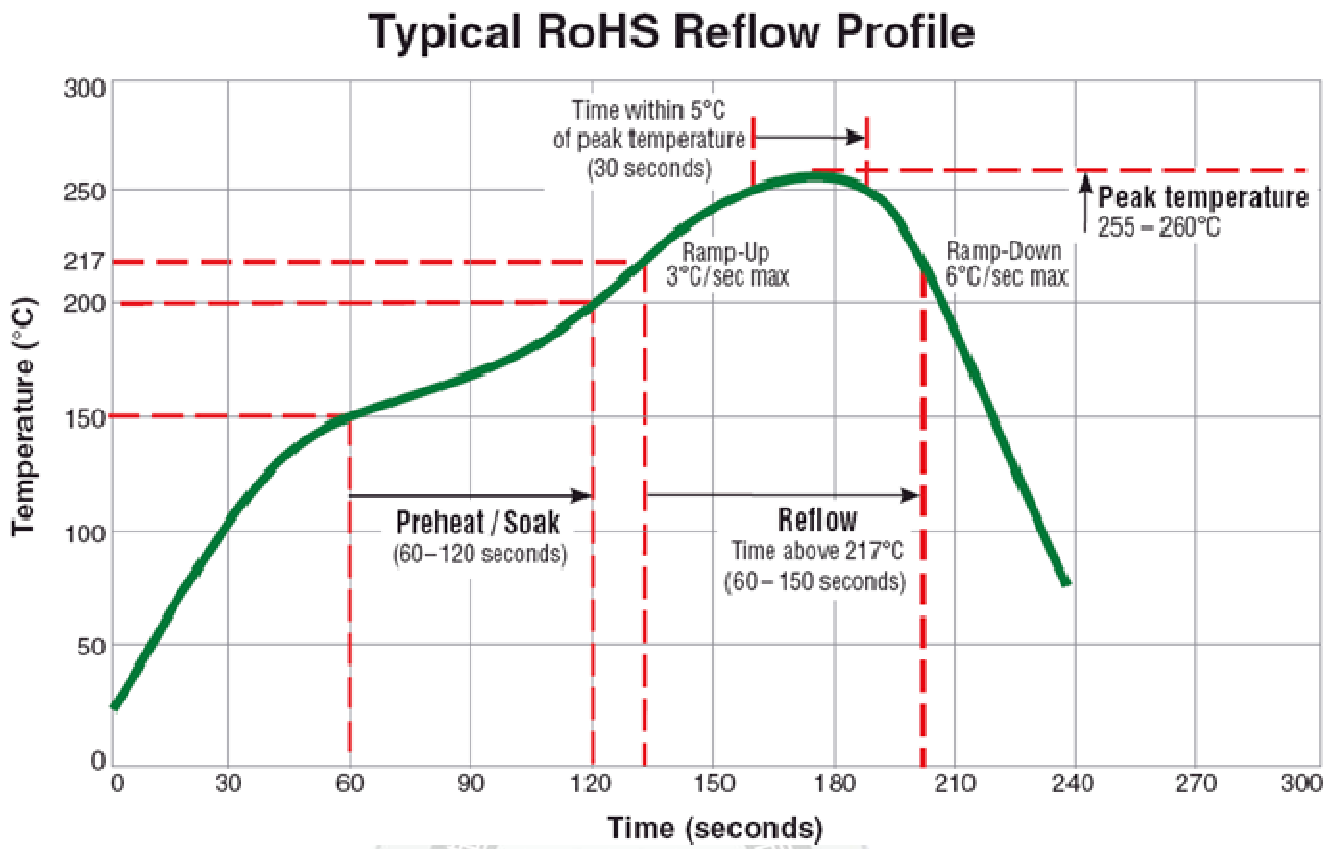
NOTE

1. TOLERANCE: M:±20%
2. INDUCTANCE、RATED CURRENT、I sat MEASURED AN HP4284A, CH11025, CH3302, CH1320, CH1320S LCR METER.
3. DCR MESASURED USING A CH16502.
4. CURRENT THAT CAUSES A 15℃ TEMPERATURE RISE FROM 25℃ AMBIENT.
5. ELECTRICAL SPECIFICATIONS AT 25℃.
6. OPERATING TEMPERATURE: -40℃ ~ +125℃.
7. STORAGE TEMPERATURE COMPONENT: –40℃ to +100℃. TAPE AND REEL PAC KAGING: –40℃ to +80℃.
8. MOISTURE SENSITIVITY LEVEL (MSL) 1 (UNLIMITED FLOOR LIFE AT < 30℃ / 85% RELATIVE HUMIDITY)
9. GRAPHIC IS ONLY FOR DIMENSIONALLY APPLICATION.

