MCM2012 Series

ROHS

(Chip Common Mode Filter) Engineering Specification

www.unsemi.com.tw

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.

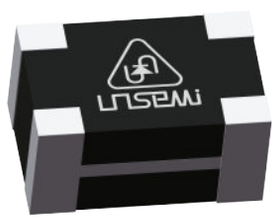
Part Numbering

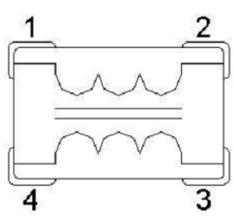
MCM	2012	B	90	0	G	B	E
1	2	3	4	5	6	7	8

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 style E – Embossed paper tape, 7”reel.





Product Detail

Part Number	Imp.Com. (Ω)±25% @100MHz	DCR Max. (Ω)	Rated Current Max. (mA)	Rated Voltage (V)	Withstand Voltage (V)	Insulation Resistance Min. (MΩ)
MCM2012B670GBE	67	0.4	400	10	25	200
MCM2012B900GBE	90	0.4	400	10	25	200
MCM2012B121GBE	120	0.4	400	10	25	200
MCM2012B161GBE	160	0.4	400	10	25	200
MCM2012B181GBE	180	0.4	400	10	25	200
MCM2012B221FBE	220	0.4	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					

Typical Characteristics

MCM2012B670GBE

Fig. 1 Impedance vs. Freuqency Characteristics

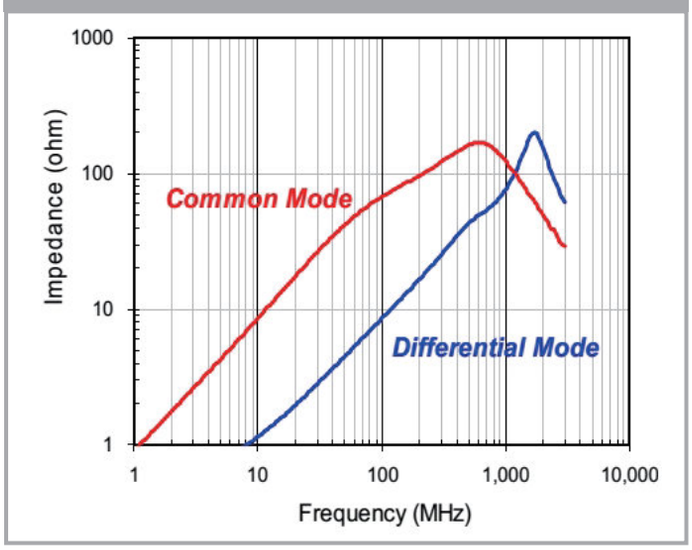
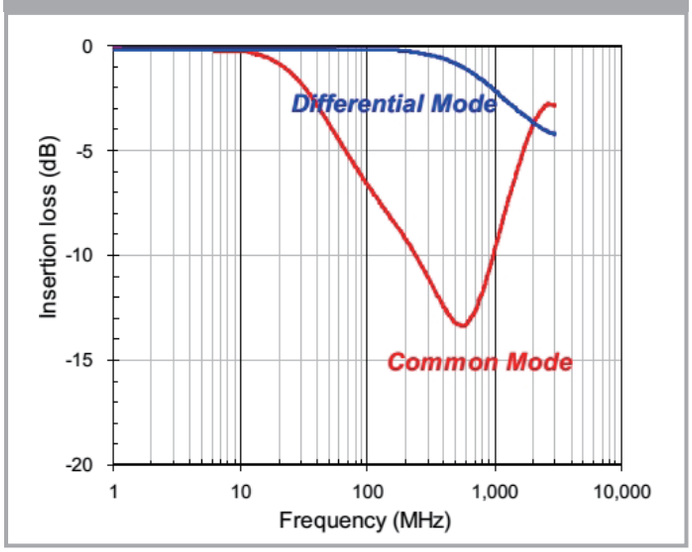


