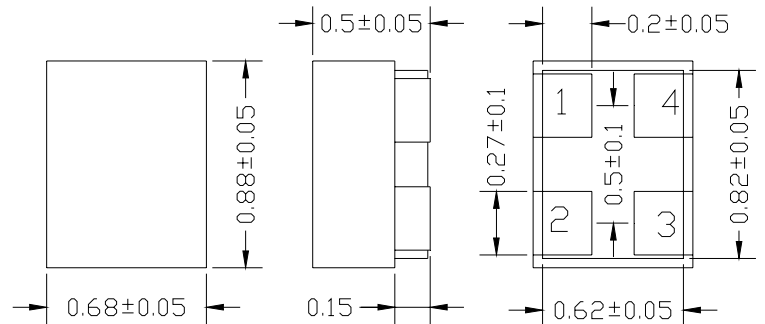


■Dimensions



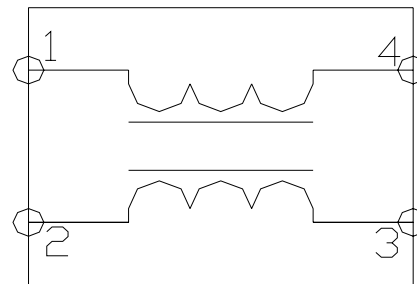
■Features

- The CMF03G(03025) is an compact thin film common mode filter that is used for common mode noise suppression in high speed differential data lines.
- By providing wide bandwidth (cutoff frequency: 4 GHz) for differential mode, this product has almost no effect for high speed differential signals and can suppress the common mode noise.
- This product contains no lead and supports lead-free Ni/Au soldering.

■Applications

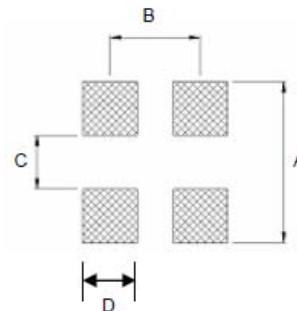
- High Speed Interface High speed interface (LVDS, IEEE1394 and USB2.0) in electronics devices.
- Portable audio, digital cellular phones, DVC, DSC, PDP/LCD/DLP/PJ TVs, DVD players, notebook PCs,

■Equivalent Circuit

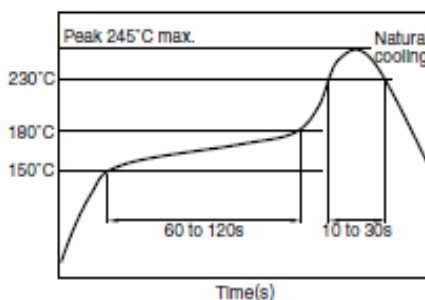


■Recommended Land Pattern

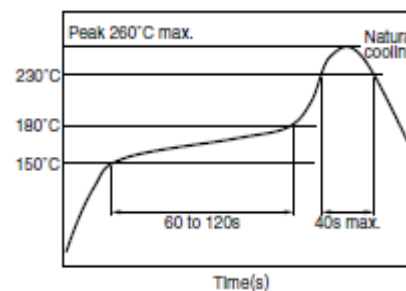
Type	A	B	C	D
CMF03	0.9mm	0.5mm	0.3mm	0.3mm



■Recommended soldering conditions



■Reflow Profile For Solder Heat Resistance



Thin Film Common Mode Filters
Part Numbering

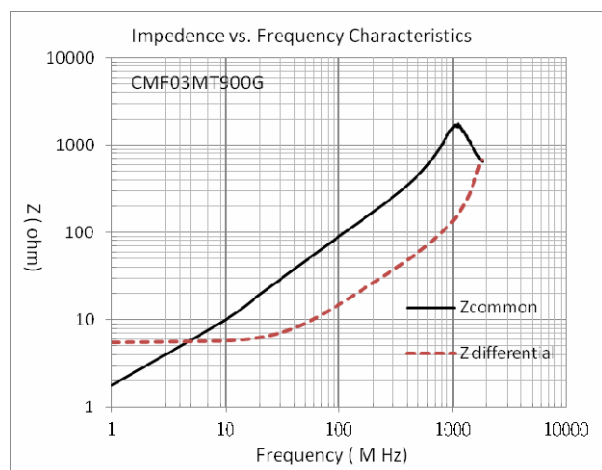
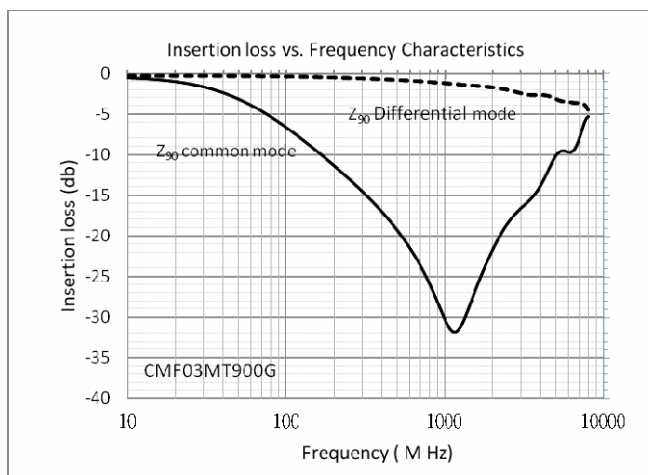
CMF	03	M	T	900	G
Product Type	Dimensions	Impedance Tolerance	Packaging Code	Impedance	
	03: 03025	M: $\pm 20\%$ K: $\pm 10\%$	T: Taping Reel	900: 90Ω	G: General

