TF1210A2X Series

COMMON MODE FILTER

TOP-EMC

1.Generals

1.This specification covers the engineering requirements for the TF1210A2X Series

2.Features

1. Miniature footprint: 1.25 X 1.00 X 0.6 mm
2. Multilayer LTCC (Low Temperature Cofired Ceramic) Technology
3. Reflow solderable SMD Devices
4. High Attenuation for common mode noise
5. Special 3D layout design to minimize phase shifting

3.Applications

1. EMI suppression on HDMI/ (mini)LVDS/ DVI/ SATA/ PCI-E/ Display Port high speed data transmission
2. PC related, LCD TV, PDP TV, Projector, STB, Blue-ray DVD, panel.

4.Part Number Code

T	F	1210A	2X	900	M	T
①	②	③	④	⑤	⑥	⑦

① Company Name: TOP-EMC

② Product Function: Common Mode Filter

③ Dimensions: 1.2mm (L) × 1.0mm (W)

④ Number of lines: 2X = 2 lines

⑤ Common Mode Impedance (at 100MHz): 900= 90 Ω

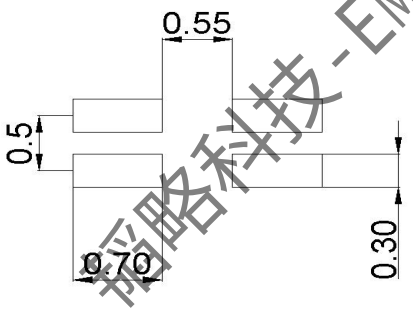
⑥ Tolerance of common mode impedance: M= ±20%

⑦ Packing：Tape & Reel

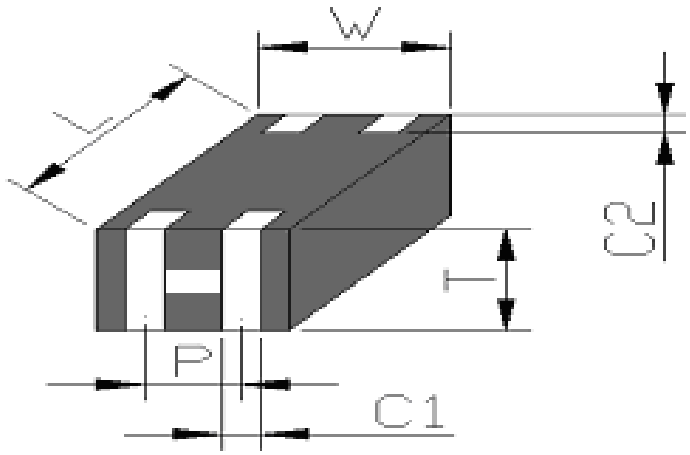
4.1.Electrical Characteristics

Part Number	Common Mode Impedance (at 100MHz, Under Standard Testing Condition)	Rated Voltage	Withstanding Voltage	Rated Current	DC Resistance	Insulation Resistance
TF1210A2X350MT	35Ω±20%	10V(DC)	25V(DC)	300mA	0.5Ω±25%	200MΩ
TF1210A2X500MT	50Ω±20%			300mA	0.5Ω±25%	
TF1210A2X650MT	65Ω±20%			300mA	0.5Ω±25%	
TF1210A2X900MT	90Ω±20%			300mA	0.5Ω±25%	
TF1210A2X121MT	120Ω±20%			100mA	1.2Ω±25%	100MΩ

