

### **Common Mode Filters**

For high-speed differential signal line (USB2.0, LVDS, etc.)

### **TCM** series

Type: TCM0605G [0202 inch]\*

TCM0806G [0302 inch] TCM1608G [0603 inch]

\* Dimensions Code [EIA]

Issue date: April 2013

<sup>•</sup> All specifications are subject to change without notice.

<sup>•</sup> Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

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Common Mode Filters For High-speed Differential Signal Line (USB2.0, LVDS, etc.)

**Conformity to RoHS Directive** 

#### TCM Series TCM0605G

#### **FEATURES**

- Smallest thin-film common mode filter in the industry at L0.65×W0.5×T0.3mm.
- Effectively suppresses radiated noise due to common mode noise without affecting the transmission of high-speed differential signals.
- This product contains no lead and supports lead-free soldering.

#### **APPLICATIONS**

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

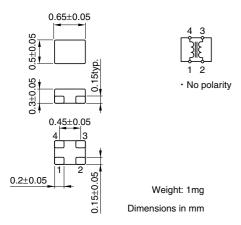
#### **TEMPERATURE RANGES**

Operating	−25 to +85°C	
Storage(After mount)	−25 to +85°C	

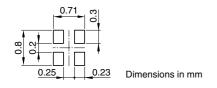
#### **PACKAGING STYLE AND QUANTITIES**

Packaging style	Quantity
Taping	10000 pieces/reel

#### SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



#### **RECOMMENDED PC BOARD PATTERN**

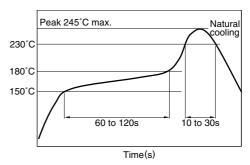


#### PRODUCT IDENTIFICATION

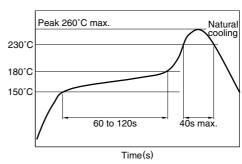
TCM	0605	G	- 900	- 2P	- T
(1)	(2)	(3)	(4)	(5)	(6)

- (1) Series name
- (2) Dimensions L×W
- (3) Product identification number
- (4) Impedance[at 100MHz]  $900: 90\Omega$
- (5) Number of line 2P: 2-line
- (6) Packaging styleT: ø180mm reel taping

# RECOMMENDED SOLDERING CONDITIONS RECOMMENDED TEMPERATURE PROFILE FOR LEAD-FREE SOLDER



#### **REFLOW PROFILE FOR SOLDER HEAT RESISTANCE**



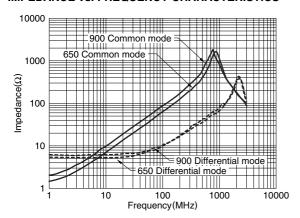
• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.



#### **ELECTRICAL CHARACTERISTICS**

Part No.	Common mode impedance $(\Omega)$ [100MHz]	DC resistance $(\Omega)[1 \text{ line}]$	Rated current ldc(A)max.	Rated voltage Edc(V)max.	Insulation resistance $(M\Omega)$ min.
TCM0605G-900-2P	90±20%	3±30%	0.1	10	10
TCM0605G-650-2P	65±20%	2.7±30%	0.1	10	10

## TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



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### Common Mode Filters For High-speed Differential Signal Line (USB2.0, LVDS, etc.)

**Conformity to RoHS Directive** 

#### TCM Series TCM0806G

#### **FEATURES**

- The TCM0806G (L0.85×W0.65×T0.4mm) is a compact thin-film common mode filter.
- By providing wide bandwidth (cutoff frequency: 3GHz) for differential mode, this product has almost no effect for highspeed differential signals and can suppress the radiated emission.
- This product contains no lead and supports lead-free soldering.

#### **APPLICATIONS**

- 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, amusement machines, etc.

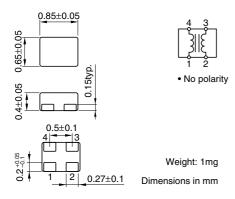
#### **TEMPERATURE RANGES**

Operating	−25 to +85°C	
Storage(After mount)	-25 to +85°C	

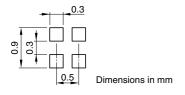
#### **PACKAGING STYLE AND QUANTITIES**

Packaging style	Quantity
Taping	10000 pieces/reel

#### SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



#### RECOMMENDED PC BOARD PATTERN

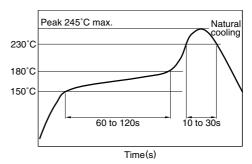


#### PRODUCT IDENTIFICATION

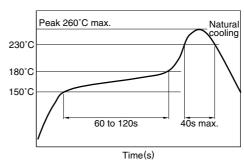
TCM	0806	G -	900	- 2P	- T
(1)	(2)	(3)	(4)	(5)	(6)