Fig. 2 Insertion Loss vs. Freuqency Characteristics



MCM2012B900GBE

Fig. 3 Impedance vs. Freuqency Characteristics

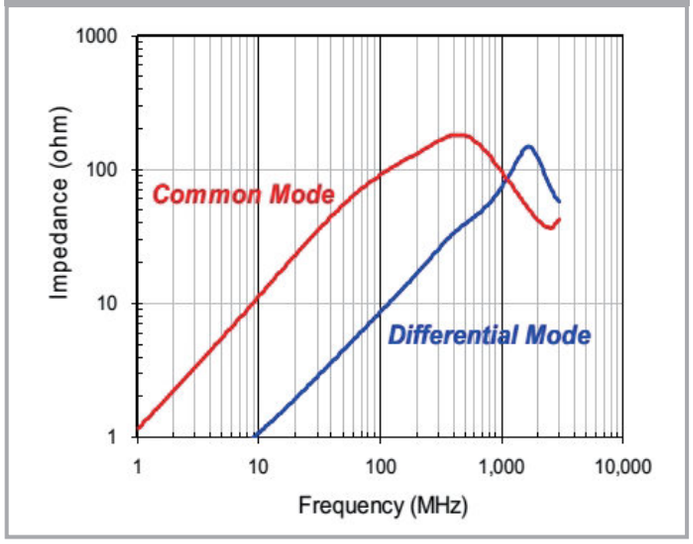
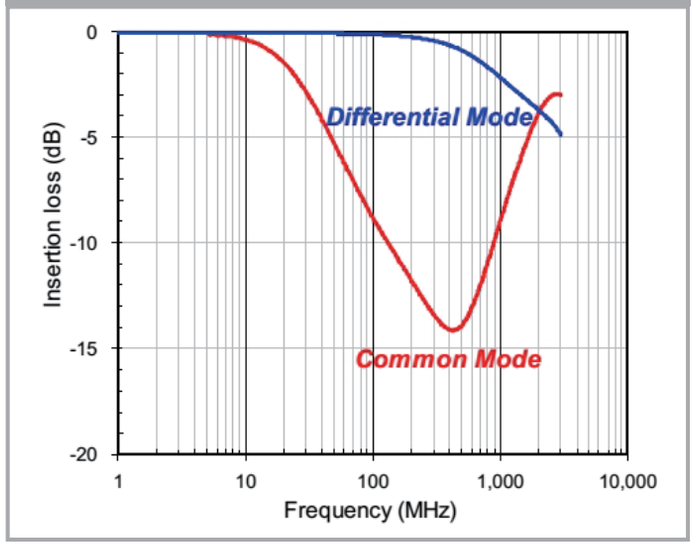


