INPAQ

Global RF/Component Solutions

TCFE03025H90002A

Specification

Product Name	Thin Film Common Mode Filter plus ESD Function
Series	TCFE Series
Part No	TCFE 03025 H 900 02 A
Size	EIA 03025

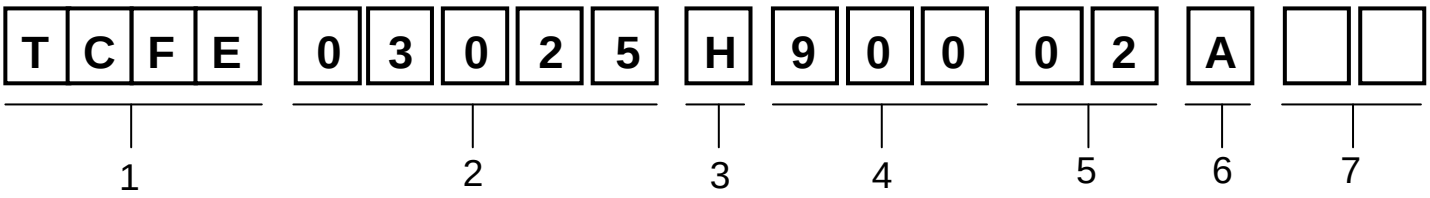
TCFE 03025 H 900 02 A Engineering Specification

1.Scope

TCFE03025H series is a thin film common mode filter with additional ESD protection. It is designed to suppress common mode noise for high speed differential data lines, such as MIPI. The ESD protection of **IEC61000-4-2 level4** in high speed differential data lines is also provided.

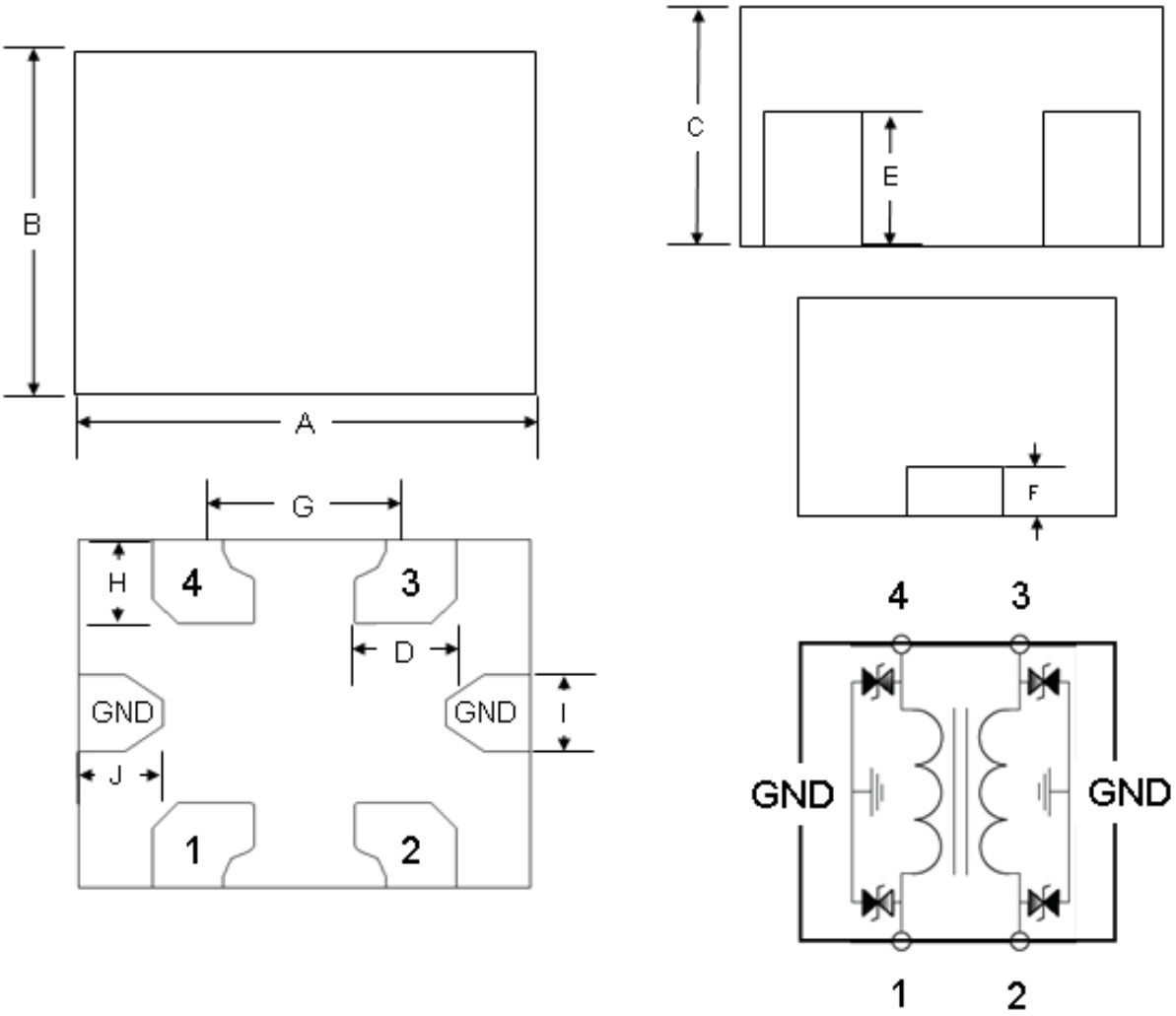
These differential interfaces can be used in Mobile phone, Notebooks, Tablet PC & Digital Camera, etc.