5.CIRCUIT CONFIGURATION & LAYOUT PAD



6.Shapes And Dimensions

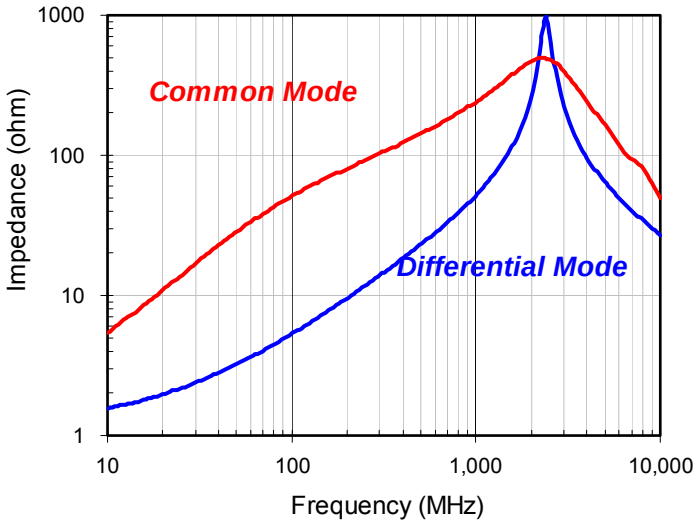


TYPE	1210
L	1.25±0.10
W	1.00±0.10
T	0.60±0.10
P	0.50±0.10
C1	0.30±0.10
C2	0.20±0.15
Unit: mm	

