Product Engineering Specification
MCM2012B SERIES (Chip Common Mode Filter)

■ FEATURES AND APPLICATION

Powerful components with composite co-fired material to solve EMI problem for high speed differential signal transmission line as USB, and LVDS, without distortion to high speed signal transmission.

This product belongs to the industrial grade standard, not the vehicle gauge product! Cannot use auto parts, if the customer is not expressly informed and privately used to auto parts, produce any consequences, the original is not responsible for after-sales service, thank you!

■ 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)
MCM2012B670GA	67	0.40	400	10	25	200
MCM2012B900GA	90	0.40	400	10	25	200
MCM2012B121GA	120	0.40	400	10	25	200
MCM2012B161GA	160	0.50	400	10	25	200
MCM2012B181GA	180	0.50	400	10	25	200
MCM2012B221GA	220	0.50	300	10	25	200
Test Instruments	□Agilent E4991A RF IMPEDANCE / MATERIAL ANALYZER □HP4338 MILLIOHMMETER □Agilent E5071C ENA SERIES NETWORK ANALYZER □Keithley 2410 1100V SOURCE METER					

RoHS

■ PART NUMBER CODE

MCM	2012	B	90	0	G	A
1	*2*	*3*	*4*	*5*	*6*	*7*

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

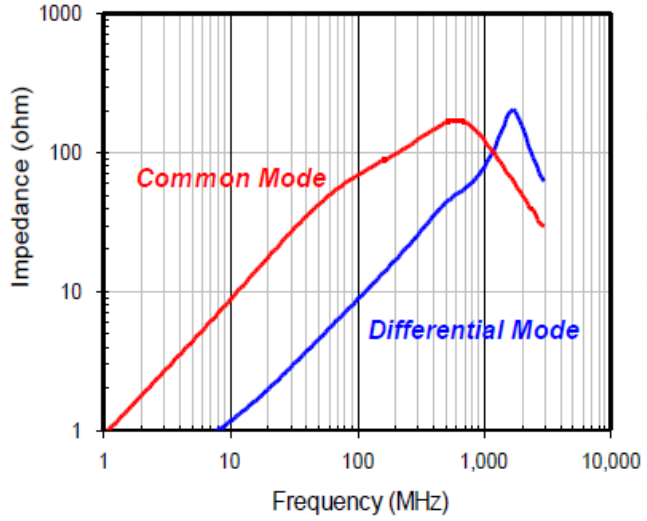
A=50mA	B=80mA	C=100mA	D=150mA	E=200mA	F=300mA
G=400mA	H=500mA	I =600mA	J =700mA	K=800mA	

7 Soldering: Green Parts: A— Lead-Free

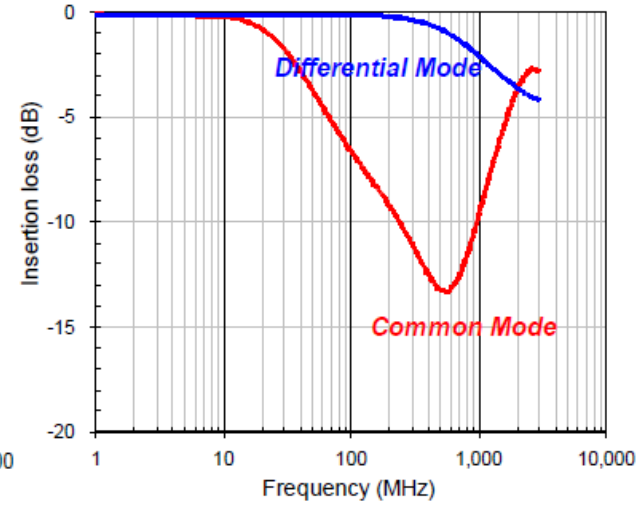
■ IMPEDANCE VS. FREQUENCY CHARACTERISTICS