2.Explanation of Part Number



1：Product Type：TCFE= Thin Film Common Mode Filter ESD
2：EIA Dimension Code
3：Speed Identification Code: H= High Speed
4：Impedance(at 100MHz): 900= 90Ω
5：Line Code: 02= 2 lines
6：Specialized Specification Code
7：Control Code

3.Circuit Diagram & Dimension



Series	A	B	C	D	E	F	G	H	I	J
TCFE 03025	0.85±0.05	0.65±0.05	0.5±0.05	0.17±0.1	0.4±0.1	0.08±0.05	0.4±0.1	0.15±0.1	0.15±0.1	0.15±0.1

4.Specifications

4.1. ABSOLUTE MAXIMUM RATINGS

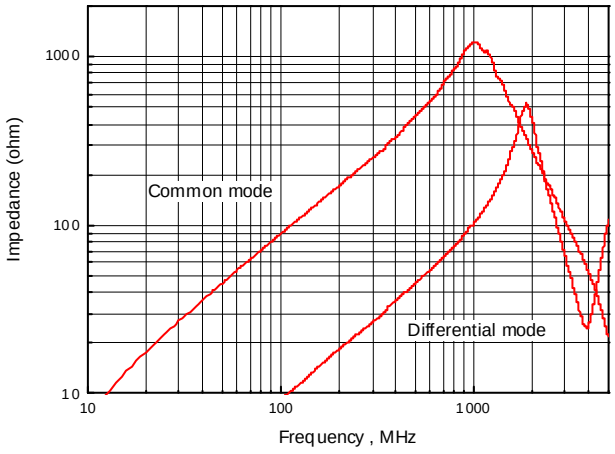
PARAMETER	PARAMETER	RATING	UNITS
Rated Voltage	V_{DC}	5	V
Rated Current	I_{DC}	100	mA
Lead Soldering Temperature	T_{SOL}	260 (10 sec.)	^{o}C

