RoHS Pb

For AC Signal Only

Chip Common Mode Filter (MCM1220B Series) Engineering Specification

■ PRODUCT DETAIL

Part No.	Imp. Com. (Ω)±25% @100MHz	DCR Max. (Ω)	Rated Current Max(mA)	Rated Voltage (V)	Withstand Voltage (V)	Insulation Resistance Min.(MΩ)
MCM1220B900GB_	90	0.50	400	10	25	200
MCM1220B121GB_	120	0.50	400	10	25	200
MCM1220B181GB_	180	0.55	400	10	25	200
MCM1220B221FB_	220	0.55	300	10	25	200
Test Instruments	•HP4291B RF IMPEDANCE / MATERIAL ANALYZER •HP4338A/B MILLIOHMMETER •Agilent 8720ES S-PARAMETER NETWORK ANALYZER •HP6632B SYSTEM DC POWER SUPPLY •Keithley 2410 1100V SOURCE METER					

** For special part number which is not shown in the above table, please refer to appendix.

■ PART NUMBER CODE

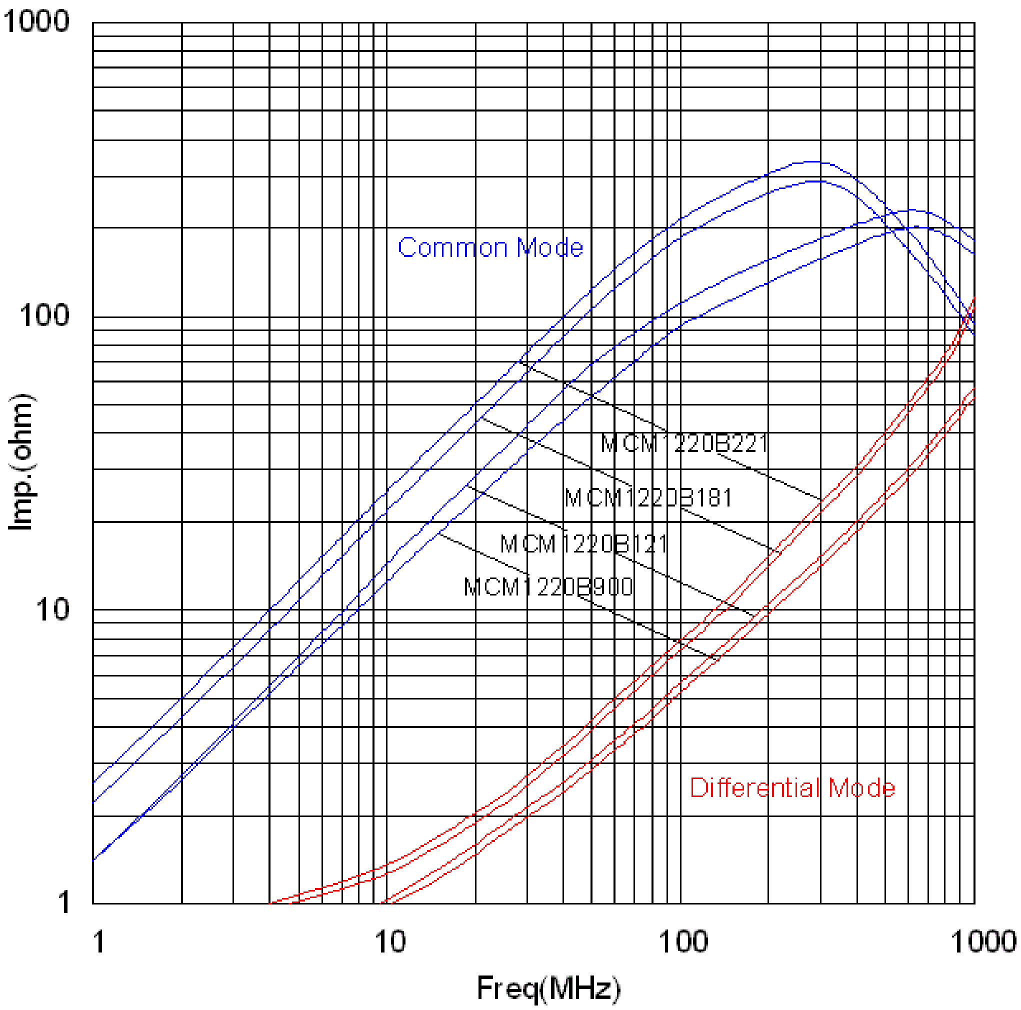
MCM	1220	B	90	0	G	B	E
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*

1 **Series Name**
2 **Size Code: the first two digitals : length(mm), the last two digitals : width(mm)**
3 **Material Code**
4 **Impedance(Ω) ± 25%**
5 **Fixed Decimal Point**
(ex：900=90Ω ；121=120Ω)
6 **Rated Current Code**