Fig. 4 Insertion Loss vs. Freuqency Characteristics



Typical Characteristics

MCM2012B121GBE

Fig. 5 Impedance vs. Freuqency Characteristics

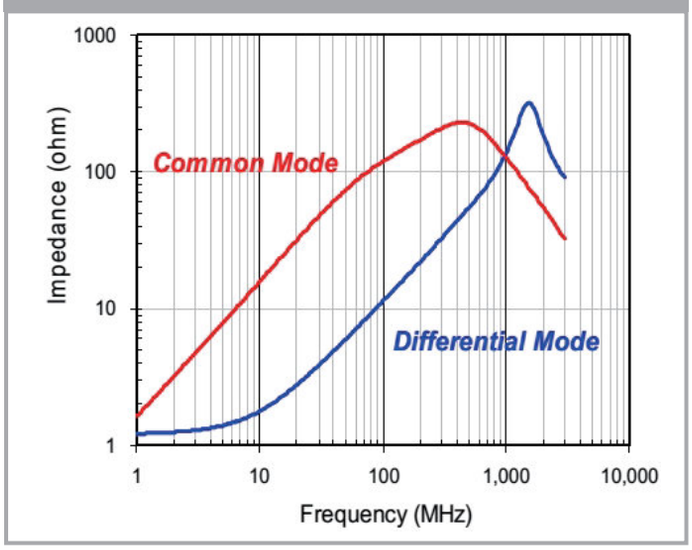
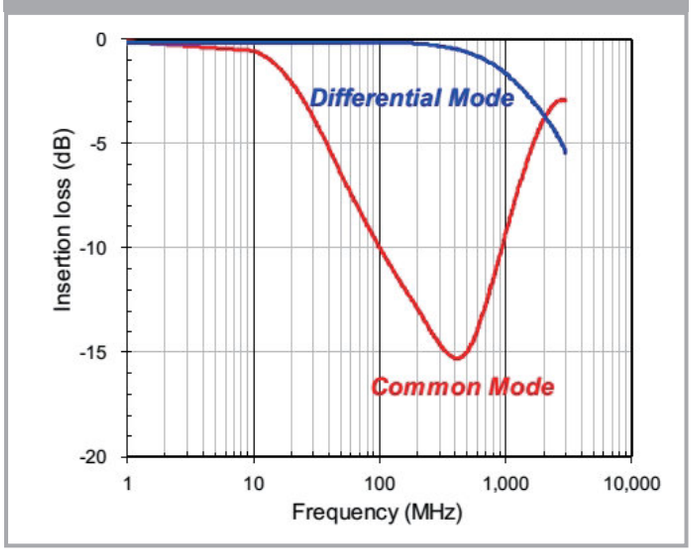


Fig. 6 Insertion Loss vs. Freuqency Characteristics



MCM2012B161GBE

Fig. 7 Impedance vs. Freuqency Characteristics

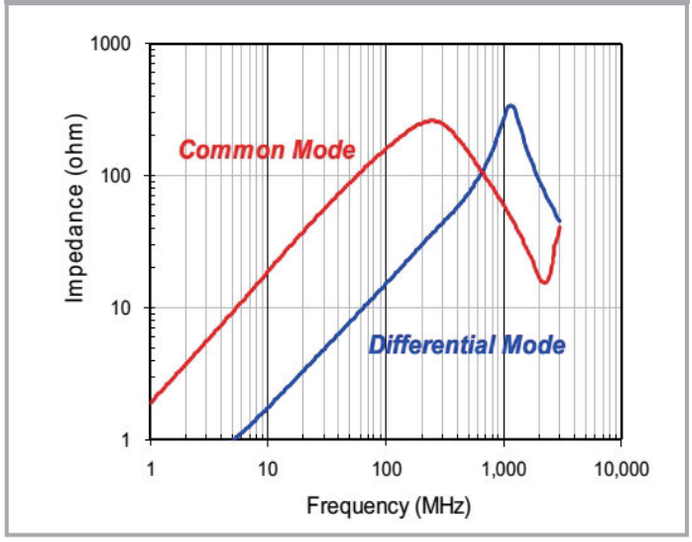
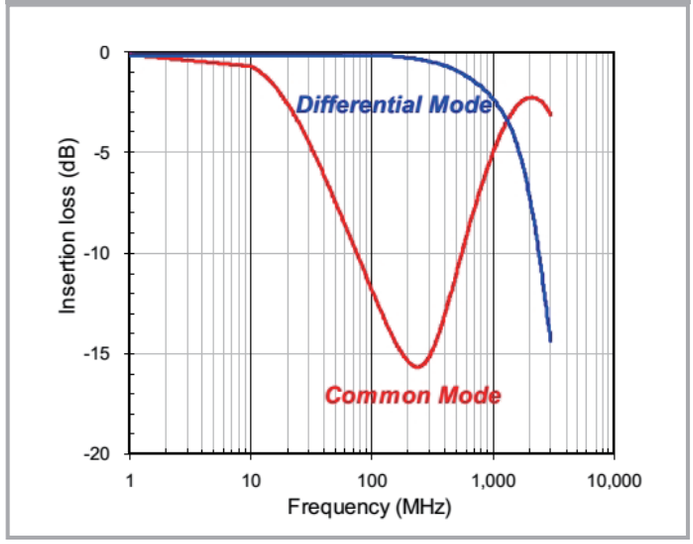