4.2. ELECTRICAL CHARACTERISTICS

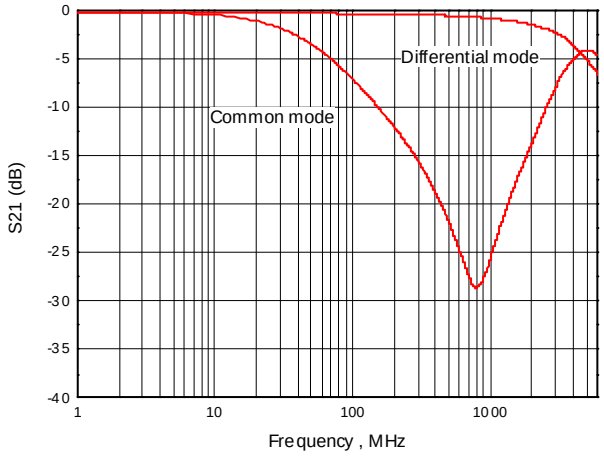
PARAMETER	MIN	TYP	MAX	UNITS
Common Mode Impedance (at 100 MHz)	67.5	90	112.5	Ω
Cut-off Frequency		3		GHz
DC Resistance	1.8	2.7	3.5	Ω
Insulation Resistance	10			MΩ
Capacitance (at 1MHz, any pin to ground)		0.6		pF
Leakage Current (at 5V, any pin to ground)			1	μA

4.3. TYPICAL CHARACTERISTICS

Impedance vs Frequency Characteristics*



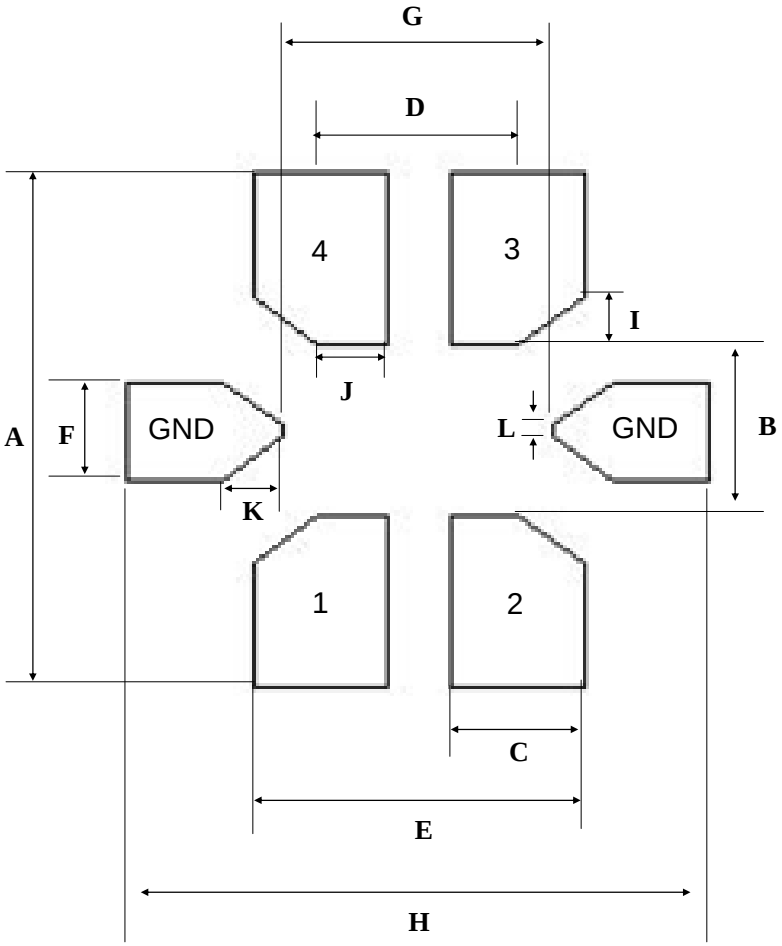
Insertion Loss vs Frequency Characteristics**