A=50mA	B=80mA	C=100mA	D=150mA	E=200mA	F=300mA
G=400mA	H=500mA	I =600mA	J =700mA	K=800mA	

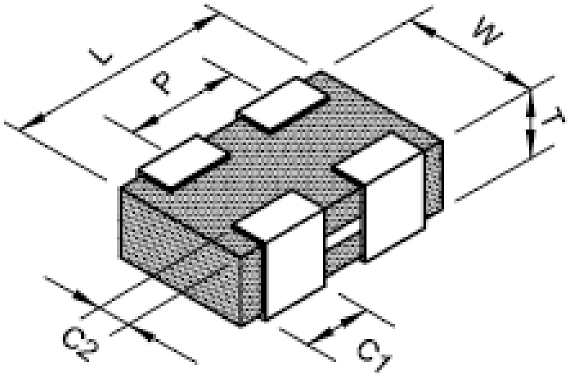
7 **Soldering : Green Parts: A— Soldering Lead-Free B— Lead-Free for whole chip**
8 **Packaging: E - Embossed plastic tape, 7" reel.**

■ IMPEDANCE vs. FREQUENCY CHARACTERISTICS



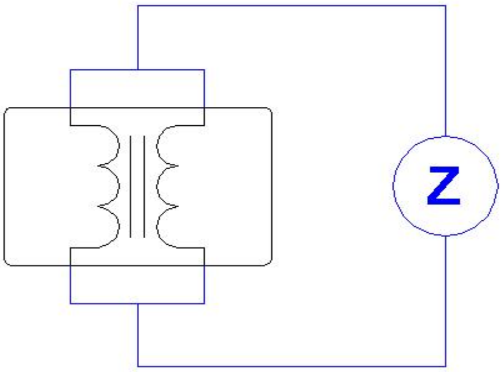
■ SHAPES AND DIMENSIONS

TYPE	1220
L	2.00 ± 0.20
W	1.25 ± 0.20
T	1.00 ± 0.10
P	1.00 ± 0.20
C1	0.60 ± 0.20
C2	0.25 ± 0.20
Unit: mm	