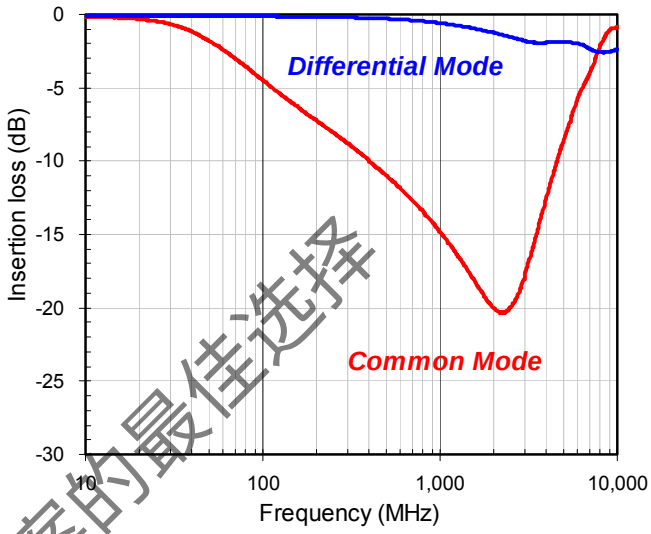
7.Typical Characteristic

TF1210A2X350MT

IMPEDANCE vs. FREUQENCY CHARACTERISTICS

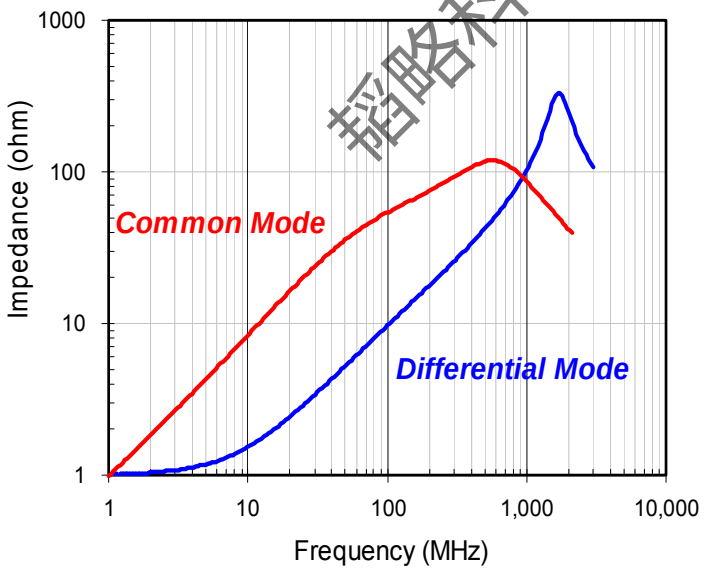


INSERTION LOSS vs. FREUQENCY CHARACTERISTICS

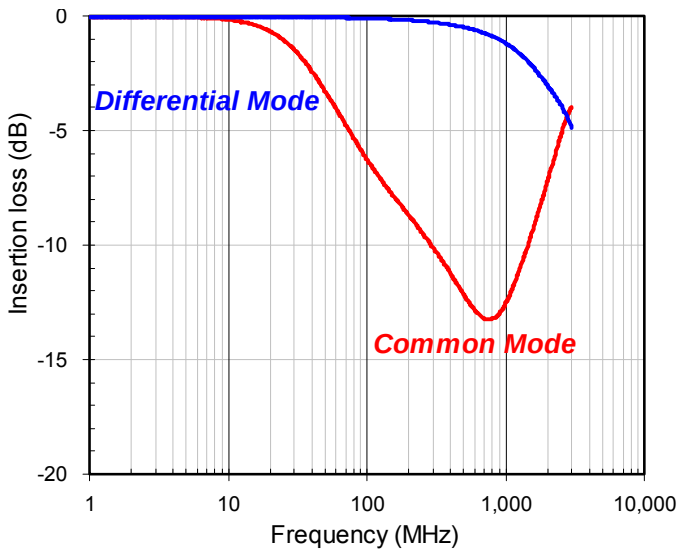


TF1210A2X500MT

IMPEDANCE vs. FREUQENCY CHARACTERISTICS

