

# Data Sheet

- ITEM : COMMON MODE ESD FILTER

- PART NO : ICMEF062P250MFR

- CONDITION : 1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_  
4. \_\_\_\_\_

ITEM	P/N	Page
COMMON MODE ESD FILTER	ICMEF062P250MFR	2

## 1. Generals

- This specification covers the engineering requirements for the ICMEF062P250MFR (Common Mode ESD Filter)

## 2. Features

- Effective for suppressing common mode noise and almost no effect for high speed differential data line
- One common mode filters and two ESD suppression devices integrated
- Ultra low profile (0.87 x 0.67 x 0.50mm)
- Ceramic multilayer type SMD component
- Non-polarized product
- It is a product conforming to RoHS directive.

## 3. Applications

- HDMI lines in PDP, LCD TV, DVD Player, PC, Audio player, DSC
- MDDI, MIPI, MHL in mobile phone

## 4. Product specifications

### 4. 1 PART NUMBER CODE

ICMEF    06    2P    250    M    F    R  
 ①            ②            ③            ④            ⑤            ⑥            ⑦

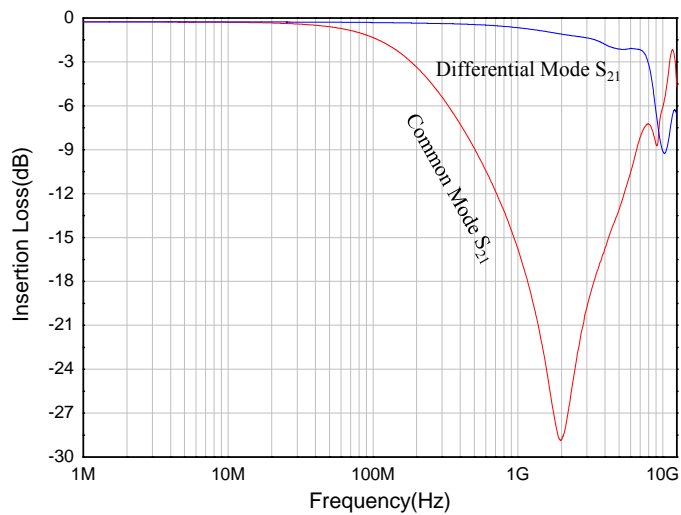
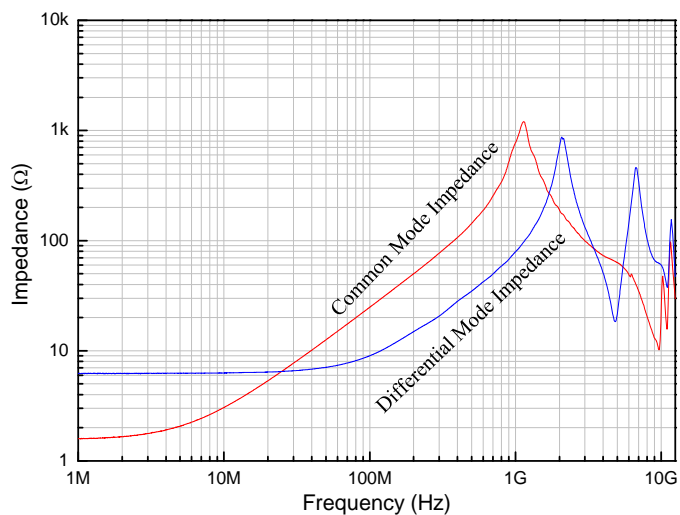
- ① Series name of ICT's Common Mode ESD Filter
- ② Dimensions, 0.87mm (L) x 0.67mm (W)
- ③ Number of lines, 2P= 2 lines
- ④ Common Mode Impedance (at 100MHz), 250= 25Ω
- ⑤ Tolerance of common mode impedance, M= ±25%
- ⑥ Type of electrode plating: F= Lead Free
- ⑦ Packing Type, R= Reel

### 4. 2 Specification of electrical characteristics

Characteristics	Common Mode Impedance	Resistance	Leakage Current	Capacitance	Insulation Resistance (Max)	Rated Voltage	Rated Current
symbol	$Z_{CM}$	$R_{DC}$	$I_L$	C	$IR_{CR}$	$V_R$	$I_R$
Units	$\Omega$	$\Omega$	$\mu A$	pF	M $\Omega$	Volt	mA
Test Condition	@100MHz	25°C ±2°C	5V	0.5Vrms @1MHz	5V	25°C ±2°C	25°C ±2°C
Value	25(±25%)	Max 5.0	Max 1.0	Max 1.7	Min 10	5	Max100