MCM2012B670

IMPEDANCE vs. FREUQENCY CHARACTERISTICS



INSERTION LOSS vs. FREUQENCY CHARACTERISTICS



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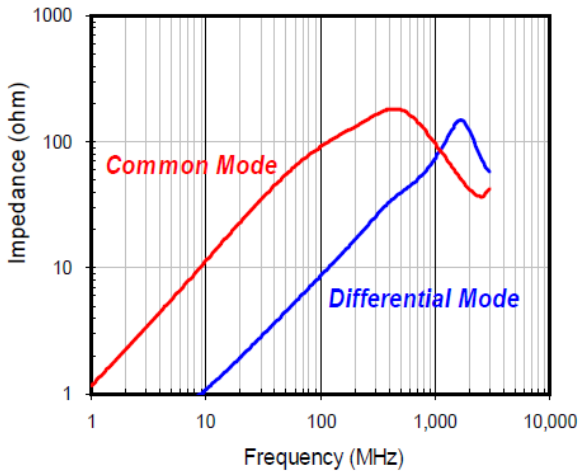
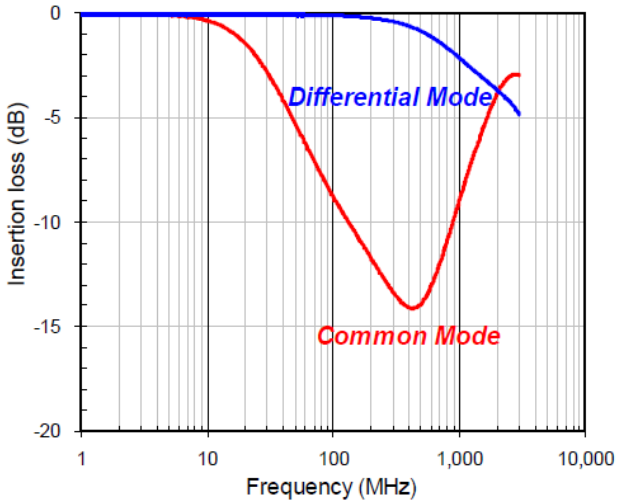
MCM2012B900

