

Common Mode Filters

For ultra high-speed differential signal line
(HDMI, DVI, DisplayPort, USB3.0, etc.)

TCM series

Type:	TCM0403S	[0201 inch]*
	TCM0605S	[0202 inch]
	TCM0806S	[0302 inch]
		* Dimensions Code [EIA]

Issue date: August 2012

- All specifications are subject to change without notice.
- 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.

Common Mode Filters

For Ultra High-speed Differential Signal Line (HDMI, DVI, DisplayPort, USB3.0, etc.)

Conformity to RoHS Directive

TCM Series TCM0403S

FEATURES

- Smallest size in the industry at L0.45×W0.30×T0.23mm.
- Thin-film common mode filter with a large bandwidth for high-speed differential signal interfaces such as USB 3.0 and DisplayPort.
- The series suppresses radiation noise due to common mode noise, without affecting the transmission of high-speed differential signals by realizing a higher cutoff frequency.
- This product contains no lead and supports lead-free soldering.

APPLICATIONS

- High speed interface(HDMI, DVI, DisplayPort, USB3.0 and Serial ATA, etc.) in electronics devices.
- Smartphones, digital cellular phones, tablet PCs, notebook PCs, PDP/LCD/DLP/PJ TVs, portable audio, DVC, DSC, DVD players, amusement machines, etc.

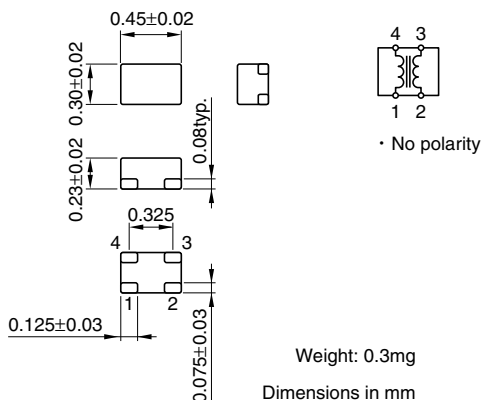
TEMPERATURE RANGES

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

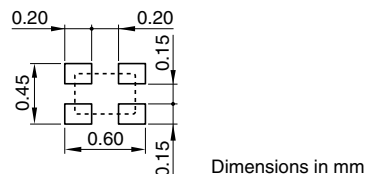
PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	10000 pieces/reel

SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



RECOMMENDED PC BOARD PATTERN



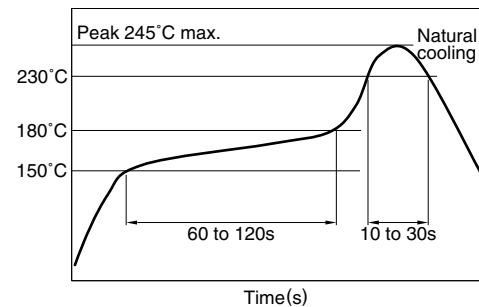
PRODUCT IDENTIFICATION

TCM	0403	S	- 350	- 2P	- T
(1)	(2)	(3)	(4)	(5)	(6)

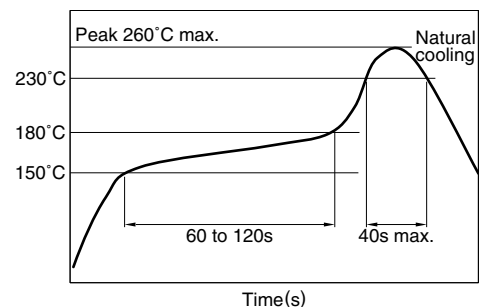
- (1) Series name
- (2) Dimensions L×W
- (3) Product identification number
- (4) Impedance[at 100MHz]
350: 35Ω
- (5) Number of line
2P: 2-line
- (6) Packaging style
T: ø180mm reel taping

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.