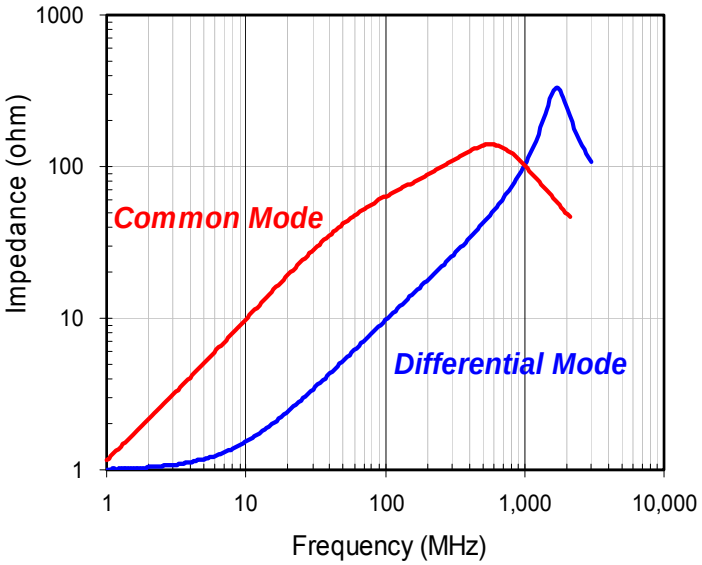


INSERTION LOSS vs. FREUQENCY CHARACTERISTICS

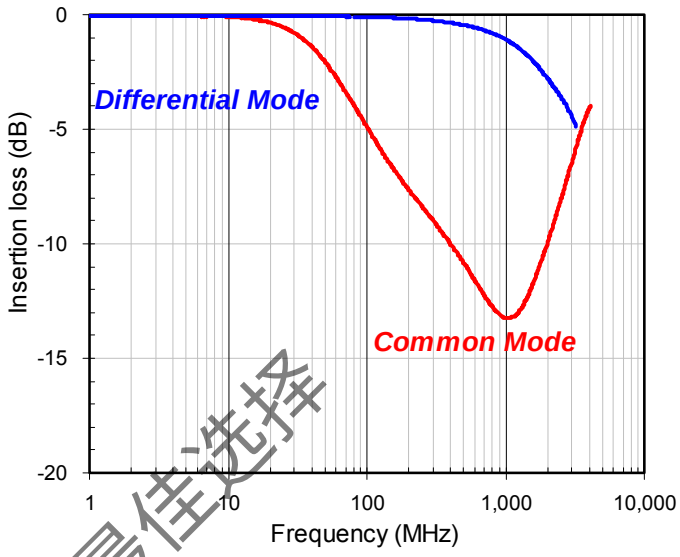


TF1210A2X650MT

IMPEDANCE vs. FREUQENCY CHARACTERISTICS

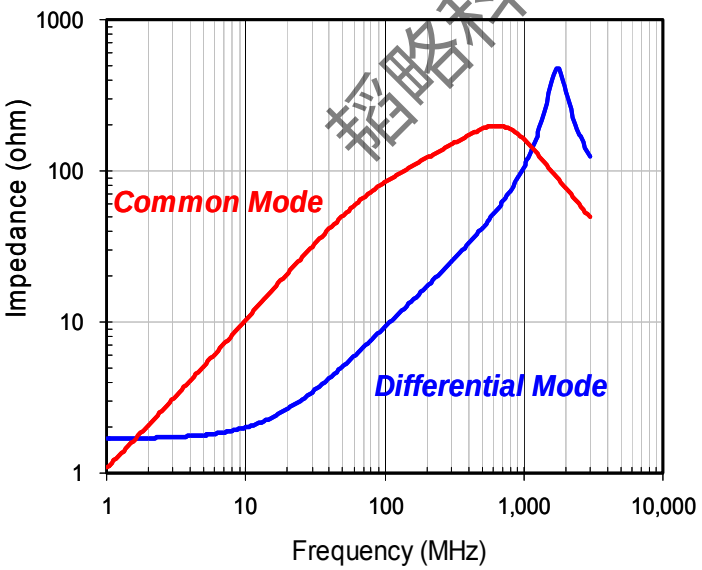


INSERTION LOSS vs. FREUQENCY CHARACTERISTICS

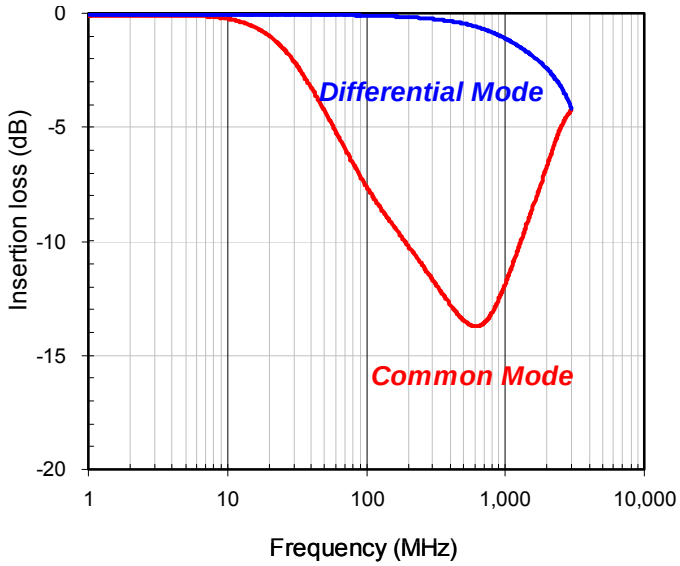


TF1210A2X900MT