IMPEDANCE vs. FREUQENCY CHARACTERISTICS

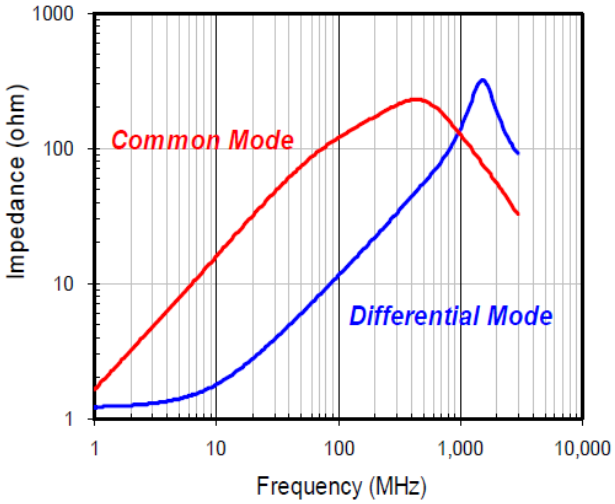


INSERTION LOSS vs. FREUQENCY CHARACTERISTICS

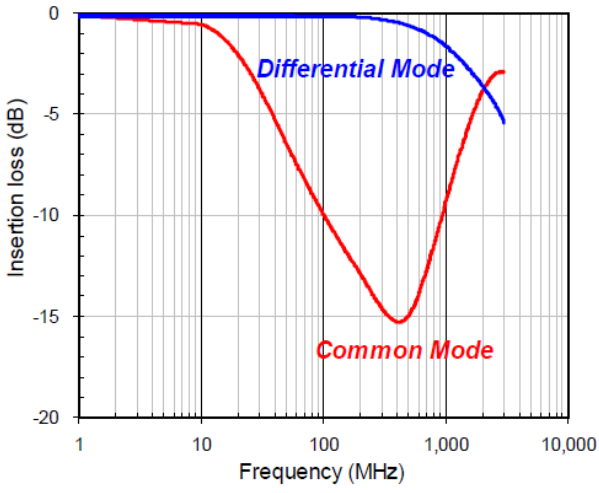


MCM2012B121

IMPEDANCE vs. FREUQENCY CHARACTERISTICS



INSERTION LOSS vs. FREUQENCY CHARACTERISTICS



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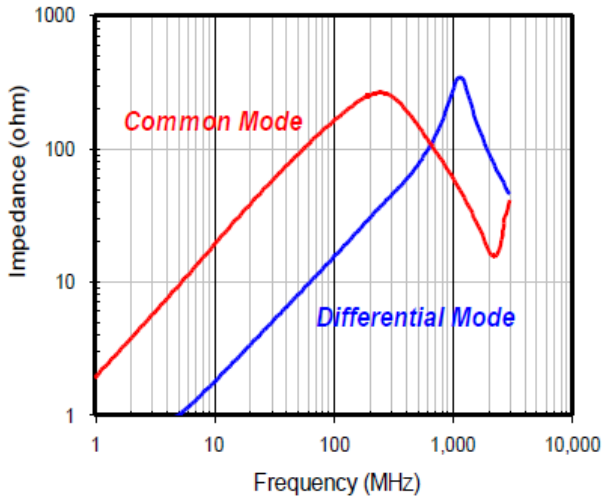
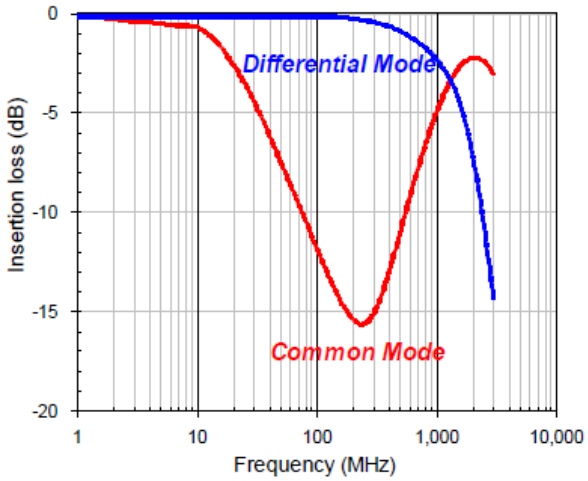
MCM2012B161

IMPEDANCE vs. FREUQENCY CHARACTERISTICS



INSERTION LOSS vs. FREUQENCY CHARACTERISTICS



MCM2012B181

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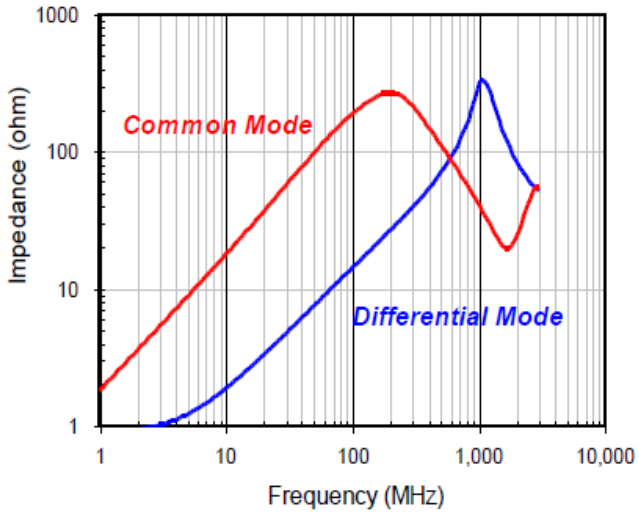
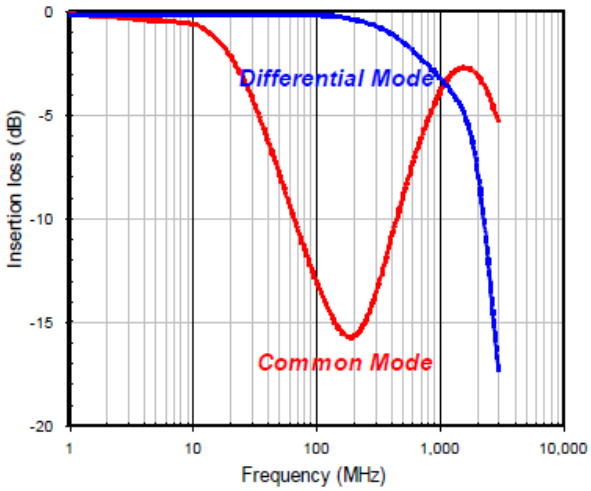