#### - Impedance Curves

#### -Transmission characteristics (S-parameter)





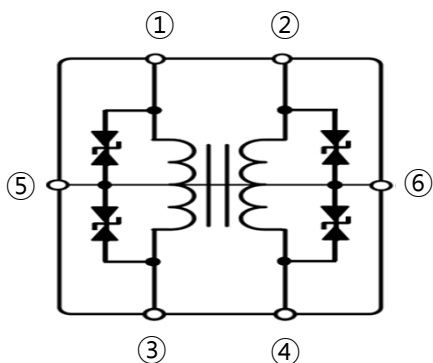
### 4. 3 Operating Temperature

DESCRIPTION	REQUIREMENTS
Operating Temperature	-40°C ~ + 85°C

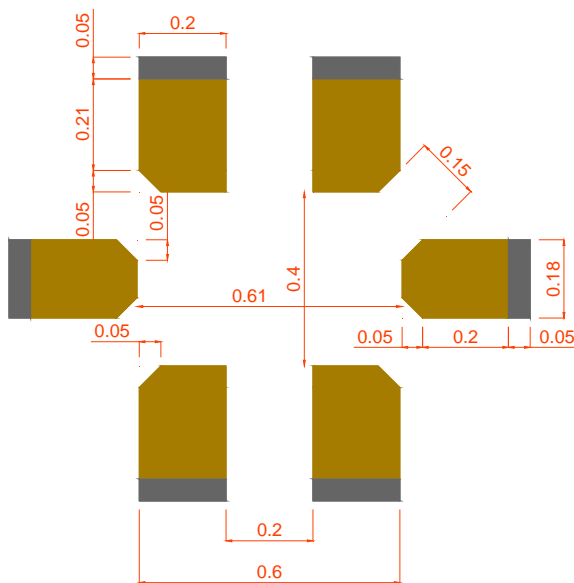
## 5. Equivalent Circuit & Recommended Foot print & Stencil mask

PIN NUMBER	DESCRIPTION
①~④	DATA LINE
⑤, ⑥	GROUND

 Land pattern  
 Stencil



[ Equivalent circuit ]

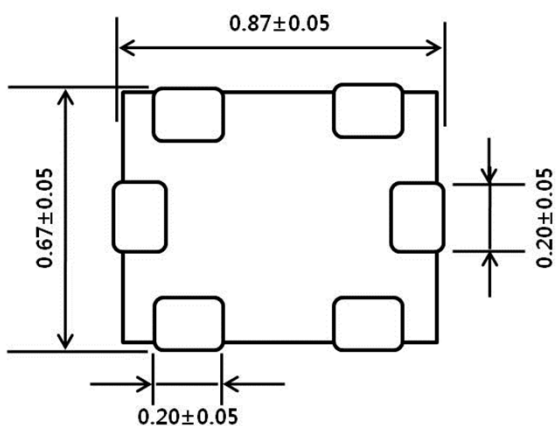


[ Foot print & Stencil mask ]

