

TCF 02502 DU 120 02 A

Specification

Product Name	Thin Film Common Mode Filter
Series	TCF Series
Part No	TCF 02502 DU 120 02 A
Size	EIA 02502



TCF 02502 DU 120 02 A Engineering Specification

1. Scope

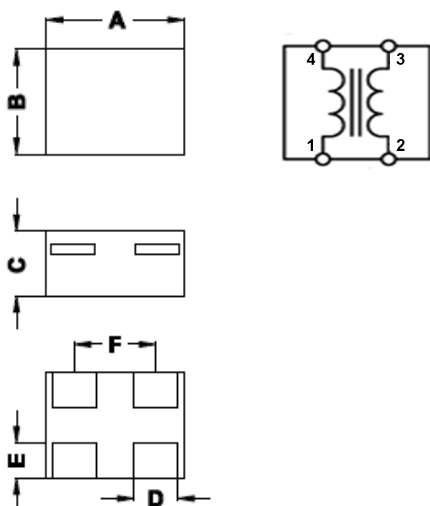
TCF 02502 DU series is a thin film common mode filter designed to suppress common mode noise for high speed differential data lines, such as Display Port, e-SATA, USB3.0, HDMI, MIPI, and MHL.USB3.1

2. Explanation of Part Number

TCF 02502 DU 120 02 A □□
 (1) (2) (3) (4) (5) (6) (7)

1. Product Type : TCF= Thin Film Common Mode Filter
2. EIA Dimension Code
3. Speed Identification Code
4. Impedance(at 100MHz): 120= 12Ω
5. Line Code: 02= 2 lines
6. Specialized Specification Code
7. Control code

3. Circuit Diagram & Dimension



Dimensions in mm

Series	A	B	C	D	E	F
TCF 02502	0.67±0.05	0.52±0.05	0.32±0.05	0.2±0.05	0.15±0.1	0.45±0.05

4. Specifications

4.1. ABSOLUTE MAXIMUM RATINGS

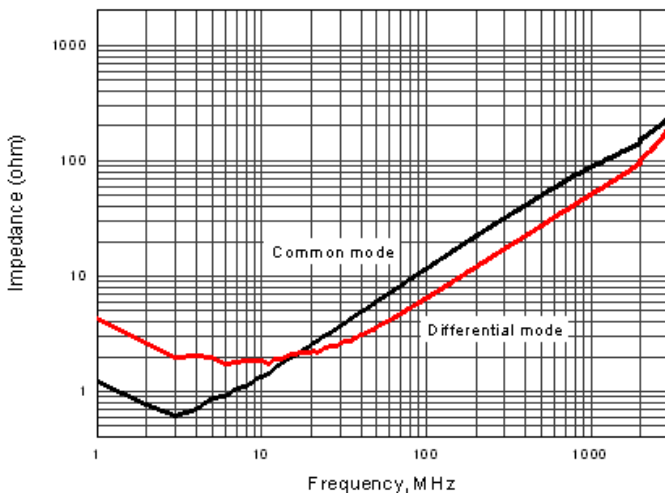
PARAMETER	PARAMETER	RATING	UNITS
Rated Voltage	V_{DC}	5	V
Rated Current	I_{DC}	100	mA
Operating Temperature		-25 ~ 85	°C
Lead Soldering Temperature	T_{SOL}	260 (10 sec.)	°C

4.2. ELECTRICAL CHARACTERISTICS

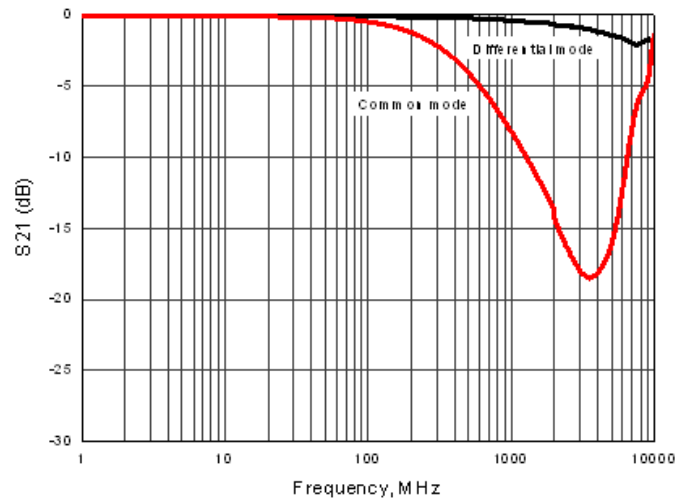
PARAMETER	MIN	TYP	MAX	UNITS
Common Mode Impedance (at 100 MHz)	7	12	17	Ω
Cut-off Frequency		10		GHz
DC Resistance			2	Ω
Insulation Resistance	10			$M\Omega$