INSERTION LOSS vs. FREUQENCY CHARACTERISTICS



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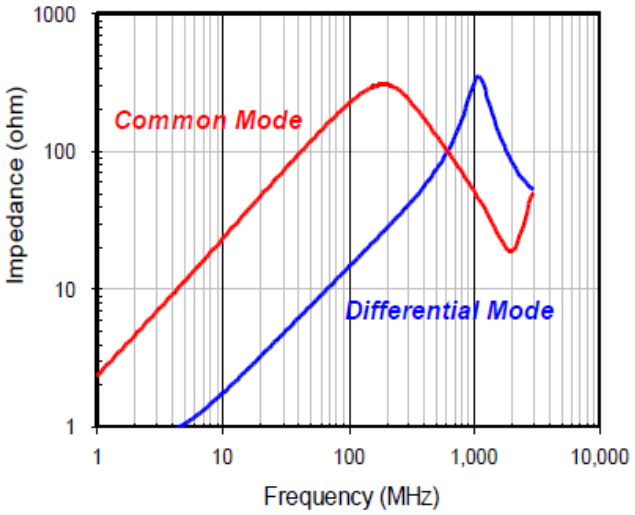
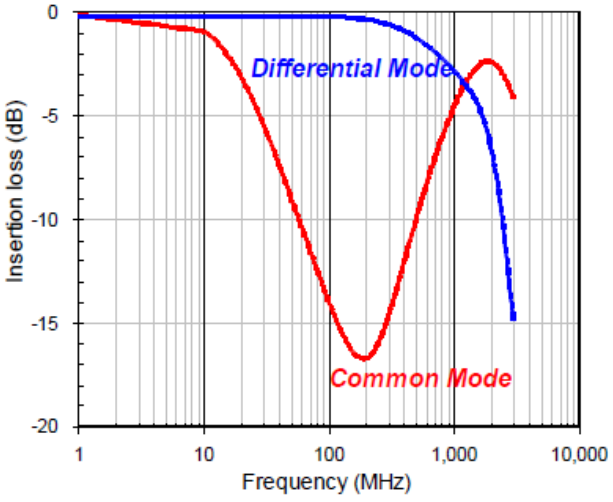
MCM2012B221

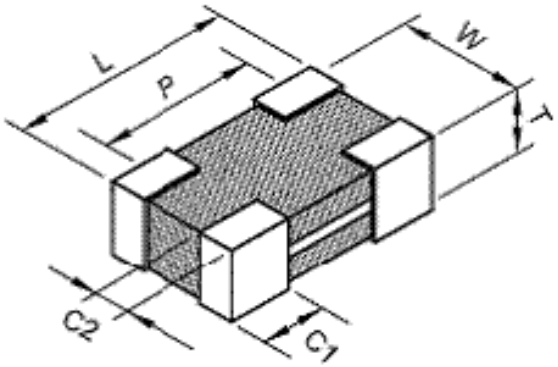
IMPEDANCE vs. FREUQENCY CHARACTERISTICS



INSERTION LOSS vs. FREUQENCY CHARACTERISTICS



■ SHAPES AND DIMENSIONS

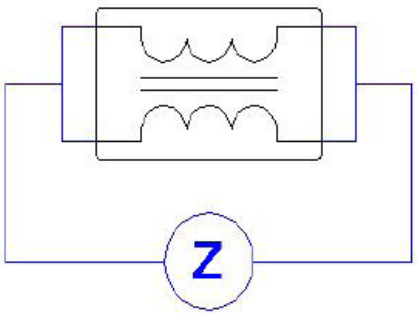


Unit: mm

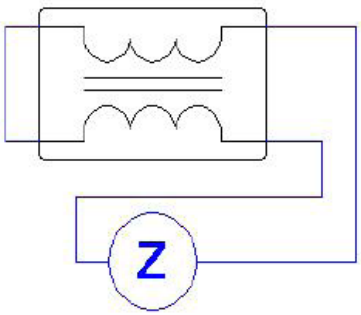
TYPE	2012
L	2.00±0.20
W	1.25±0.20
T	1.00±0.10
P	1.60±0.20
C1	0.40±0.20
C2	0.30±0.20