Packaging
Packaging Style And Quantity

Packing style	Quantity
Taping	10000 pieces/reel

Standard Electrical Specifications

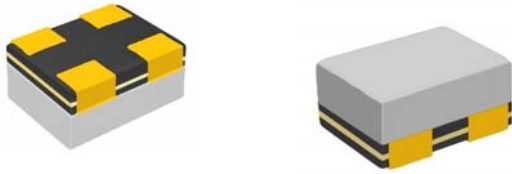
Part No	Impedance (Ω)	Test Condition (MHz)	DCR (Ω) [1 line]	IDC (mA) max.	Rated Voltage Edc (V) max.	Cutoff Frequency (GHz) typ.	Insulation Resistance (M Ω) min.
CMF03MT900G	$90\pm 20\%$	100	$2.8\pm 30\%$	100	10	4	10

Characteristics-CMF03
Impedance-Frequency Characteristics

Insertion loss vs. Frequency Characteristics


Thin Film Common Mode Filters

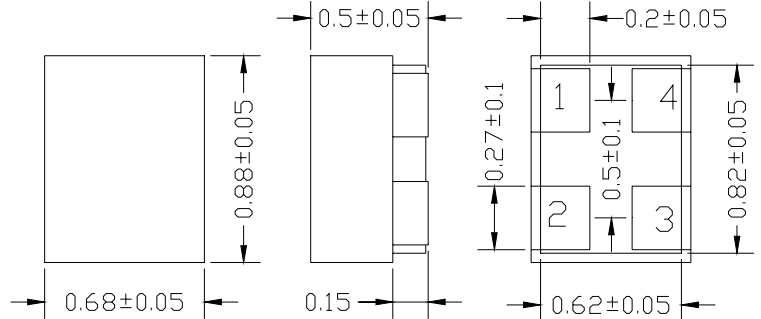
Thin Film Common Mode Filters(SMD) For ultra high-speed Differential Signal Line

CMF Series CMF03H(03025)/CMF04H(0504) Type for HDMI, DVI, Display Port, MIPI, etc.

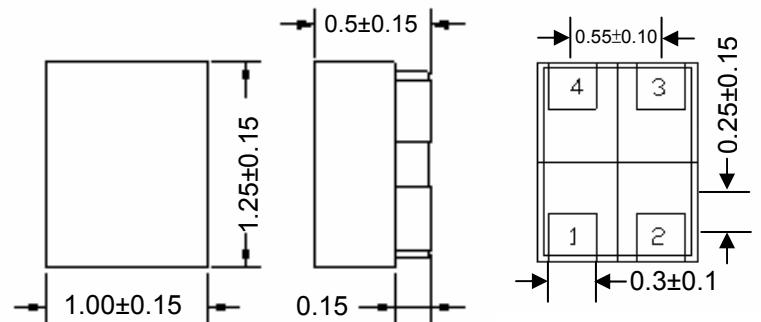


■ Dimensions

CMF03



CMF04



■ Features

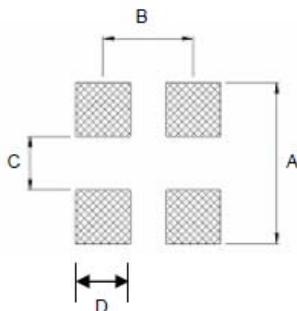
- CMF03H(03025)/CMF04H(0504) is a thin-film common mode filter with a wide bandwidth for ultra high speed differential signal interfaces such as MIPI and display port.
- By providing a large bandwidth (cutoff frequency > 5GHz) for ultra high speed differential signal interfaces such as MIPI and Display port. CMF03H(03025)/CMF04H(0504) suppresses radiation noise due to common mode noise, without affecting the transmission of high-speed differential signals.
- This product contains no lead with Ni/Au electrode and supports lead-free soldering.