Fig. 8 Insertion Loss vs. Freuqency Characteristics



Typical Characteristics

MCM2012B181GBE

Fig. 9 Impedance vs. Freuqency Characteristics

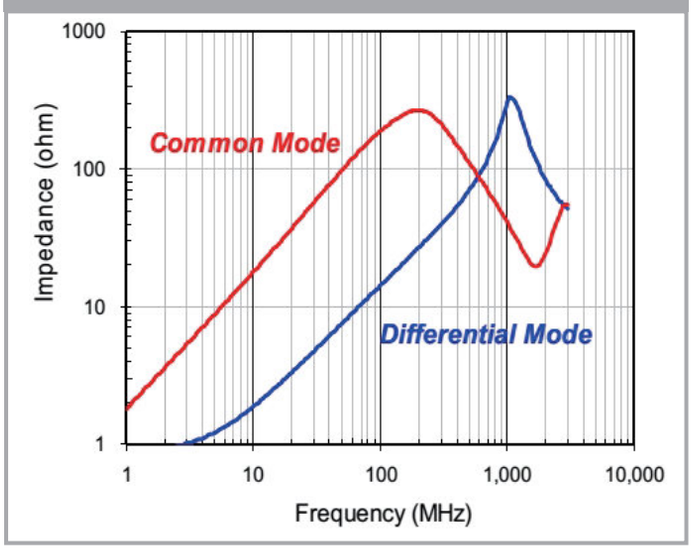
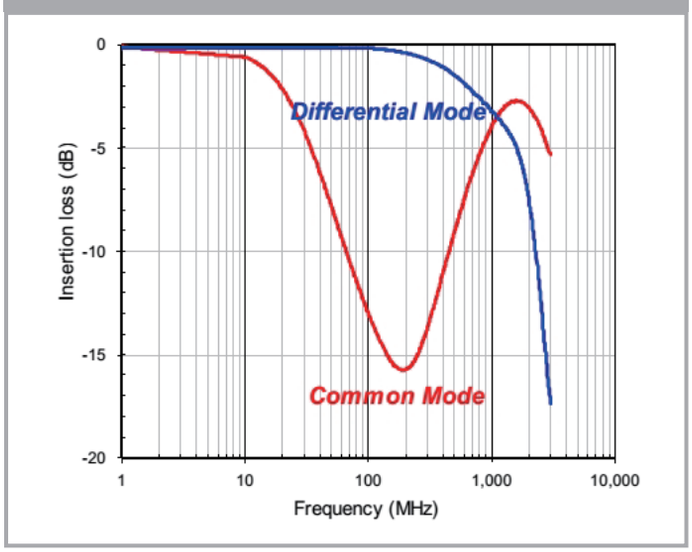