MEASURING CIRCUITS

(A):Common mode



(B):Differential mode



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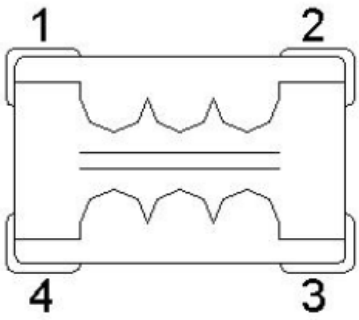
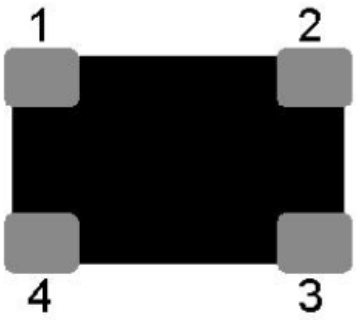
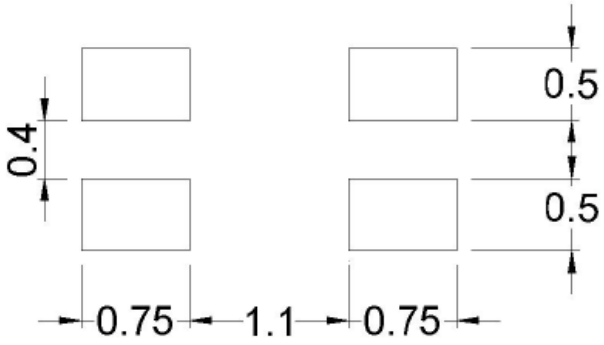
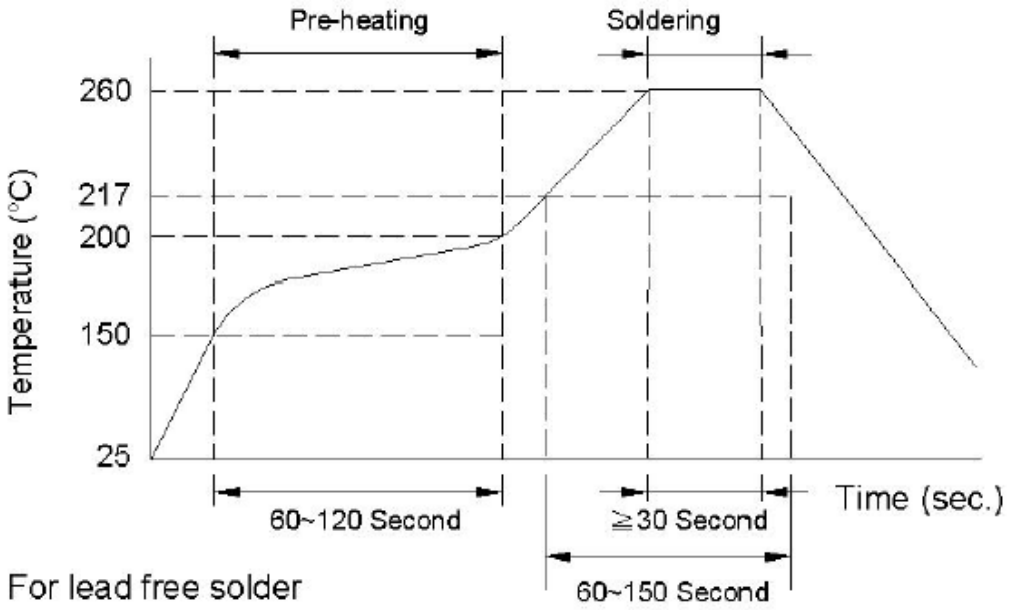
■ CIRCUIT CONFIGURATION & LAYOUT PAD







■ RECOMMENDED SOLDERING CONDITIONS



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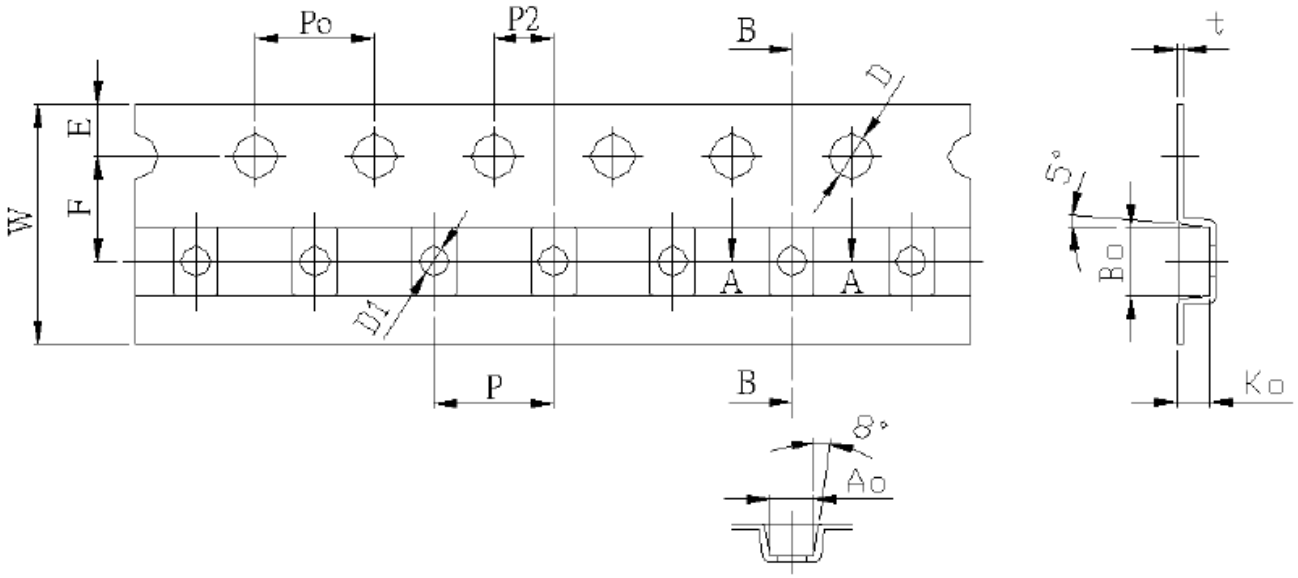
■ RELIABILITY AND TEST CONDITION

