

APPROVAL SHEET

WQPM545230*LC Series SMD Molded Power Inductors AEC-Q200 Compliant



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

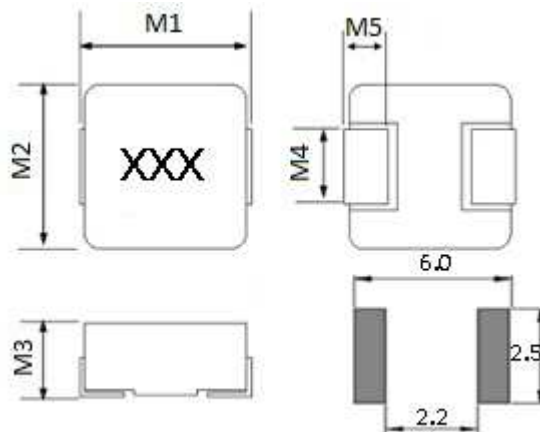
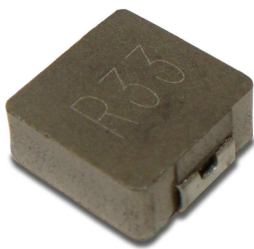
FEATURES

1. Shielded construction.
2. Ultra low buzz noise.
3. Low DCR/ μ H.
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



UNIT: mm

	DIM.	TOL.
M1	5.4	± 0.3
M2	5.2	± 0.3
M3	3.0	Max
M4	2.2	± 0.3
M5	1.2	± 0.2



MARKING AND DATE CODE

Marking ex: 2.2 μ H \rightarrow 2R2



Ordering Information

WQ	PM	5452	30	M	R20	L	C
Product Code	Series	Dimensions	Thickness	Tolerance	Value	Packing Code	C:
WQ: Inductor AEC- Q200	SMD Molded power inductor.	5.4* 5.2mm	3.0mm	M: ± 20%	R20=0.20uH 1R0=1uH 100=10uH	L=13" Reeled	C:

Electrical Characteristics

Part number	Inductance (μ H) $\pm 20\%$	DC Resistance (m Ω)		Rated Current (A) Typical	I sat (A) Typical
		Typical	Max.		
WQPM545230MR20LC	0.20	3.5	3.9	18.0	14.5
WQPM545230MR47LC	0.47	7.4	8.5	13.5	12.0
WQPM545230MR68LC	0.68	11	12	8.5	14.0
WQPM545230M1R0LC	1.0	13	14	7.0	11.0
WQPM545230M1R2LC	1.2	15	16	6.5	11.0
WQPM545230M1R5LC	1.5	20	25	6.0	8.5
WQPM545230M2R2LC	2.2	25	29	5.5	7.5
WQPM545230M3R3LC	3.3	32	38	5.0	6.0
WQPM545230M4R7LC	4.7	50	60	3.5	5.0
WQPM545230M6R8LC	6.8	75	90	3.0	4.0
WQPM545230M100LC	10.0	110	125	2.5	3.5

NOTE

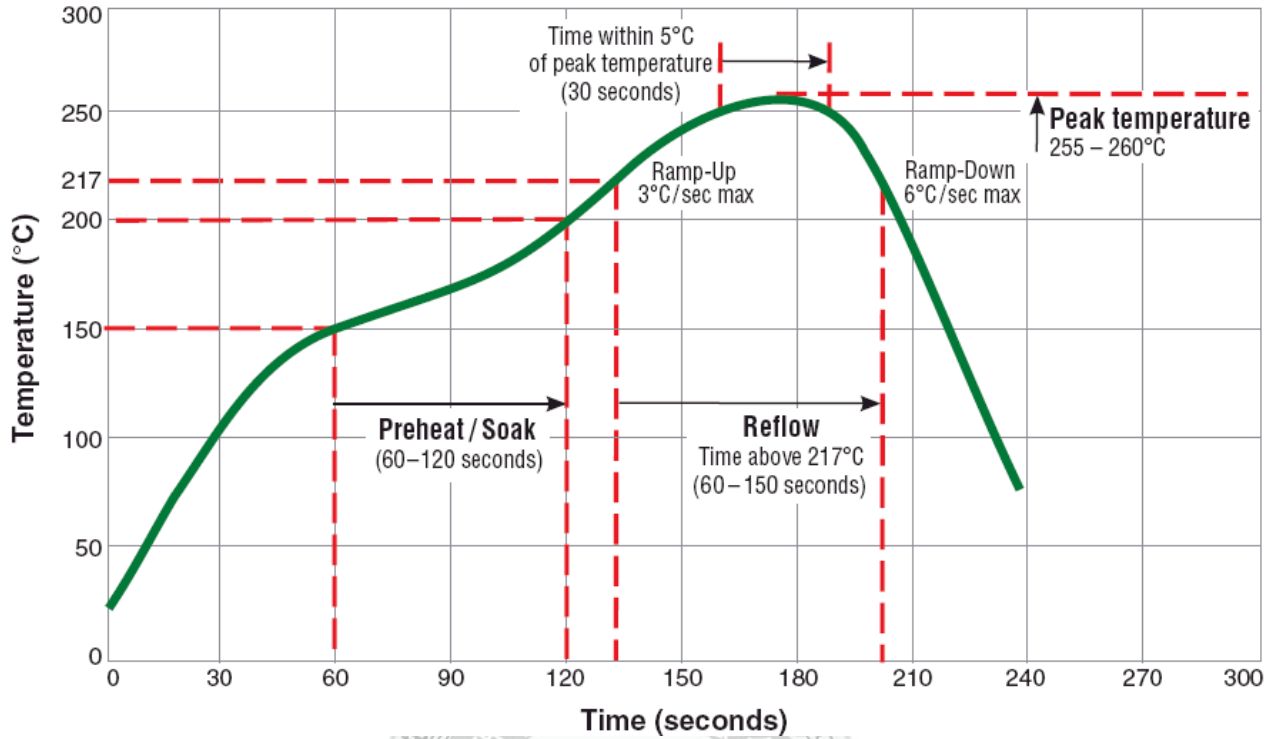
1. TOLERANCE: M:±20%
2. INDUCTANCE · RATED CURRENT · I sat MEASURED AN HP4284A, CH11025, CH3302, CH1320, CH1320S LCR METER.
3. DCR MESASURED USING A CH16502.
4. CURRENT THAT CAUSES A 15°C TEMPERATURE RISE FROM 25°C AMBIENT.
5. ELECTRICAL SPECIFICATIONS AT 25°C.
6. OPERATING TEMPERATURE: -40°C ~ +125°C.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