Fig. 10 Insertion Loss vs. Freuqency Characteristics



MCM2012B221FBE

Fig. 11 Impedance vs. Freuqency Characteristics

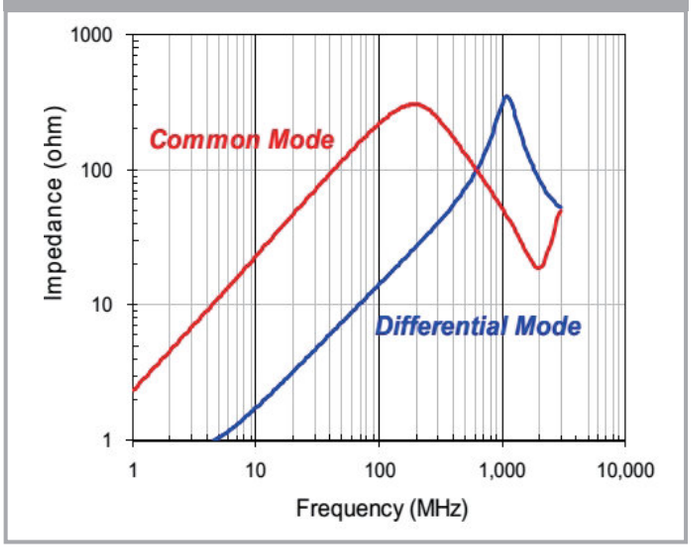
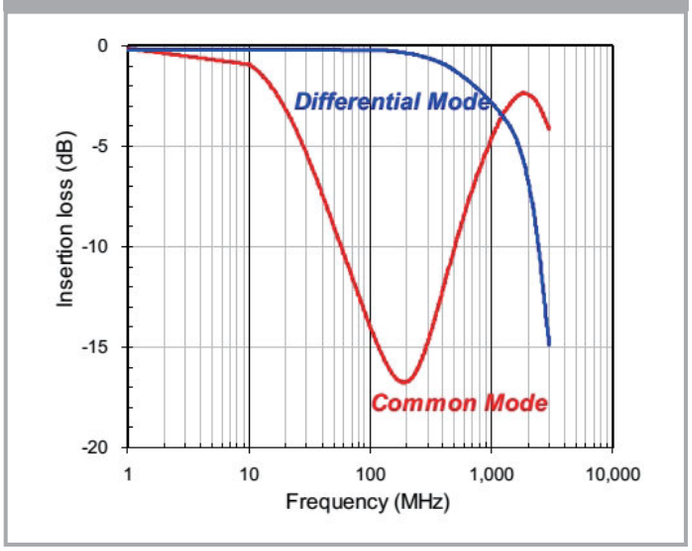
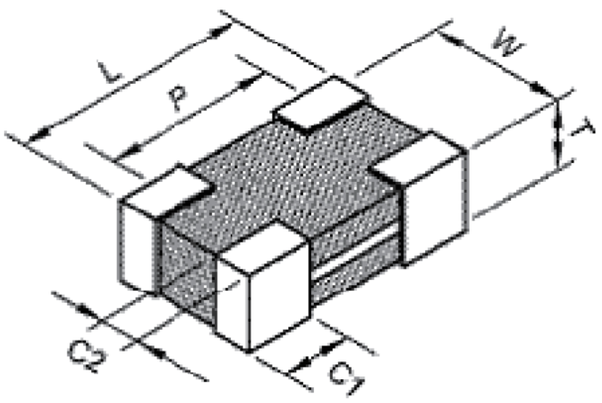


Fig. 12 Insertion Loss vs. Freuqency Characteristics



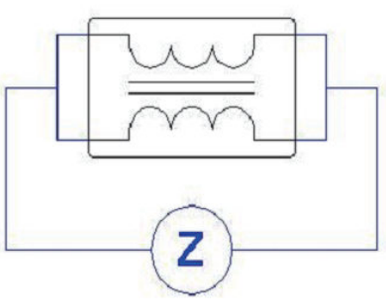
Shares and Dimensions



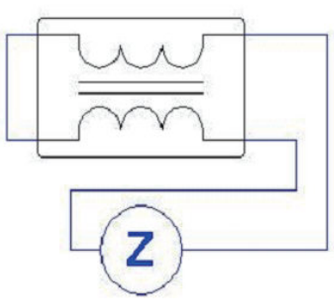
Type	Dimensions
L	2.00±0.20
W	1.25±0.20
T	1.00±0.10
P	1.60±0.20
C1	0.40±0.20
C2	0.30±0.20
Unit : mm	