IMPEDANCE vs. FREUQENCY CHARACTERISTICS

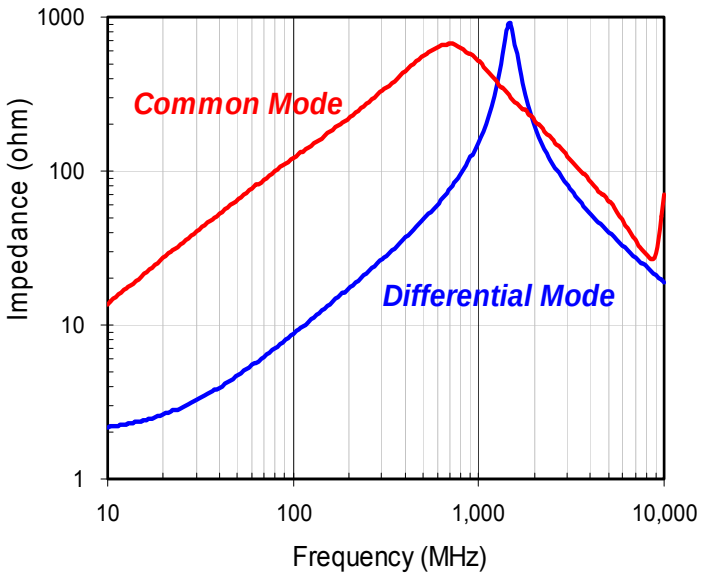


INSERTION LOSS vs. FREUQENCY CHARACTERISTICS

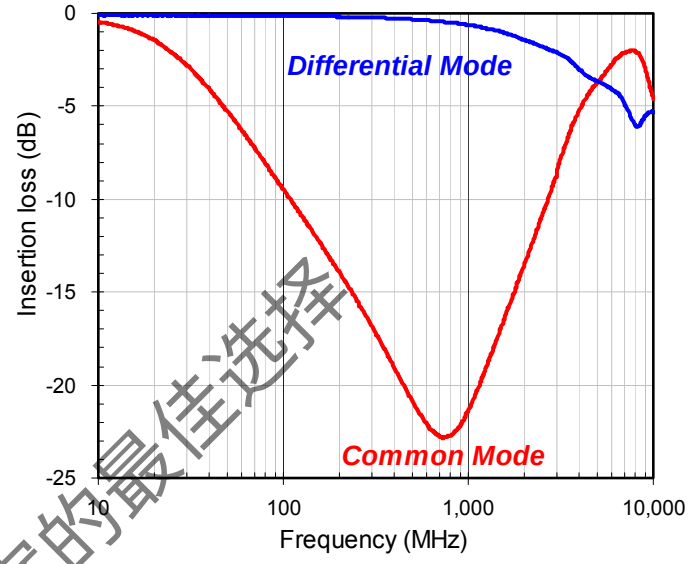


TF1210A2X121MT

IMPEDANCE vs. FREUQENCY CHARACTERISTICS



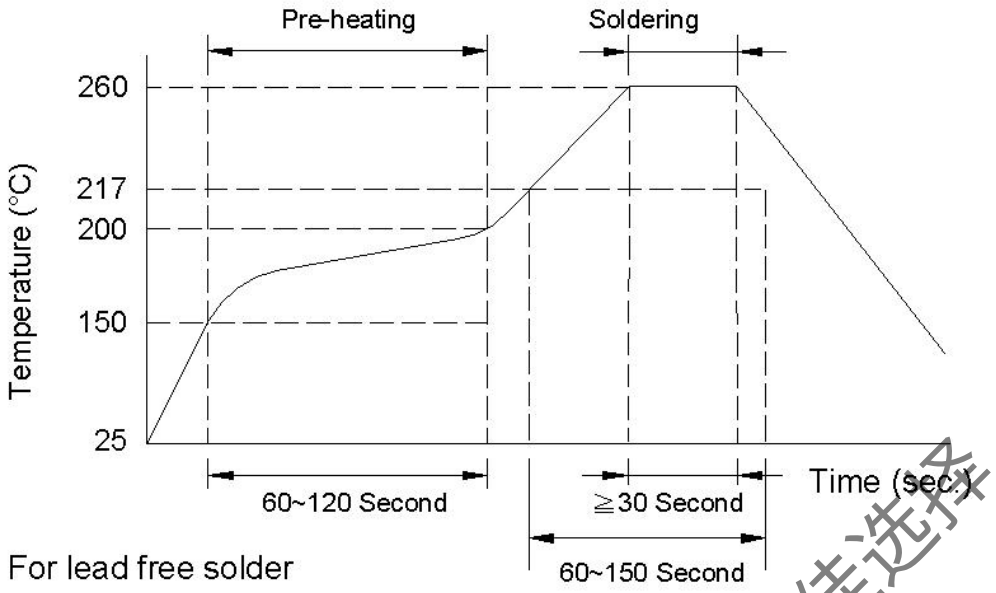
INSERTION LOSS vs. FREUQENCY CHARACTERISTICS