■ Applications

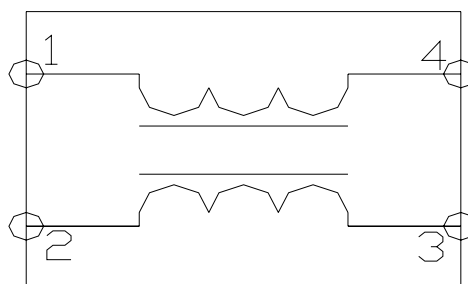
- Ultra High speed interface (HDMI, DVI, Display port, MIPI and Serial ATA, etc.) in electronics devices.
- Notebook PCs, PDP/LCD/DLP/PJ TVs, portable audio, digital cellular phones, DVC, DSC, DVD players,

■ Recommended Land Pattern

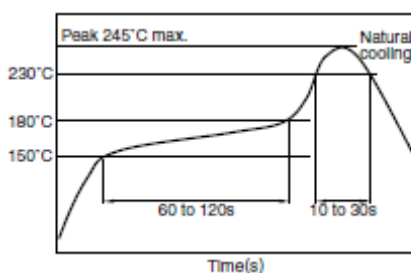
Type	A	B	C	D
CMF03	0.9mm	0.50mm	0.3mm	0.3mm
CMF04	1.8mm	0.55mm	0.6mm	0.3mm



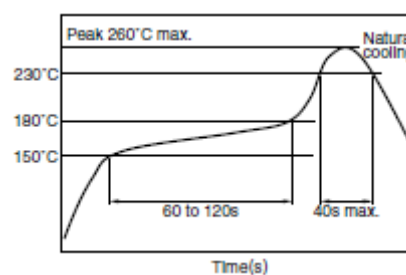
■ Equivalent Circuit



■ Recommended soldering conditions



■ Reflow Profile For Solder Heat Resistance



Thin Film Common Mode Filters
Part Numbering

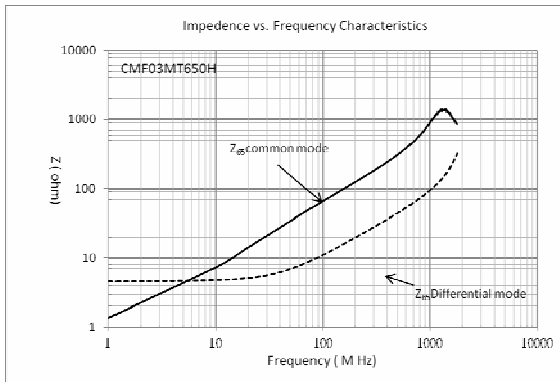
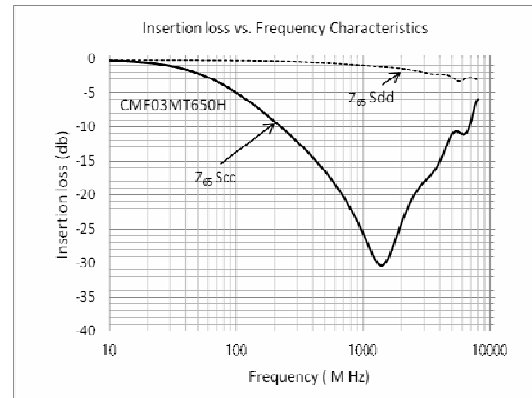
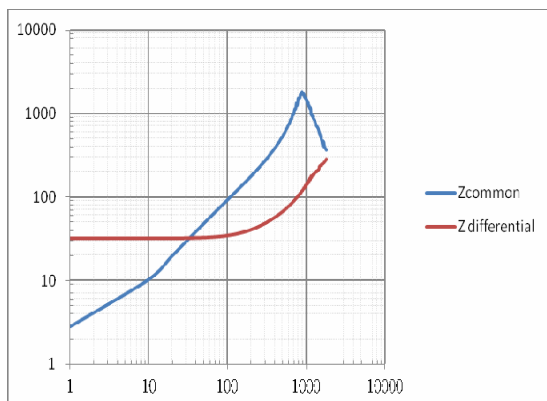
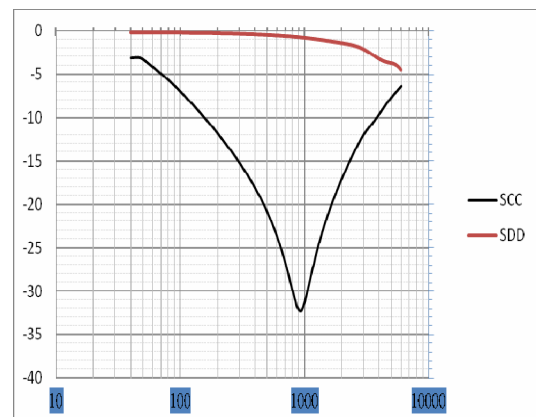
CMF	03	M	T	650	H
Product Type	Dimensions	Impedance Tolerance	Packaging Code	Impedance	
	03: 03025 04: 0504	M: $\pm 20\%$ K: $\pm 10\%$	T: Taping Reel	650: 65Ω 900: 90Ω	H: High Frequency