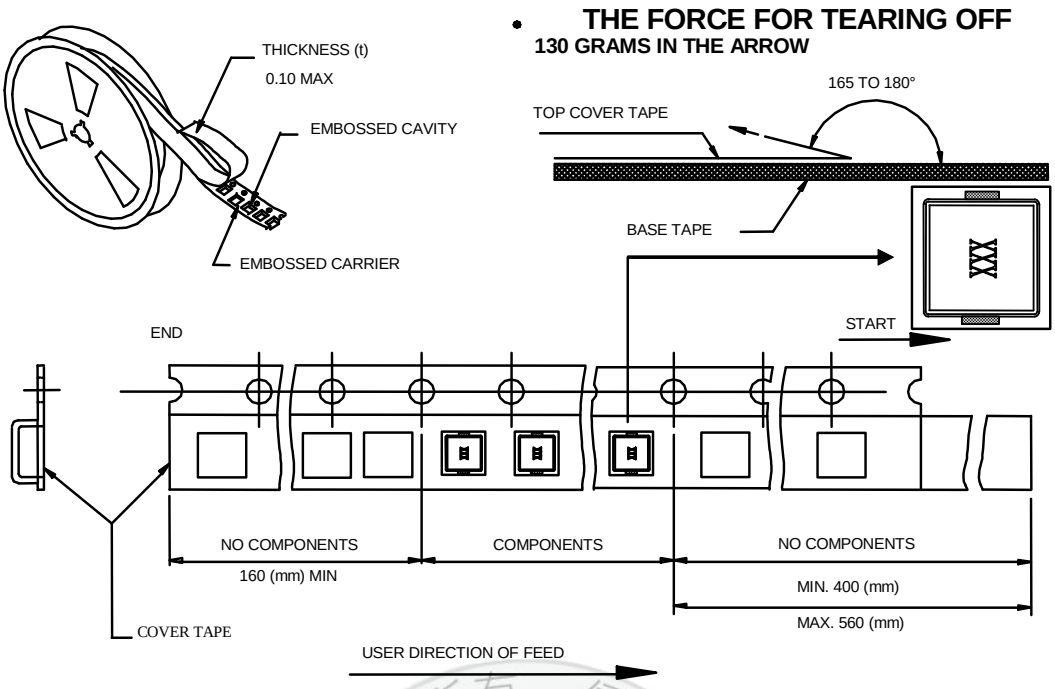
RELIABILITY PERFORMANCE

Test Item	Accept criteria	Test Condition	Standard Source
High Temperature Exposure (Storage)	1.Change from an initial value L:within±20% 2.no visible damage.	1000 hrs. at rated operating temperature (e.g. 125°C part can be stored for 1000 hrs. @ 125℃. Same applies fo r 105℃ and 85℃. Unpowered. Measurement at 24±4 hours after test conclusion.	MIL-STD-202 Method 108
Temperature Cycling	1.Change from an initial value L:within±20% 2.no visible damage.	1000 cycles (-40℃ to +125℃). Note: If 85℃ part o r 105℃ part the 1000 cycles will be at that temperature. Measurement at 24±4 hours after test conclusion. 30min maximum dwell time at each temperature extreme. 1 min. maximum transition time.	JESD22 Method JA-104
Biased Humidity	1.Change from an initial value L:within±20% 2.no visible damage.	1000 hours 85℃/85%RH. Unpowered. Measurement at 24±4 hours after test conclusion.	MIL-STD-202 Method 103
Operational Life	1.Change from an initial value L:within±20% 2.no visible damage.	1000 hrs. @ 105℃. If 85℃ or 125℃ part will be te sted at that temperature. Measurement at 24±4 hours after test conclusion.	MIL-PRF-27
Mechanical Shock	1.Within product specification tolerance 2.no visible damage.	Method 213. Condition C, Peak Value: 100g's, Duration: 6ms, Waveform: Half-sine Velocity Change: 12.3ft/sec	MIL-STD-202 Method 213
Vibration	1.Change from an initial value L:within±20% 2.no visible damage.	5g's for 20 minutes, 12 cycles each of 3 orientations. Note: Use 8"X5" PCB, .031" thick, 7 secure points on one long side and 2 secure points at corners of opposite sides. Parts mounted within 2" from any secure point. Test from 10-2000 Hz.	MIL-STD-202 Method 204