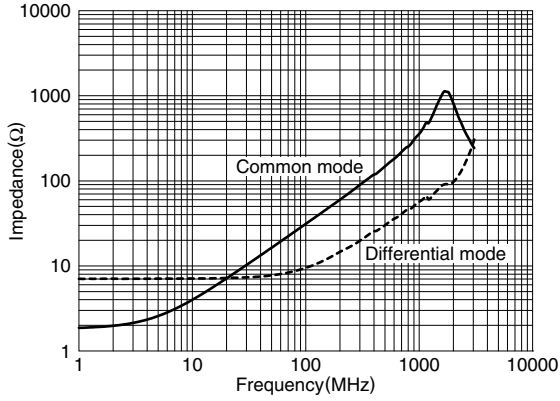
• All specifications are subject to change without notice.

ELECTRICAL CHARACTERISTICS

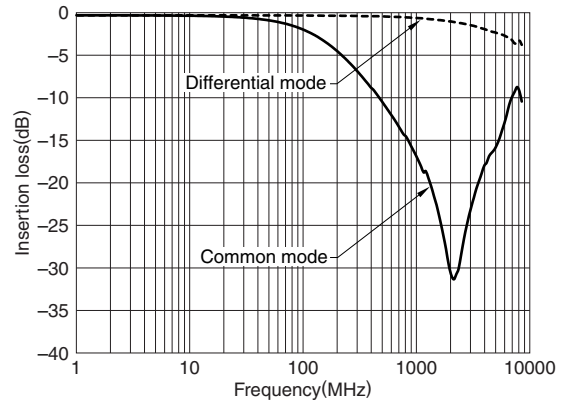
Part No.	Common mode impedance (Ω)[at 100MHz]	DC resistance (Ω) [1 line]	Cutoff frequency (GHz)typ.	Rated current Idc (A)max.	Rated voltage Edc (V)max.	Insulation resistance (MΩ)min.
TCM0403S-350-2P	35±12	3.0±30%	7.0	0.05	5	10

TYPICAL ELECTRICAL CHARACTERISTICS

IMPEDANCE vs. FREQUENCY CHARACTERISTICS



INSERTION LOSS vs. FREQUENCY CHARACTERISTICS



Common Mode Filters

For Ultra High-speed Differential Signal Line (HDMI, DVI, DisplayPort, USB3.0, etc.)

Conformity to RoHS Directive

TCM Series TCM0605S

FEATURES

- Thin-film common mode filter with a large bandwidth for high-speed differential signal interfaces such as USB 3.0 and DisplayPort.
- The series suppresses radiation noise due to common mode noise, without affecting the transmission of high-speed differential signals by realizing a higher cutoff frequency.
- This product contains no lead and supports lead-free soldering.

APPLICATIONS

- High speed interface(HDMI, DVI, DisplayPort, USB3.0 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.

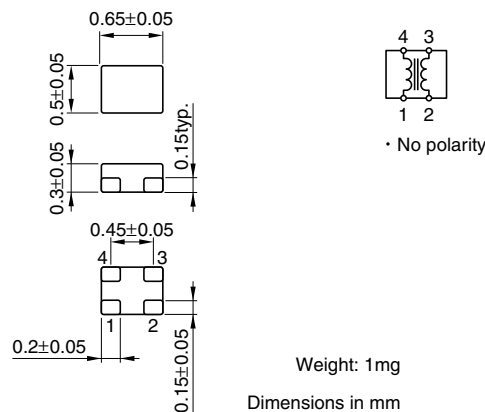
TEMPERATURE RANGES

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



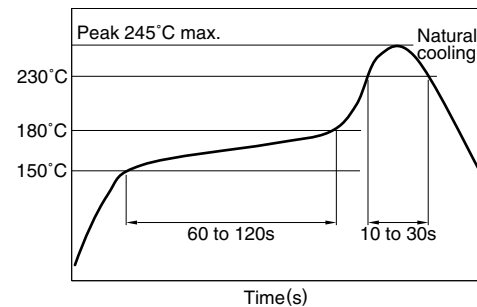
PRODUCT IDENTIFICATION

TCM	0605	S	- 120	- 2P	- T
(1)	(2)	(3)	(4)	(5)	(6)