Packaging
Packaging Style And Quantity

Type	Packing style	Quantity
CMF03	Taping	10000 pieces/reel
CMF04	Taping	4000 pieces/reel

Standard Electrical Specifications

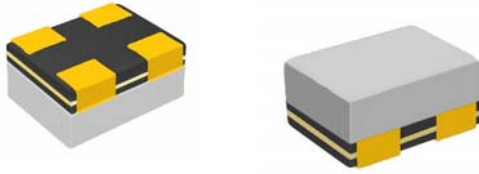
Part No	Impedance (Ω)	Test Condition (MHz)	DCR (Ω) [1 line]	IDC (mA) max.	Rated Voltage Edc (V) max.	Cutoff Frequency (GHz) typ.	Insulation Resistance (M Ω) min.
CMF03MT650H	$65\pm 20\%$	100	$2.5\pm 30\%$	100	10	5.0	10
CMF04MT900H	$90\pm 20\%$	100	$2.8\pm 25\%$	100	10	5.0	10

Characteristics-CMF03
Impedance-Frequency Characteristics

Insertion loss vs. Frequency Characteristics

Characteristics-CMF04
Impedance-Frequency Characteristics

Insertion loss vs. Frequency Characteristics


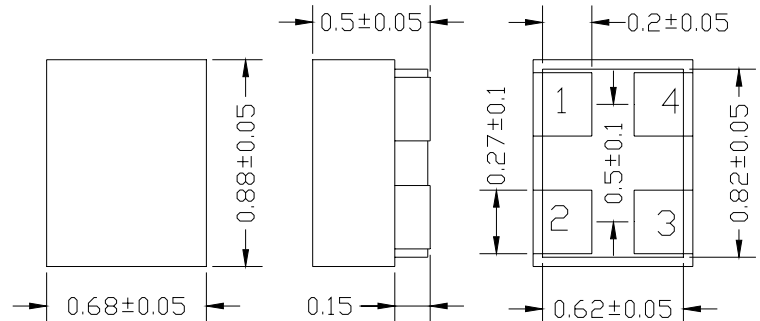
Thin Film Common Mode Filters

Thin Film Common Mode Filters(SMD) For ultra high-speed Differential Signal Line

CMF Series CMF03U(03025) Type for USB3.0, HDMI, MIPI, etc.



■Dimensions



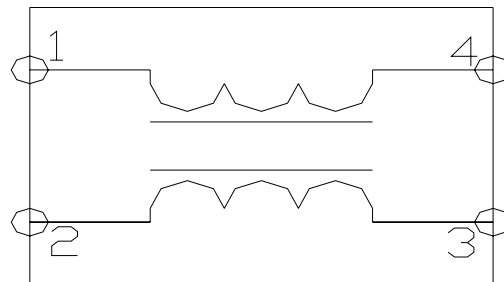
■Features

- CMF03U(03025) is a thin-film common mode filter with a wide bandwidth for ultra high speed differential signal interfaces such as USB 3.0 and MIPI interface.
- By providing a large bandwidth (cutoff frequency > 8 GHz) for ultra high speed differential signal interfaces such as USB3.0 and MIPI. CMF03U(03025) suppresses radiation noise due to common mode noise, without affecting the transmission of high-speed differential signals.
- This product contains no lead with Ni/Au electrode and supports lead-free soldering..

■Applications

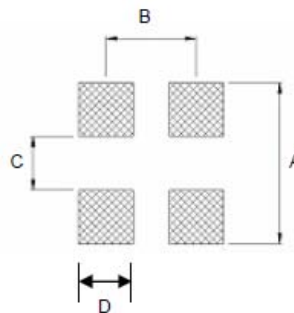
- Ultra High speed interface (HDMI,USB3.0, Display port, MIPI and Serial ATA, etc.) in electronics devices.
- Notebook PCs, PDP/LCD/DLP/PJ TVs, portable audio, digital cellular phones, DVC, DSC, DVD players, amusement machines ,etc.