*Test Instrument: HP4291A Impedance/Material Analyzer

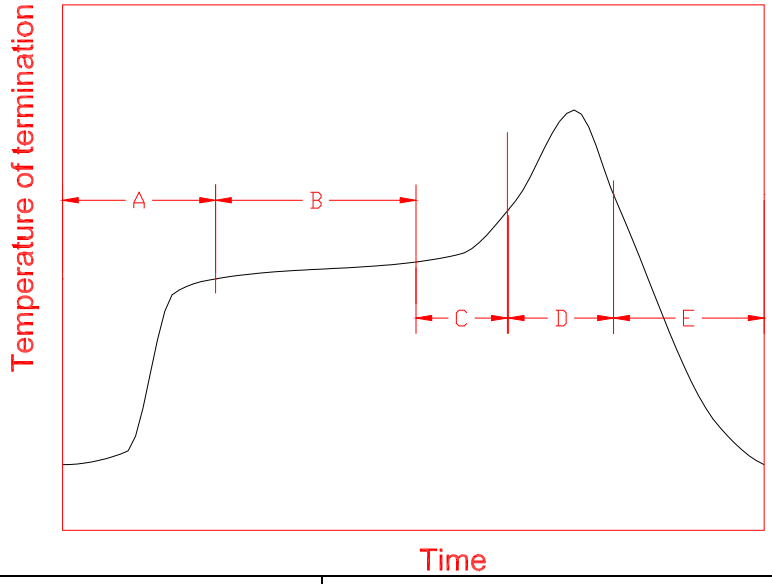
**Test Instrument: Agilent E5071C ENA-L Network Analyzer

5.LAND LAYOUT



	mm
A	1.05
B	0.35
C	0.27
D	0.4
E	0.67
F	0.2
G	0.55
H	1.18
I	0.097
J	0.136
K	0.121
L	0.025

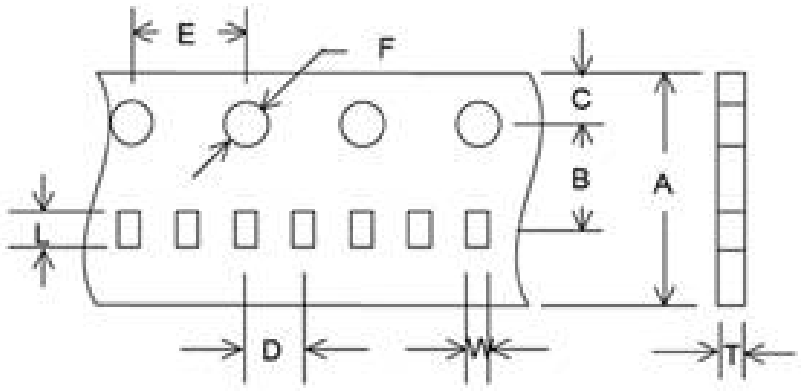
6.Recommendable reflow soldering



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

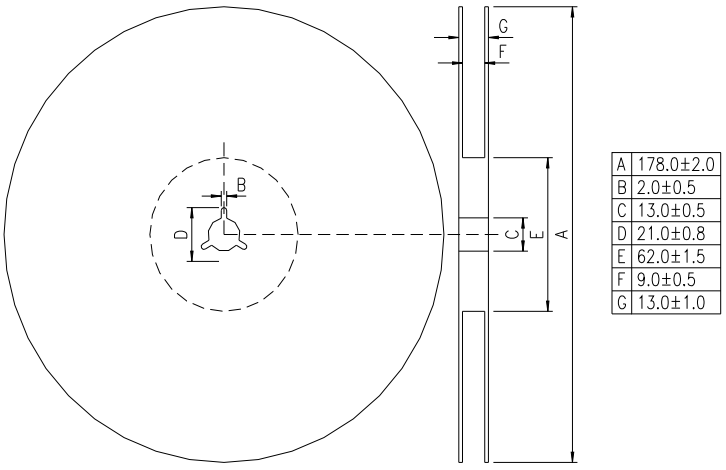
- According to J-STD-020C

7.Tape and reel specifications



A	8±0.1
B	3.5±0.05
C	1.75±0.05
D	2±0.05
E	4±0.1
F	1.55±0.05
L	1.04±0.03
W	0.78±0.03
T	0.60±0.03

Unit: mm



A	178.0±2.0
B	2.0±0.5
C	13.0±0.5
D	21.0±0.8
E	62.0±1.5
F	9.0±0.5
G	13.0±1.0

*Standard quantity：10,000 pcs/Reel