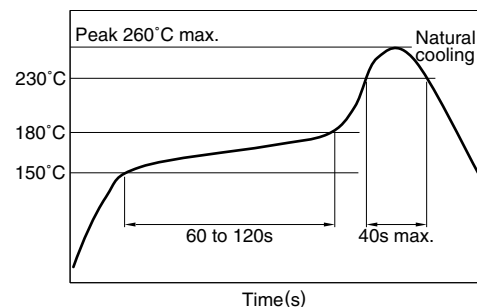
- Series name
- Dimensions L×W
- Product identification number
- Impedance[at 100MHz]
120: 12Ω
- Number of line
2P: 2-line
- Packaging style
T: ø180mm reel taping

RECOMMENDED SOLDERING CONDITIONS

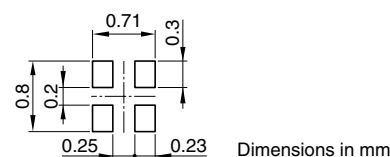
RECOMMENDED TEMPERATURE PROFILE FOR LEAD-FREE SOLDER



REFLOW PROFILE FOR SOLDER HEAT RESISTANCE



RECOMMENDED PC BOARD PATTERN



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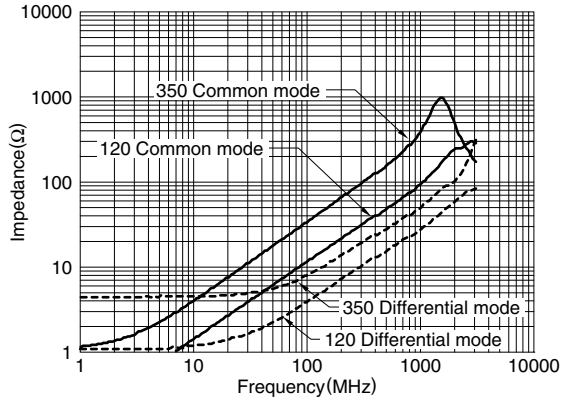
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ELECTRICAL CHARACTERISTICS

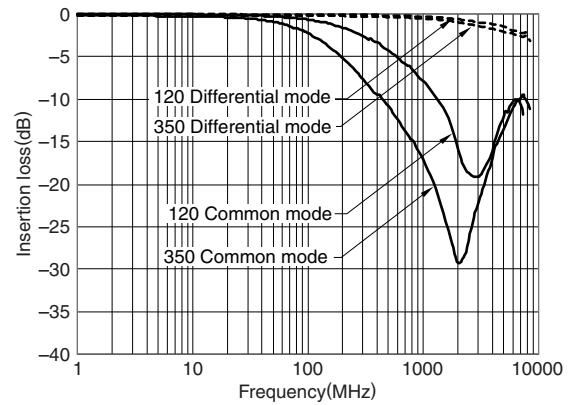
Part No.	Common mode impedance (Ω)[at 100MHz]	DC resistance (Ω)max. [1 line]	Cutoff frequency (GHz)typ.	Rated current Idc (A)max.	Rated voltage Edc (V)max.	Insulation resistance (M Ω)min.
TCM0605S-120-2P	12 \pm 5	1.0	8.5	0.1	10	10
TCM0605S-350-2P	35 \pm 12	2.7	8.0	0.1	10	10

TYPICAL ELECTRICAL CHARACTERISTICS

IMPEDANCE vs. FREQUENCY CHARACTERISTICS



INSERTION LOSS vs. FREQUENCY CHARACTERISTICS



Common Mode Filters

For Ultra High-speed Differential Signal Line (HDMI, DVI, DisplayPort, USB3.0, etc.)

Conformity to RoHS Directive

TCM Series TCM0806S

FEATURES

- Thin-film common mode filter with a wide bandwidth for high-speed differential signal interfaces such as USB 3.0 and DisplayPort.
- The series suppresses radiation noise due to common mode noise, without affecting the transmission of high-speed differential signals by realizing a higher cutoff frequency.
- This product contains no lead and supports lead-free soldering.

APPLICATIONS

- High speed interface(HDMI, DVI, DisplayPort, USB3.0 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.