Measuring Circuits

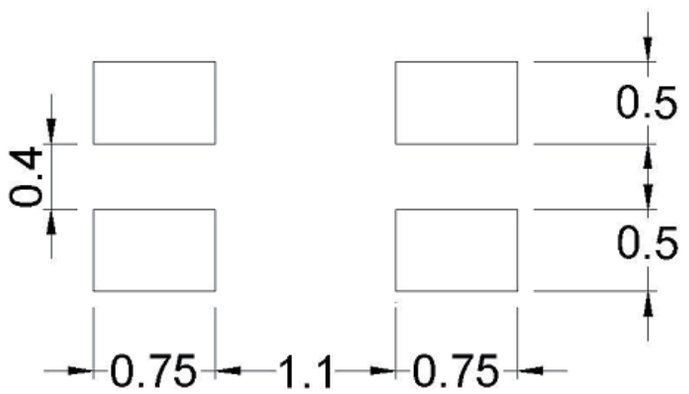
(A):Common mode



(B):Differential mode

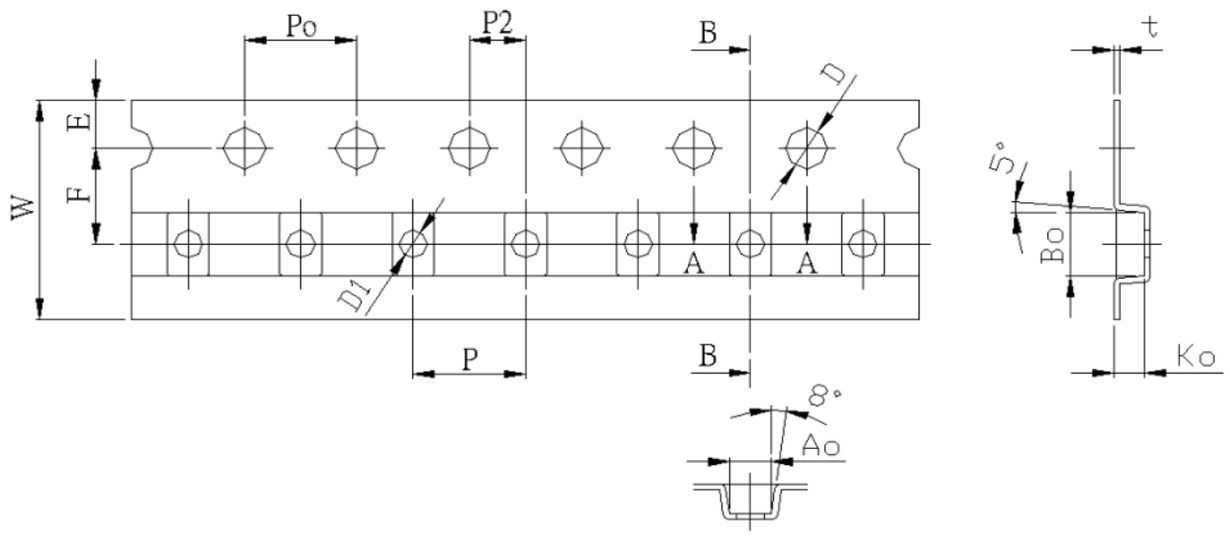


Circuit Configutation & Layout Pad



Tape and Reel Specifications / Taping Dimensions

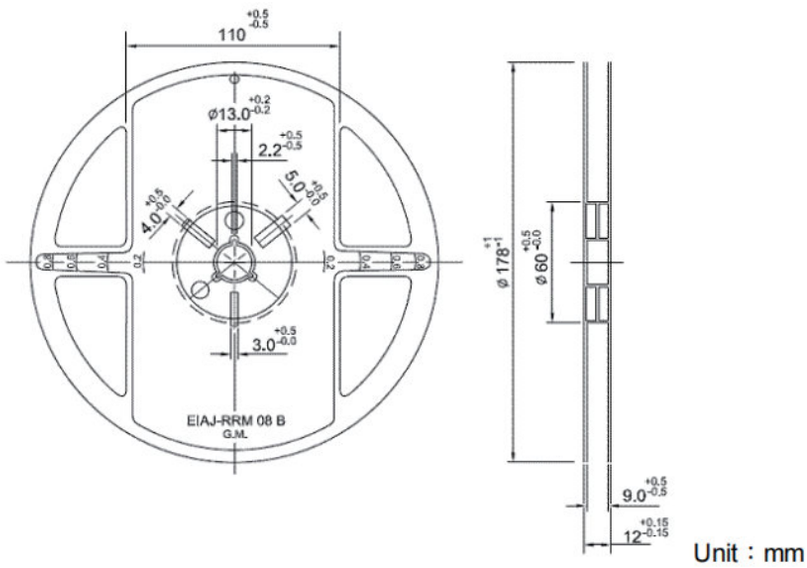
Type : Paper Carrier



Unit : mm

Symbol	Size	Symbol	Size
W	8.00±0.10	D1	1.00±0.10
P	4.00±0.10	P0	4.00±0.10
E	1.75±0.10	A0	1.40±0.10
F	3.50±0.05	B0	2.30±0.10
P2	2.00±0.05	K0	1.13±0.10
D	1.50±0.10	t	0.22±0.05

Reel Dimensions



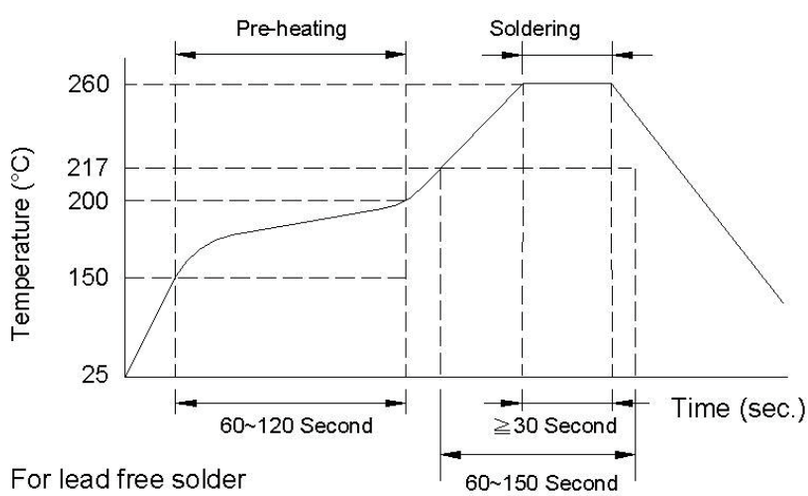
STANDARD QUANTITY FOR PACKAGING

Packaging style : Taping

Reel packaging quantity : 3000 pcs/reel

Inner box : 5 reel/inner box

Recommended Soldering Conditions



GENERAL TECHNICAL DATA

Opertation temperatur range : -40℃ ~ +85℃

Storage Condition : Less than 40℃ and 70% RH

Storage Time: 6 months Max.

Soldering method: Reflow or Wave Soldering

ROHS

Reliability and Test Condition

Test Item	Test Condition	Criteria
Temperature Cycle	A. Temperature : -40 ~ +85℃ B. Cycle : 100cycles C. Dwell time : 30minutes Measurement : at ambient temperature 24hrs 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 : 1000hrs C. Apply current : full rated current Measurement : at ambient temperature 24hrs 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 : 1000hrs D. Apply current : full rated current Measurement : at ambient temperature 24hrs 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 ± 1sec	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 : 4hrs(MCA) ,Others : 8hrs C. Solder temperature : 235 ± 5℃ D. Flux : Rosin E. DIP time : 5 ± 1sec	More than 95% of terminal electrode should be covered with new solder

優恩半導體 UNSEMI

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