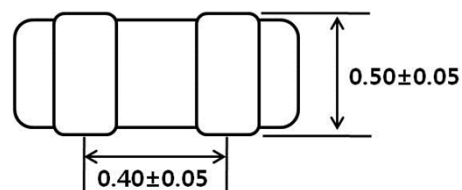
## 6. Mechanical Property

### 6. 1 Appearance and Dimension

Unit : mm



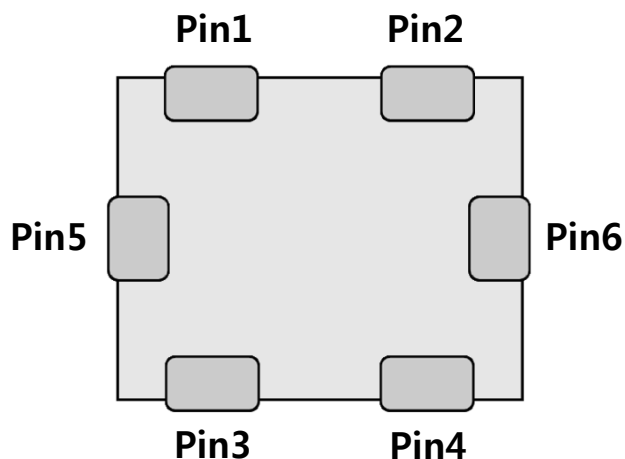
<TOP>



<SIDE>

## 7. TEST METHOD OF ELECTRICAL PROPERTY

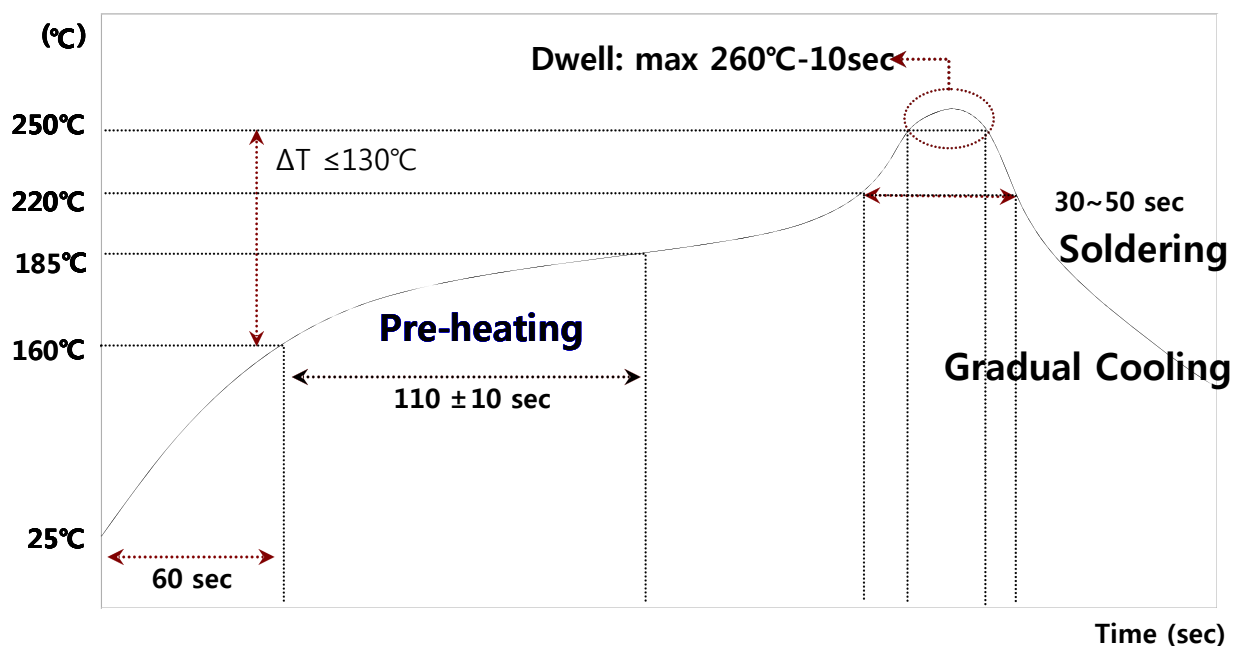
### - PIN INDEX



ITEM	DESCRIPTION	SOURCE	EQUIPMENT
<b>R<sub>dc</sub></b>	Pin 1-3, 2-4	10mA DC Source	Source Meter
<b>CM Impedance</b>	Pin 1-2(Short) to Pin 3-4(Short)	500mV	LCR Meter (3GHz)
<b>IL</b>	Pin 5 or 6 to Pin 1, 2, 3, 4	5V DC Source	Source Meter
<b>IR<sub>CR</sub></b>	Pin1 -2 or Pin3-4	5V DC Source	Source Meter

## 8. REFLOW CONDITION

### 8. 1 RECOMMENDED SOLDERING PROFILE (Lead-free condition)



### 8. 2 RECOMMENDED LEAD-FREE SOLDER PASTE

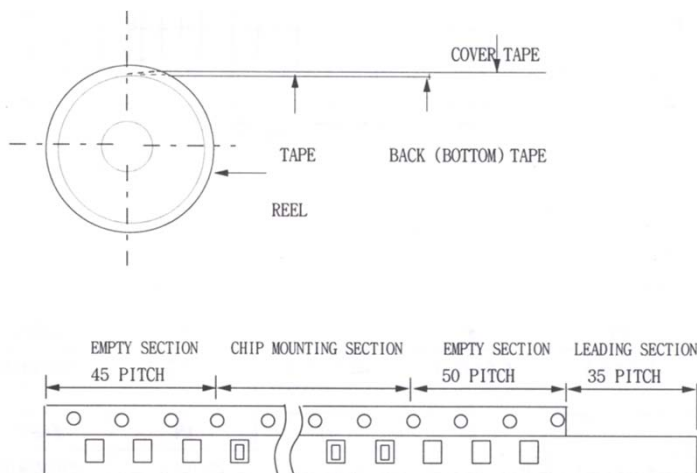
- Supplier : Tamura Donghwa
- Main composition : Sn-Ag-Cu
- Ratio of composition : 96.5%-3.0%-0.5%