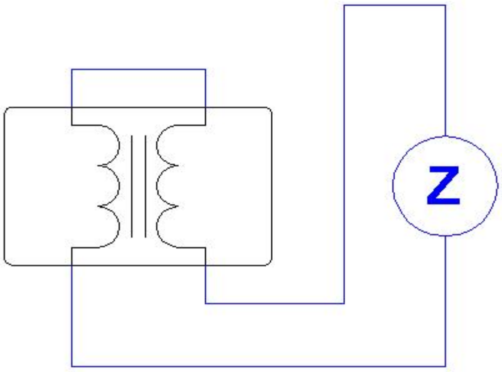


■ MEASURING CIRCUITS

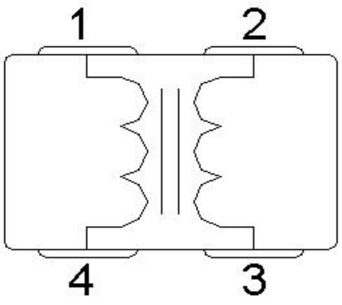
(A):Common mode

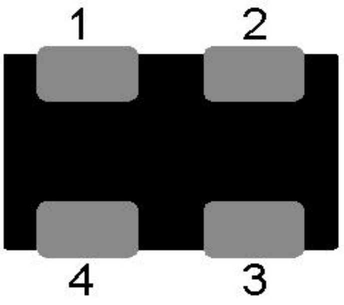


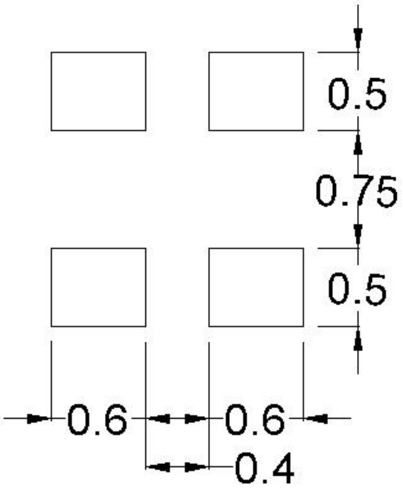
(B):Differential mode



■ CIRCUIT CONFIGURATION & LAYOUT PAD

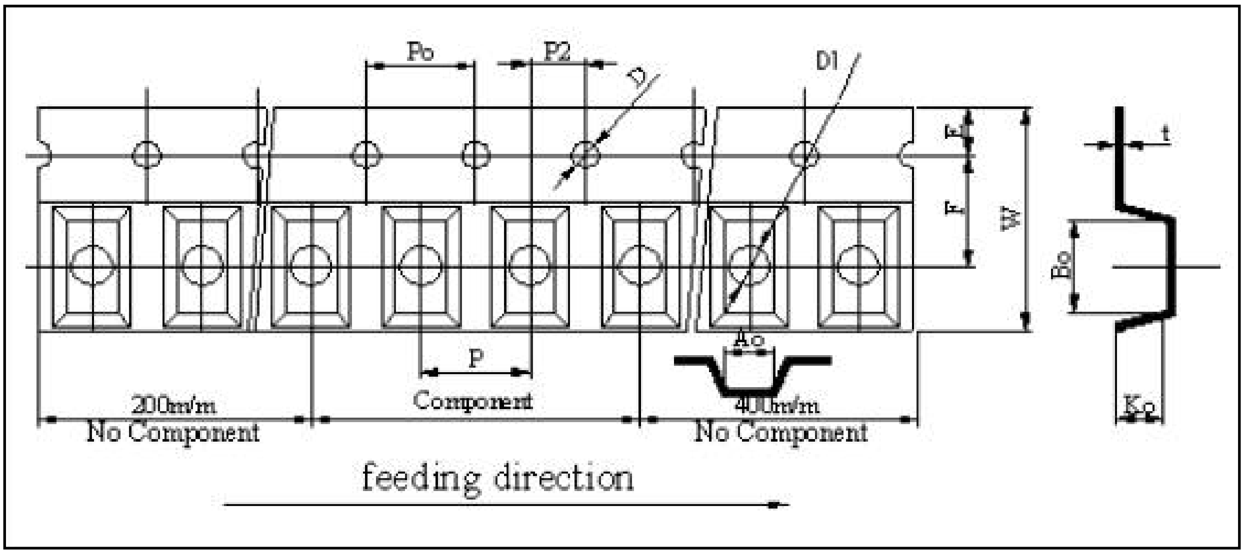






TAPE AND REEL SPECIFICATIONS

PLASTIC CARRIER



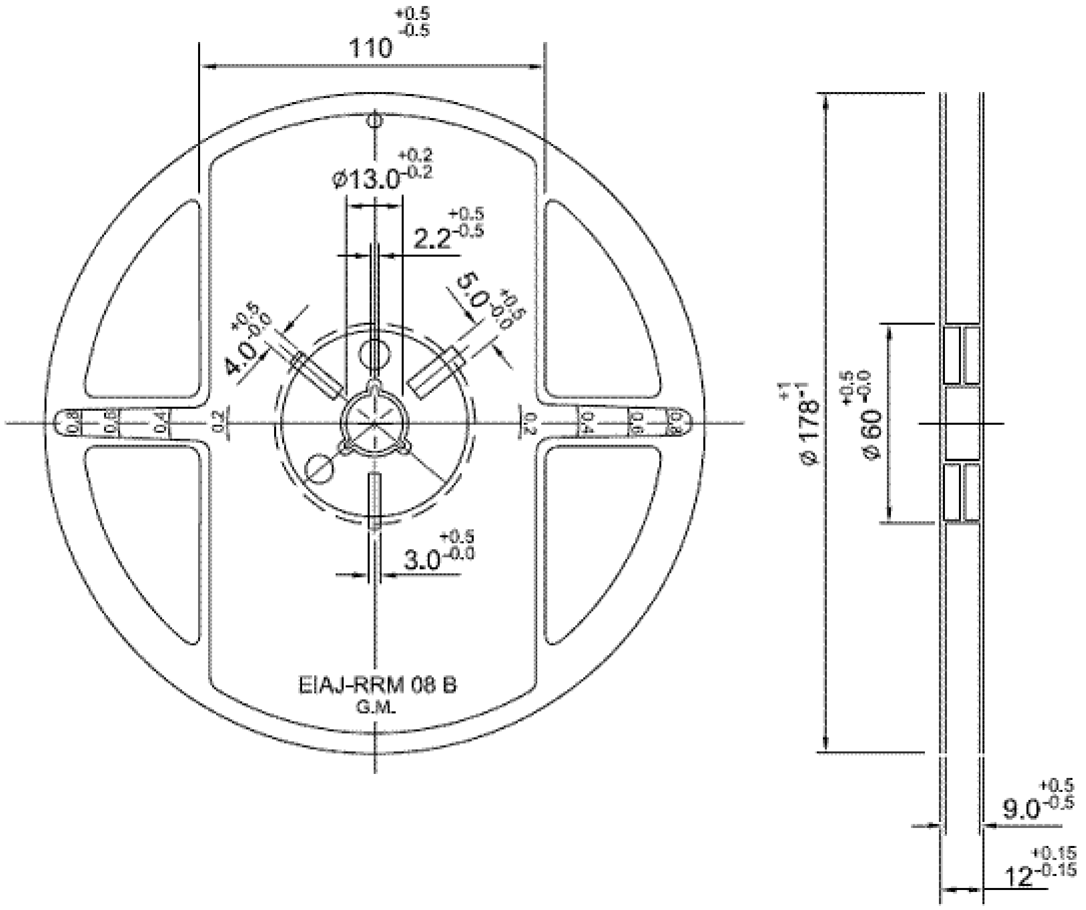
TAPING DIMENSIONS

Unit: mm

Symbol	Size	Symbol	Size
W	7.90~8.30	Po	4.00 ±0.10
P	4.00 ±0.10	P2	2.00 ±0.05
E	1.75 ±0.10	Ao	1.42 ±0.10
F	3.50 ±0.05	Bo	2.26 ±0.10
D	1.50 ±0.05	Ko (T)	1.30 ±0.10
D1	0.95~1.20	t	0.23 ±0.10

■ REEL DIMENSIONS

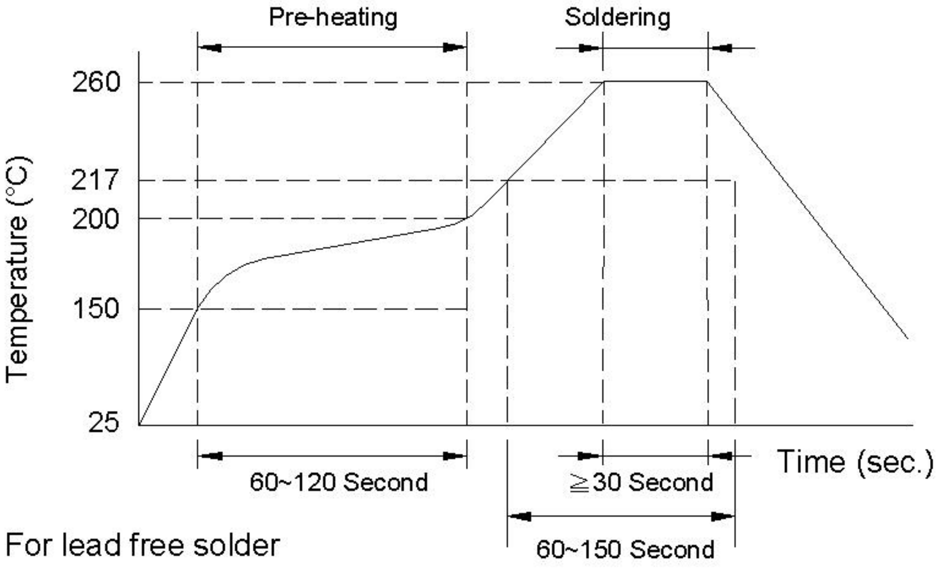
Unit: mm



■ STANDARD QUANTITY FOR PACKAGING

PART SIZE (EIA SIZE)	Reel backaging quantity	Inner box
1220 (0508)	3000 pcs/reel	5 reel/inner box

■ RECOMMENDED SOLDERING CONDITIONS



■ RELIABILITY AND TEST CONDITION

Test item	Test condition	Criteria

Temperature Cycle	A. Temperature : -40 ~ +85℃ B. Cycle : 100 cycles C. Dwell time : 30minutes Measurement : at ambient temperature 24 hrs after test completion	A. No mechanical damage B. Impedance value should be within ± 20 % of the initial value
