

SPECIFICATION



Brand

ZenithTek

Product Series Code

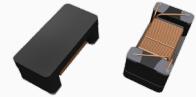
ZCMT - F1 - Series

File Version

V1.0

Description

SMD Wire Wound Common Mode Filter



Features

- SMD Type Common Mode Filter.
- Noise Suppression for Power Line.
- Halogen Free, Lead Free, RoHS and REACH Compliance.
- Comply with AEC-Q200 verified.

Applications

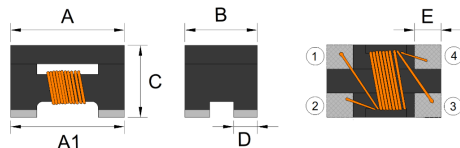
- CAN-BUS, FAXs, modems, ISDNs, etc.

Product Identification

ZCMT **322525** **F1** **110** **R** **Y**
 1 2 3 4 5 6

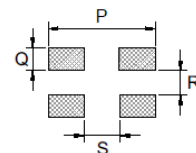
- 1.Product Code:
ZCMT = ZenithTek Code.
- 2.Dimension Code:
322525 = 3.2 * 2.5 * 2.3 mm.
- 3.Type Code:
F1.
- 4.Inductance Code:
110 = 11μH.
- 5.Tolerance Code:
R = +50/-30%.
- 6.Inner Code:
Y.

Dimension (Unit: mm)



Type	A(±0.20)	A1(±0.20)	B(±0.20)	C(±0.20)	D(Typ.)	E(Typ.)
ZCMT322525	3.20	3.30	2.50	2.30	0.90	0.70
ZCMT453228	4.50	4.70	3.20	2.60	0.85	0.70

Land Pattern (Unit: mm)

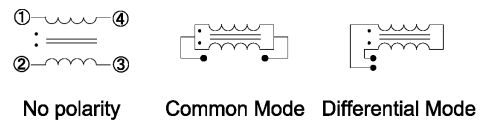


Type	P(Ref.)	Q(Ref.)	R(Ref.)	S(Ref.)
ZCMT322525	3.70	0.95	0.60	2.00
ZCMT453228	5.90	0.90	1.60	3.00

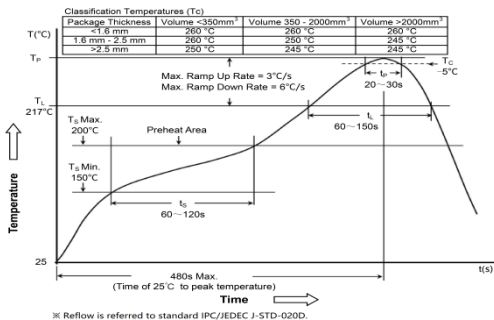
Product Structure



Schematic



Reflow Heat Endurance



Operating Conditions

Operating Temp. : -40°C~+125°C (including self-temp. rise)

Standard & Atmospheric Condition

Ambient Temp. : 25°C±15°C / Relative Humidity : 65±20%.
If there may be any doubt on the result, measurement shall be made within the following limits :
Ambient Temp. : 25°C±2°C / Relative Humidity : 65±5%.

Test Equipment

LCR Meter : Agilent E4991A+16197ATest Fixture.
Resistance Meter : HIOKI-RM3545.
Caliper : Mitsutoyo 150mm.



ES France - Département Composants & Modules
127 rue de Buzenval BP 26 - 92380 Garches



Tél. 01 47 95 99 89
Fax. 01 47 01 16 22



e-mail : comp@es-france.com
Site Web : www.es-france.com

SPECIFICATION



ZenithTek

Brand

ZenithTek

Product Series Code

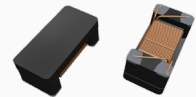
ZCMT - F1 - Series

File Version

V1.0

Description

SMD Wire Wound Common Mode Filter



Electrical Characteristic

Part Number	Impedance (Ω)/(Min.) 10MHz	Impedance (Ω)/(Typ.) 10MHz	Inductance (μ H)	Tolerance (%)	Test Frequency (KHz)/0.1V	Rated Current (mA)/(Max.)	Rated Voltage (Vdc)/(Max.)	DC Resistance (m Ω)/(Max.)	Insulation Resistance (M Ω)/(Min.)
ZCMT322525F1110RY	300	550	11	+50/-30	100	400	50	300	10
ZCMT322525F1220RY	500	1100	22	+50/-30	100	300	50	500	10
ZCMT322525F1510RY	1000	2600	51	+50/-30	100	200	50	700	10
ZCMT322525F1101RY	2200	5100	100	+50/-30	100	150	50	1500	10