4.3. TYPICAL CHARACTERISTICS

Impedance vs Frequency Characteristics*



Insertion Loss vs Frequency Characteristics**



*Test Instrument: HP4291A Impedance/Material Analyzer

**Test Instrument: Agilent E5071C ENA-L Network Analyzer

4.4. MSL Level : Level 1

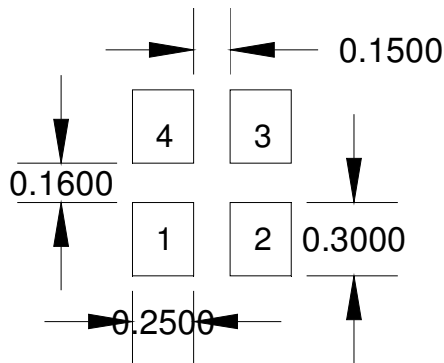
4.5. Storage Condition with package

Storage Time : 12 months

Storage Temperature : 5 to 40°C

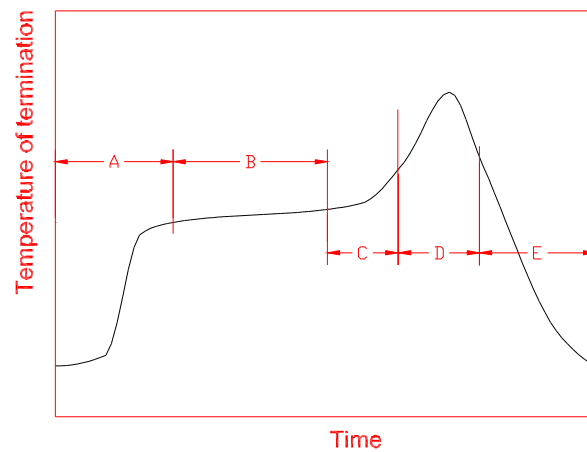
Relative Humidity : < 65 %

5. LAND LAYOUT



Dimensions in mm

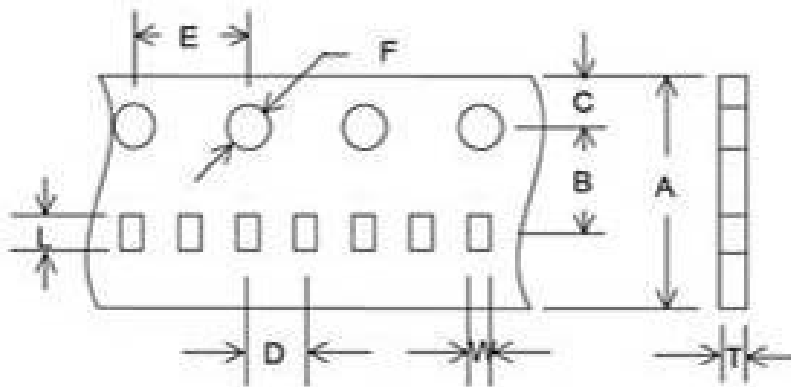
6. Recommendable reflow soldering



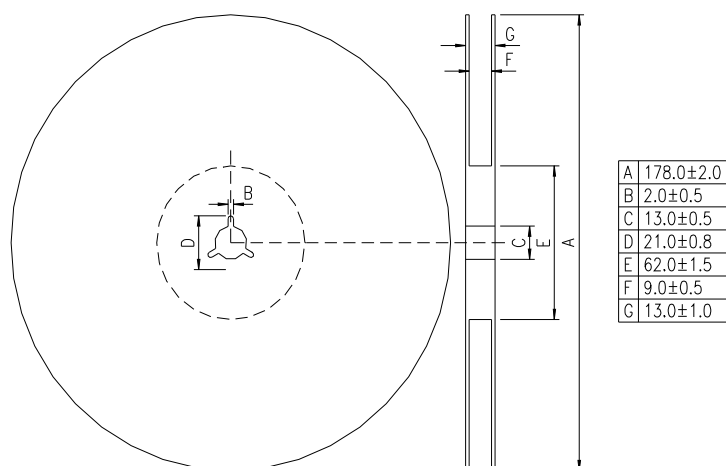
A	1 st rising temperature	The normal to Preheating temperature	30s to 60s
B	Preheating	140°C to 160°C	60s to 120s
C	2 nd rising temperature	Preheating to 200°C	20s to 40s
D	Main heating	if 220°C if 230°C if 240°C if 250°C if 260°C	50s~60s 40s~50s 30s~40s 20s~40s 20s~40s
E	Regular cooling	200°C to 100°C	1°C/s ~ 4°C/s

- According to J-STD-020C

7. Tape and reel specifications



A	8.00±0.10
B	3.50±0.05
C	1.75±0.1
D	2.00±0.05
E	4.00±0.10
F	1.5±0.10
L	0.78±0.03
W	0.65±0.03
T	0.42±0.03
Unit : mm	



*Standard quantity : 10000 pcs/Reel