Operational Life	A. Temperature : 85℃ ± 5℃ B. Test time : 1000 hrs C. Apply current : full rated current Measurement : at ambient temperature 24 hrs after test completion	A. No mechanical damage B. Impedance value should be within ± 20 % of the initial value
Biased Humidity	A. Temperature : 40 ± 2℃ B. Humidity : 90 ~ 95 % RH C. Test time : 1000 hrs D. Apply current : full rated current Measurement : at ambient temperature 24 hrs after test completion	A. No mechanical damage B. Impedance value should be within ± 20 % of the initial value
Test item	**Test condition**	**Criteria**
Resistance to Solder Heat	A. Solder temperature : 260 ± 5℃ B. Flux : Rosin C. DIP time : 10 ± 1 sec	A. More than 95 % of terminal electrode should be covered with new solder B. No mechanical damage C .Impedance value should be within ± 20 % of the initial value
Steam Aging Test	A. Temperature : 93 ± 2℃ B. Test time : 4 hrs(MCA) Others : 8 hrs C. Solder temperature : 235 ± 5℃ D. Flux : Rosin E. DIP time : 5 ± 1 sec	More than 95 % of terminal electrode should be covered with new solder

■ GENERAL TECHNICAL DATA

Operating temperature range : - 40℃ ~ +85℃

Storage Condition : Less than 40℃ and 70% RH

Storage Time: 6 months Max.

Soldering method: Reflow or Wave Soldering