### 8. 3 RECOMMENDED HAND SOLDER

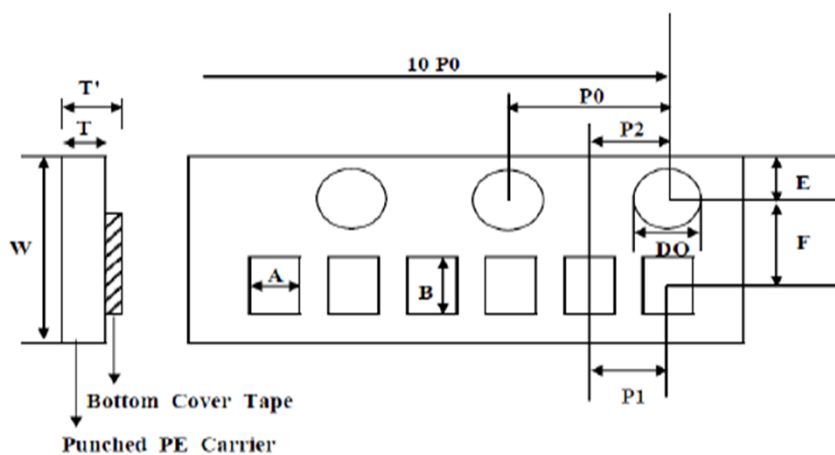
- Max Temperature: Max 380 °C(Max 5sec)

## 9. PACKING SPECIFICATION

### 9.1 TAPING FIGURE



### 9.2 CARRIER TAPE DIMENSIONS

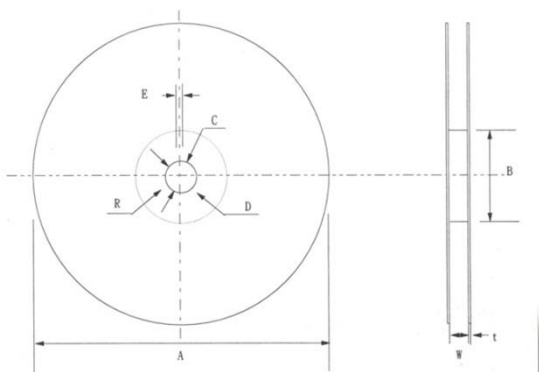


**Unit : mm**

SYMBOL	A	B	E	F	D <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	P <sub>0</sub>	10P <sub>0</sub>	W	T	T'
<b>DIMENSION</b>	0.80	1.02	1.75	3.50	1.55	2.00	2.00	4.00	40.00	8.00	0.60	0.63
<b>TOLERANCE</b>	±0.03	±0.03	±0.05	±0.05	±0.03	±0.05	±0.05	±0.05	±0.10	±0.10	±0.04	±0.03

ITEM	P/N	Page
COMMON MODE ESD FILTER	ICMEF062P250MFR	8

### 9. 3 REEL DIMENSIONS

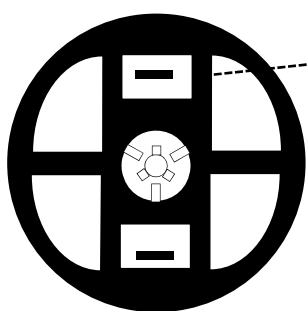


- (1) Reel Materials: Polystyrene
- (2) Label
- (3) Taping
  - Standard Packing Quantity per Reel ( $\phi 178$ )
  - PE Tape: 10,000pcs

**Unit : mm**

CODE	A	B	C	D	E	W	t	R
DIMENSION	$\phi 178 \pm 2$	Min. $\phi 50$	$\phi 13 \pm 0.5$	$\phi 21 \pm 0.8$	$2.0 \pm 0.5$	$10 \pm 1.5$	$0.8 \pm 0.2$	1.0