Note 1: Irms: The DC current at which the temperature rises approximately $\Delta T=40^{\circ}\text{C}$.



ES France - Département Composants & Modules
127 rue de Buzenval BP 26 - 92380 Garches



Tél. 01 47 95 99 89
Fax. 01 47 01 16 22



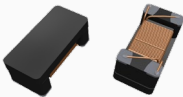
e-mail : comp@es-france.com
Site Web : www.es-france.com

SPECIFICATION



ZenithTek

Brand
ZenithTek
Product Series Code
ZCMT - F1 - Series
File Version
V1.0
Description
SMD Wire Wound Common Mode Filter



Electrical Characteristic

Part Number	Impedance (Ω)/(Min.) 10MHz	Impedance (Ω)/(Typ.) 10MHz	Inductance (μ H)	Tolerance (%)	Test Frequency (KHz)/0.1V	Rated Current (mA)/(Max.)	Rated Voltage (Vdc)/(Max.)	DC Resistance (m Ω)/(Max.)	Insulation Resistance (M Ω)/(Min.)
ZCMT453228F1110RY	300	600	11	+50/-30	100	250	50	600	10
ZCMT453228F1220RY	500	1200	22	+50/-30	100	310	50	1000	10
ZCMT453228F1510RY	1000	2800	51	+50/-30	100	200	50	1000	10
ZCMT453228F1101RY	2000	5800	100	+50/-30	100	150	50	2000	10

Note 1: Irms: The DC current at which the temperature rises approximately $\Delta T=40^{\circ}\text{C}$.



ES France - Département Composants & Modules
127 rue de Buzenval BP 26 - 92380 Garches



Tél. 01 47 95 99 89
Fax. 01 47 01 16 22



e-mail : comp@es-france.com
Site Web : www.es-france.com

SPECIFICATION

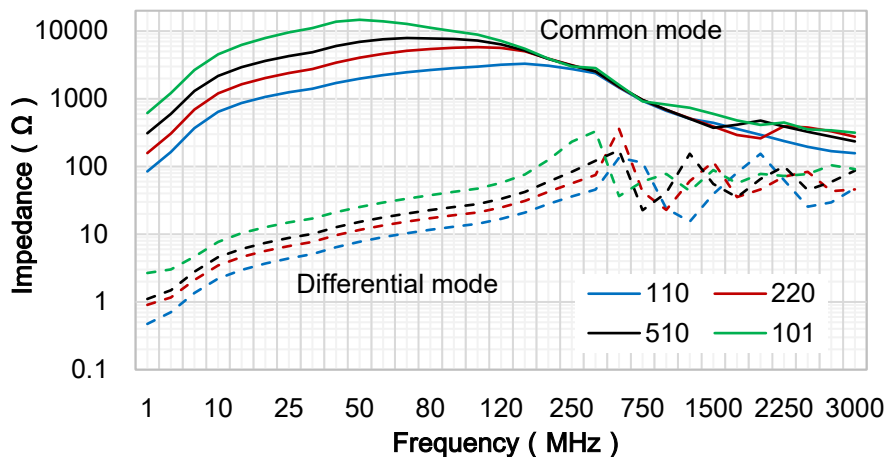


Brand **ZenithTek**
Product Series Code **ZCMT - F1 - Series**
File Version **V1.0**
Description **SMD Wire Wound Common Mode Filter**