8.Reliability And Test Condition

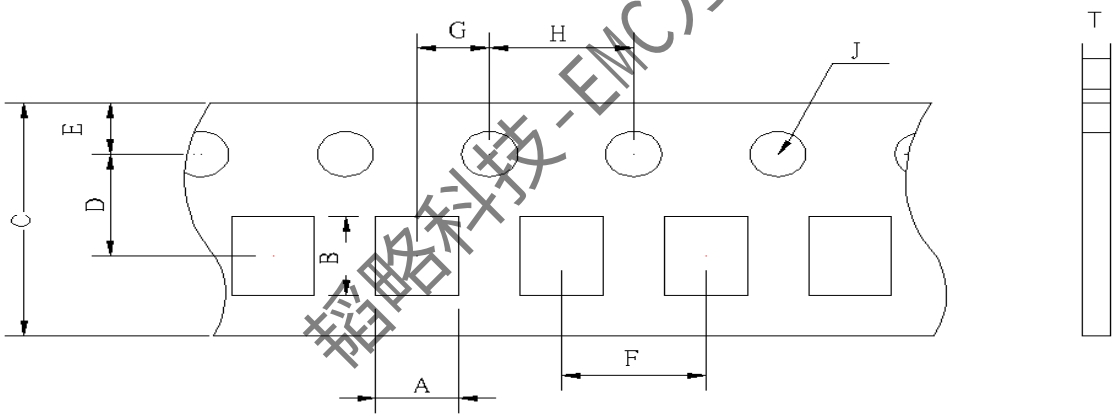
Test item	Test condition	Criteria
Temperature Cycle	A. Temperature : -40 ~ +85℃ B. Cycle : 100 cycles C. Dwell time : 30minutes Measurement : at ambient temperature 24 hrs after test completion	A. No mechanical damage B. Impedance value should be within ± 20 % of the initial value
Operational Life	A. 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
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

9.Recommended Soldering Conditions



10.Tape And Reel Specifications

Type : Paper Carrier

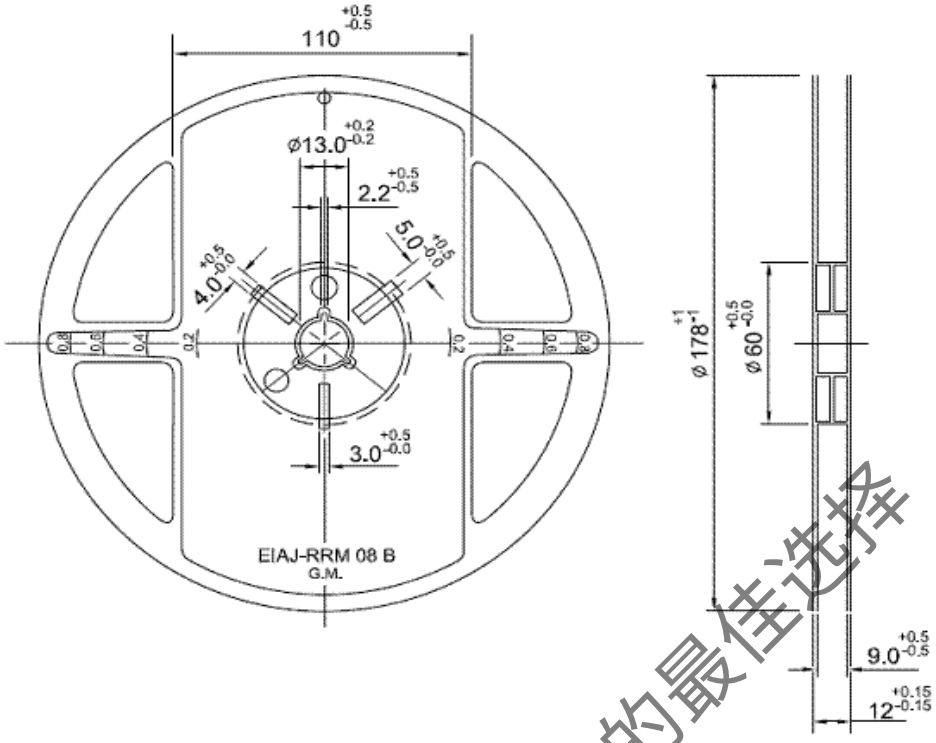


Unit : mm

Symbol	Size	Symbol	Size
C	8.00±0.10	H	4.00±0.10
D	3.50±0.05	J	Φ1.55±0.05
E	1.75±0.05	T	0.75±0.03
F	4.00±0.10	A	1.20±0.05
G	2.00±0.05	B	1.45±0.05

11.Reel Dimensions

Unit: mm



12.Standard Quantity For Packaging

Packaging style：Taping

Reel packaging quantity：4000 pcs/reel

13.General Thechnical Data

Operating temperature range：-40℃ ~ +85℃

Storage temperature : 40℃ Max., 70%RH Max.

Storage Time: 6 months Max.

Soldering method: Reflow or Wave Soldering

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