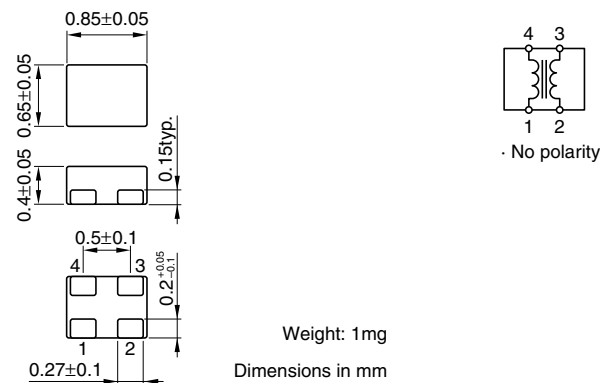
TEMPERATURE RANGES

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

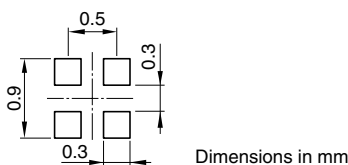
PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	10000 pieces/reel

SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



RECOMMENDED PC BOARD PATTERN

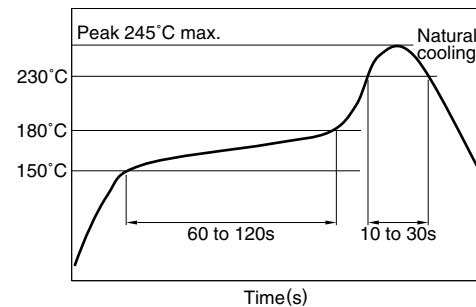


PRODUCT IDENTIFICATION

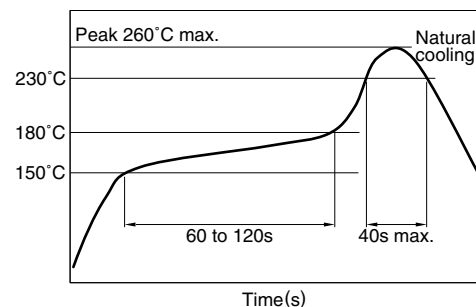
TCM	0806	S	- 120	- 2P	- T
(1)	(2)	(3)	(4)	(5)	(6)

- (1) Series name
- (2) Dimensions L×W
- (3) Product identification number
- (4) Impedance[at 100MHz]
120: 12Ω
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RECOMMENDED SOLDERING CONDITIONS RECOMMENDED TEMPERATURE PROFILE FOR LEAD-FREE SOLDER



REFLOW PROFILE FOR SOLDER HEAT RESISTANCE



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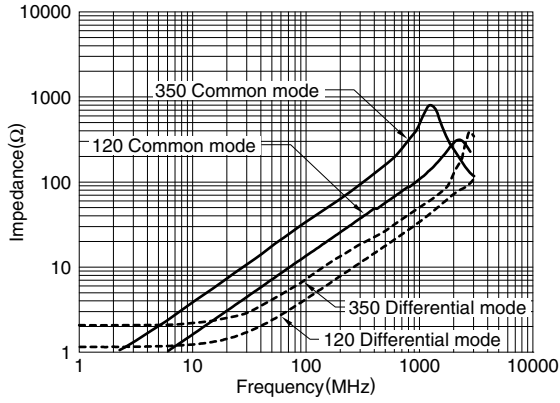
• All specifications are subject to change without notice.

ELECTRICAL CHARACTERISTICS

Part No.	Common mode impedance (Ω)[at 100MHz]	DC resistance (Ω)max. [1 line]	Cutoff frequency (GHz)typ.	Rated current Idc (A)max.	Rated voltage Edc (V)max.	Insulation resistance (M Ω)min.
TCM0806S-120-2P	12 \pm 5	1	8.5	0.1	10	10
TCM0806S-350-2P	35 \pm 12	1.5	7.0	0.1	10	10

TYPICAL ELECTRICAL CHARACTERISTICS

IMPEDANCE vs. FREQUENCY CHARACTERISTICS



INSERTION LOSS vs. FREQUENCY CHARACTERISTICS