RELIABILITY PERFORMANCE

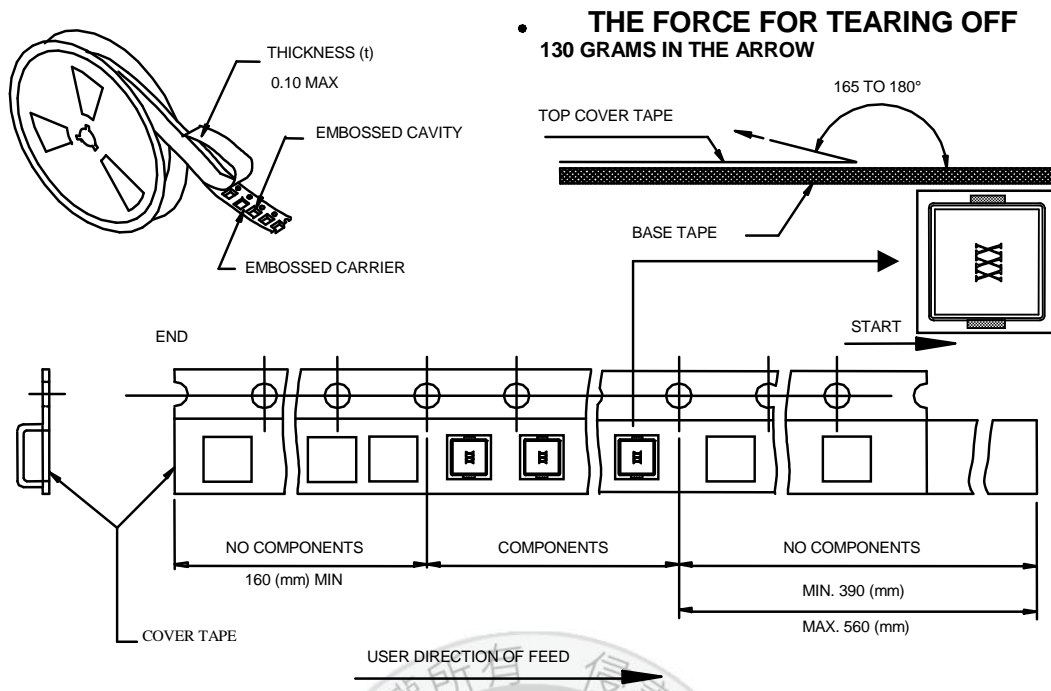
Test Item	Accept criteria	Test Condition	Standard Source
High Temperature Exposure (Storage)	1.Change from an initial value L:within±20% 2.no visible damage.	1000 hrs. at rated operating temperature (e.g. 125°C part can be stored for 1000 hrs. @ 125°C. Same applies for 105°C and 85°C. Unpowered. Measurement 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°C to +125°C). Note: If 85°C part or 105°C 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°C/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°C. If 85°C or 125°C part will be tested 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°C, category 3. SMD: a) Method B, 4 hrs @ 155°C dry heat @ 235°C b) Method B @ 215°C category 3. c) Method D category 3 @ 260°C.	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

Typical RoHS Reflow Profile

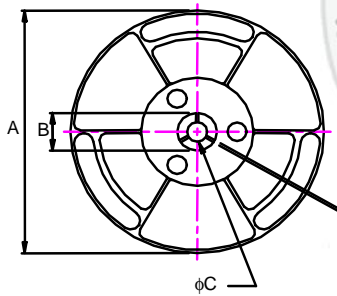


Packaging

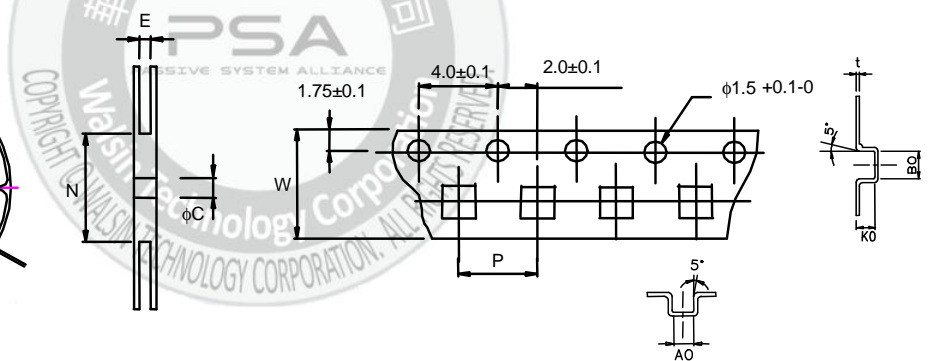


■ CARRIER TAPE REELS (mm)

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	12.5	100	8.0	12.0	0.4	5.7	5.9	3.6
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 : 2K pcs