Resistance to Soldering Heat	1.No visible damage.	Condition B No pre-heat of samples. Note: Single Wave Solder - Procedure 2 for SMD and Procedure 1 for Leaded with solder within 1.5mm of device body.	MIL-STD-202 Method 210
ESD	1.Change from an initial value L:within±20% 2.no visible damage.	Passive Component Human Body Model (HBM) Electrostatic Discharge (ESD) Test. Only direct contact discharge, record the voltage value what the sample can pass.	AEC-Q200-002 Or ISO/DIS10605
Solderability	1.95% coverage min. good tinning. 2.no visible damage.	For both Leaded & SMD. Electrical Test not required. Magnification 50X. Conditions: Leaded: Method A @ 235℃, category 3. SMD: a) Method B, 4 hrs @ 155℃ dry heat @ 235℃ b) Method B @ 215℃ category 3. c) Method D category 3 @ 260℃.	J-STD-002
Flammability	1.Meet UL94V-0 or V1.	V-0 or V-1 Acceptable	UL-94
Board Flex	1.No drop. 2.no solder connect broken.	60 sec minimum holding time.	AEC-Q200-005
Terminal Strength (SMD)	1.No cracking. 2.no part being sheared off from its pad.	Force of 1.8kg for 60 seconds.	AEC-Q200-006

TYPICAL RoHS REFLOW PROFILE

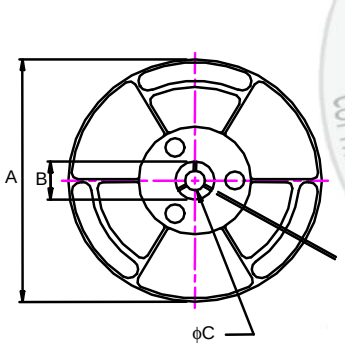


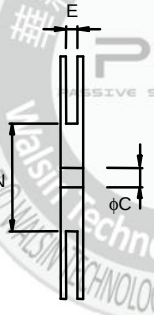
Packaging



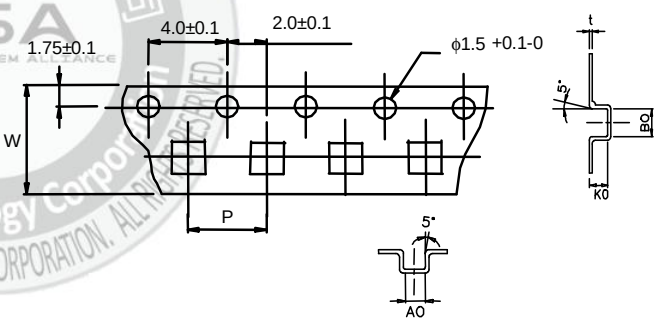
CARRIER TAPE REELS (mm)

MATERIAL: PLASTIC





DIMENSIONS OF CARRIER TAPE (mm)



※ 10 sprocket hole pitch cumulative tolerance ±0.20

UNIT : mm

	A	B	C	E	N	P	W	t	A0	B0	K0
DIM.	330	25.0	13.0	24.6	100	16.0	24.0	0.4	10.6	11.7	4.25
TOL.	±0.2	±0.5	±0.5	±0.5	MIN	±0.1	±0.3	±0.05	±0.1	±0.1	±0.1

Quantity per reel：500 pcs