### 9. 4 LABEL CODE

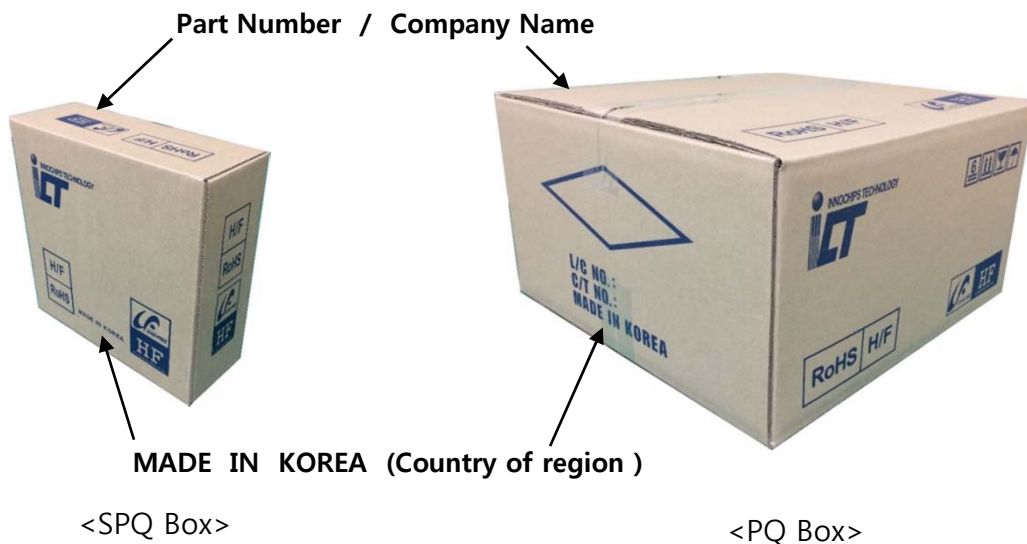


- P/N : Part Number
- L/N : Lot Number
- C/N : Customer Number
- SPEC : Size, Line numbers & CM Impedance
- DATE : Date code
- Q'TY : Quantity



ITEM	P/N	Page
COMMON MODE ESD FILTER	ICMEF062P250MFR	9

### 9. 5 REEL PACKING



- (1) Product box material : Card board
- (2) 5 Reels in each SPQ Box
- (3) PQ Box contains 10 SPQ Boxes (50 Reels)

### Packing box + Product weight

Size		S-box + 5reel		M-box + 5S-box		L-box + 10S-box		
Product	L x W x H(mm)		185 x 70 x 185		370 x 190 x 200		380 x 370 x 200	
	Size	weight(g) /1 unit	Total(g)	Chip(g)	Total(g)	Chip(g)	Total(g)	Chip(g)
CMF	0806	0.00124	643	62	3215	310	6147	620
	1210	0.00480	750	96	3758	480	7503	960
	2012	0.00750	804	150	4028	750	8043	1500
CMEF	0806	0.00128	646	65	3230	325	6177	650
	1210	0.00490	752	98	3768	490	7523	980
	2012	0.00760	806	152	4038	760	8063	1520

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Common Mode Chokes / Filters](#) category:*

*Click to view products by [Moda-Innochips](#) manufacturer:*

Other Similar products are found below :

[PE-64683](#) [RD5122-6-9M6](#) [ST6118T-R](#) [FE3X025-10-7NL](#) [T8114NLT](#) [TCM0806G-350-2P-T](#) [TCM0806G-650-2P-T](#) [IND-0110](#)  
[UAL21VR0802000](#) [UALSC023000000](#) [UALSC1020JH000](#) [UALSU10VD20010](#) [UALSU9VD070100](#) [36-00037](#) [CM7060M132R-10](#)  
[UALW21HS072450](#) [UALSU9H0208000](#) [UAL24VK06450CH](#) [PLT10HH501100PNB](#) [PLT10HH401100PNB](#) [PLT10HH1026R0PNB](#) [PE-](#)  
[67531](#) [TLH10UB](#) [113 0R5](#) [2752045447](#) [CM8663Z161B-10](#) [7351V](#) [CMF16-153131](#) [T8116NLT](#) [CMS2-10-R](#) [FE2X10-4-2NL](#) [T8003NLT](#)  
[CTX01-13663](#) [CTX66-19521-R](#) [RC212-0.5-10M](#) [RC112-0.4-15M](#) [RC212-0.6-6M8](#) [RC212-0.4-15M](#) [RC112-0.3-30M](#) [4534-3](#)  
[WTCTF2012Z0M751PB](#) [PH9408.814NLT](#) [B82498B3221J000](#) [PAC6006.364NLT](#) [PAC6006.444NLT](#) [PAC6006.204NLT](#) [PH9407.204NLT](#)  
[PAC6006.264NLT](#) [PH9408.105NLT](#) [PH9408.494NLT](#) [PAC6006.104NLT](#)