■Equivalent Circuit

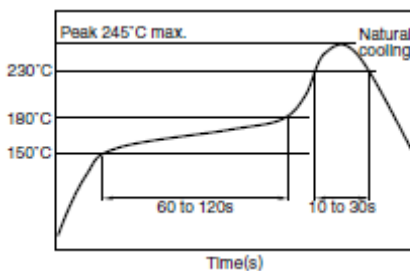


■Recommended Land Pattern

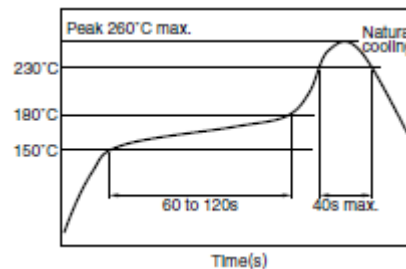
Type	A	B	C	D
CMF03	0.9mm	0.5mm	0.3mm	0.3mm



■Recommended soldering conditions



■Reflow Profile For Solder Heat Resistance



Thin Film Common Mode Filters

Part Numbering

CMF	03	M	T	350	U
Product Type	Dimensions	Impedance Tolerance	Packaging Code	Impedance	
	03: 03025	M: $\pm 20\%$ K: $\pm 10\%$	T: Taping Reel	350: 35Ω	U: Ultra Frequency

Packaging

Packaging Style And Quantity

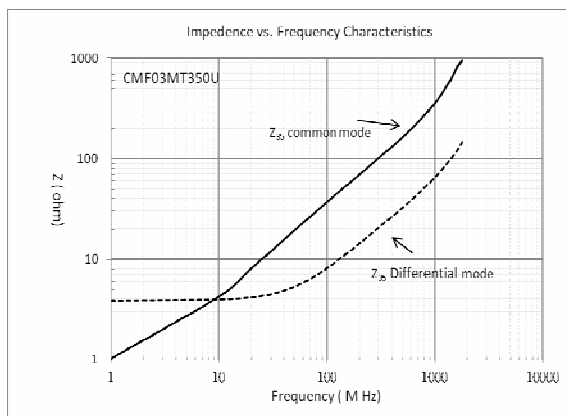
Packing style	Quantity
Taping	10000 pieces/reel

Standard Electrical Specifications

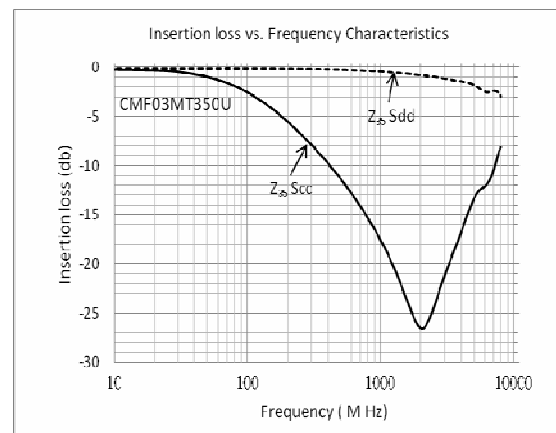
Part No	Impedance (Ω)	Test Condition (MHz)	DCR (Ω) [1 line]	IDC (mA) max.	Rated Voltage Edc (V) max.	Cutoff Frequency (GHz) typ.	Insulation Resistance (M Ω) min.
CMF03MT350U	$35\pm 20\%$	100	$1.8\pm 30\%$	100	10	8	10

Characteristics-CMF03

Impedance-Frequency Characteristics



Insertion loss vs. Frequency Characteristics



Environmental Characteristics

Item	Requirement	Test Method
Insulation Resistance	>10 M Ω	MIL-STD-202F Method 302
Endurance	Impedance change: within $\pm 20\%$	MIL-STD-202F Method 108A 70 $\pm 2^\circ\text{C}$, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load		MIL-STD-202F Method 103B 40 $\pm 2^\circ\text{C}$, 90~95% R.H. Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Bending Strength		JIS-C-5201-1 6.1.4 Bending amplitude 3 mm for 10 seconds
Solderability	95% min. coverage	MIL-STD-202F Method 208H 245 $\pm 5^\circ\text{C}$ for 3 seconds
Resistance to Soldering Heat	Impedance change: within $\pm 20\%$	MIL-STD-202F Method 210E 260 $\pm 5^\circ\text{C}$ for 10 seconds
Thermal Shock		MIL-STD-202F Method 107G -55 $^\circ\text{C}$ ~150 $^\circ\text{C}$, 100 cycles

Storage Temperature: 25 $\pm 3^\circ\text{C}$; Humidity <80%RH