- (1) Series name
- (2) Dimensions L×W
- (3) Product identification number
- (4) Impedance[at 100MHz]  $900: 90\Omega$
- (5) Number of line 2P: 2-line
- (6) Packaging styleT: ø180mm reel taping

# RECOMMENDED SOLDERING CONDITIONS RECOMMENDED TEMPERATURE PROFILE FOR LEAD-FREE SOLDER



#### **REFLOW PROFILE FOR SOLDER HEAT RESISTANCE**



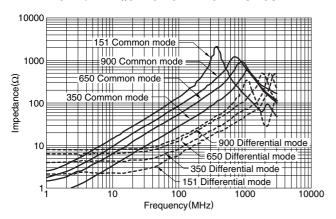
• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.



#### **ELECTRICAL CHARACTERISTICS**

Part No.	Common mode impedance $(\Omega)$ [100MHz]	DC resistance $(\Omega)[1 \text{ line}]$	Rated current Idc(A)max.	Rated voltage Edc(V)max.	Insulation resistance $(M\Omega)$ min.
TCM0806G-350-2P	35±30%	1.15±30%	0.10	10	10
TCM0806G-650-2P	65±20%	2.50±30%	0.10	10	10
TCM0806G-900-2P	90±20%	2.70±30%	0.10	10	10
TCM0806G-151-2P	150±20%	4.00±30%	0.10	10	10

## TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



<sup>•</sup> All specifications are subject to change without notice.

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### Common Mode Filters For High-speed Differential Signal Line (USB2.0, LVDS, etc.)

**Conformity to RoHS Directive** 

#### TCM Series TCM1608G

#### **FEATURES**

- The TCM1608G (L1.6×W0.8×T0.4mm) is a dual-circuit modularized thin-film common mode filter array.
- By providing wide bandwidth (cutoff frequency: 3GHz) for differential mode, this product has almost no effect for highspeed differential signals and can suppress the radiated emission.
- This product contains no lead and supports lead-free soldering.

#### **APPLICATIONS**

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

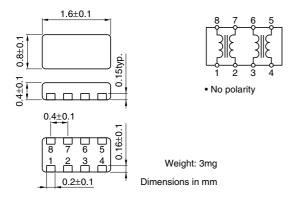
#### **TEMPERATURE RANGES**

Operating	–25 to +85°C
Storage(After mount)	−25 to +85°C

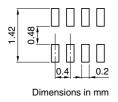
#### **PACKAGING STYLE AND QUANTITIES**

Packaging style	Quantity
Taping	4000 pieces/reel

#### SHAPES AND DIMENSIONS/CIRCUIT DIAGRAMS



#### **RECOMMENDED PC BOARD PATTERNS**



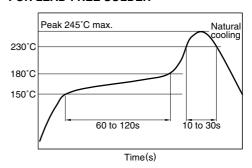
#### PRODUCT IDENTIFICATION

TCM	1608	G -	201	-	4P	-	Т
(1)	(2)	(3)	(4)		(5)	_	(6)

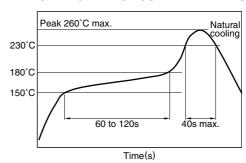
- (1) Series name
- (2) Dimensions L×W
- (3) Product identification number
- (4) Impedance[at 100MHz] 201: 200Ω
- (5) Number of line
  - 4P: 4-line
- (6) Packaging style

T: ø180mm reel taping

# RECOMMENDED SOLDERING CONDITIONS RECOMMENDED TEMPERATURE PROFILE FOR LEAD-FREE SOLDER



#### REFLOW PROFILE FOR SOLDER HEAT RESISTANCE



• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.



#### **ELECTRICAL CHARACTERISTICS**

Part No.	Common mode impedance $(\Omega)$ [100MHz]	DC resistance $(\Omega)[1 \text{ line}]$	Rated current Idc(A)max.	Rated voltage Edc(V)max.	Insulation resistance $(M\Omega)$ min.
TCM1608G-350-4P	35±30%	0.85±30%	0.10	5	10
TCM1608G-650-4P	65±20%	1.30±30%	0.10	5	10
TCM1608G-900-4P	90±20%	1.50±30%	0.10	5	10
TCM1608G-201-4P	200±20%	4.00±30%	0.05	5	10

## TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS