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. Applied current: Full rated current Measurement: at ambient temperature 24 hours 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. Applied current: Full rated current Measurement: at ambient temperature 24 hours after test completion	A. No mechanical damage B. Impedance value should be within ±20% of the initial value
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

■ TAPE AND REEL SPECIFICATIONS

PLASTIC CARRIER



1. Taping Dimensions

Unit：mm

Symbol	Size	Symbol	Size
W	8.00±0.10	D1	1.00 ±0.10
P	4.00 ±0.10	Po	4.00 ±0.10
E	1.75 ±0.10	Ao	1.40 ±0.10
F	3.50 ±0.05	Bo	2.30 ±0.10
P2	2.00 ±0.05	Ko	1.13 ±0.10
D	$1.50^{+0.10}_{-0}$	t	0.22 ±0.05

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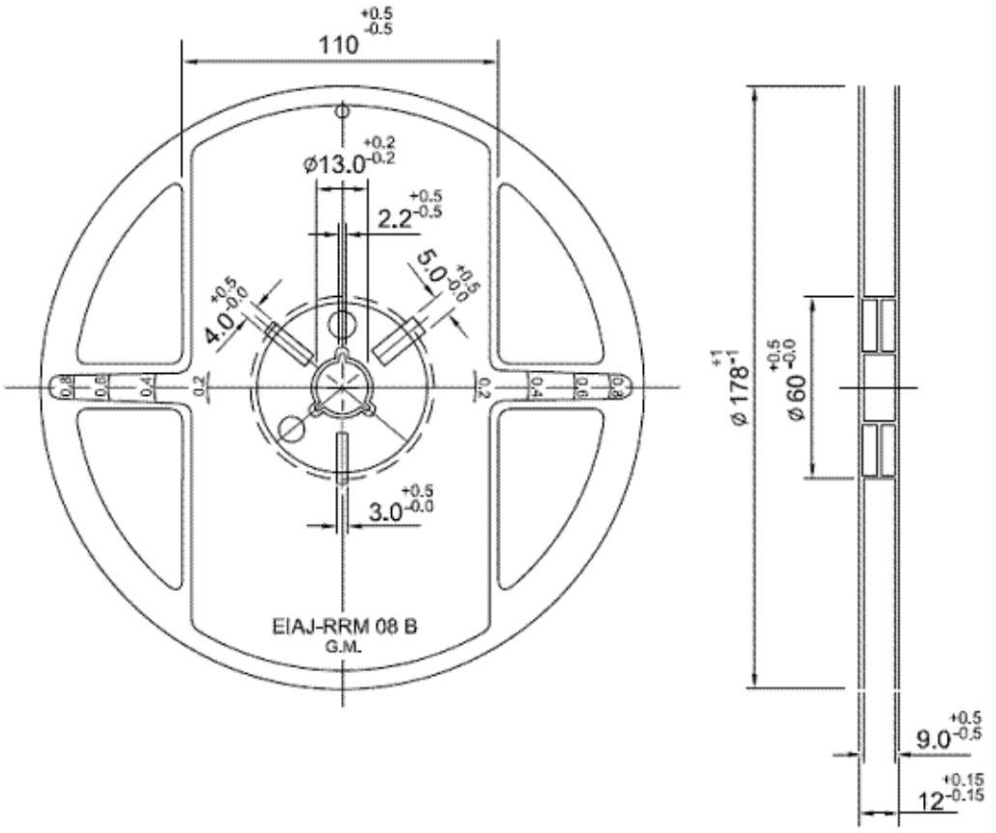
2. REEL DIMENSIONS

Unit: mm



Reel Packaging Quantity		
PART SIZE (EIA SIZE)		**2012 (0805)**
7" REEL	**Qty. (pcs)**	3,000

■ GENERAL TECHNICAL DATA

Operating temperature range : - 40℃~ +85℃

Storage temperature: Less than 40℃ and 70%RH.

Storage Time: 6 months Max.

Soldering method: Reflow

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