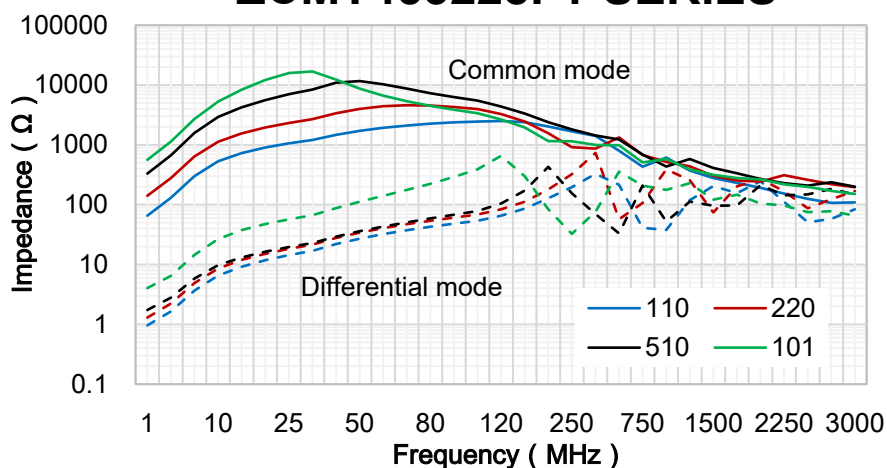


Performance Curves

ZCMT322525F1-SERIES



ZCMT453228F1-SERIES



ES France - Département Composants & Modules
127 rue de Buzenval BP 26 - 92380 Garches



Tél. 01 47 95 99 89
Fax. 01 47 01 16 22



e-mail : comp@es-france.com
Site Web : www.es-france.com

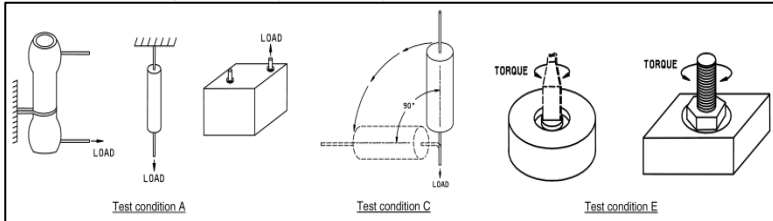
SPECIFICATION



Brand ZenithTek
Product Series Code ZCMT - F1 - Series
File Version V1.0
Description SMD Wire Wound Common Mode Filter



Reliability Test

No.	Item	Judgement	Test Method
1	High Temperature Exposure. (Storage)	Appearance : No visible mechanical damage. Electrical Test : within $\pm 10\%$ of initial.	Reference documents: MIL-STD-202G - Method "108" / Condition "D" Temperature: $T^{\circ}\text{C} \pm 3^{\circ}\text{C}$. (T is defined in note 1) Duration: 1000 hours. Measurement at 24 ± 4 hours after test conclusion.
2	Temperature Cycling.	Appearance : No visible mechanical damage. Electrical Test : within $\pm 10\%$ of initial.	Reference documents: JESD22 - Method "JA-104" / Condition "H" Cycling : -40°C (keep 30min) $\Rightarrow$ Transition Period(≤ 1 minute) $\Rightarrow T^{\circ}\text{C}$ (keep 30min) $\Rightarrow$ Transition Period(≤ 1 minute) $\Rightarrow -40^{\circ}\text{C}$. T is defined in note 1. Duration: 1000 cycles. Measurement at 24 ± 4 hours after test conclusion.
3	Biased Humidity.	Appearance : No visible mechanical damage. Electrical Test : within $\pm 10\%$ of initial..	Reference documents: MIL-STD-202G - Method "103" Temperature: 85°C . Relative Humidity: 85%. Duration: 1000 hours. Measurement at 24 ± 4 hours after test conclusion.
4	Operational Life.	Appearance : No visible mechanical damage. Electrical Test : within $\pm 10\%$ of initial.	Reference documents: MIL-PRF-27 Apply rated current, then operated at max operation temperature $T^{\circ}\text{C}$. Duration: 1000 hours. 5 life cycle/week. T is defined in note 1. Measurement at 24 ± 4 hours after test conclusion.
5	External Visual.	Inspect device construction, marking and workmanship. Electrical Test not required.	Reference documents: MIL-STD-883 - Method "2009" All qualification parts submitted.
6	Physical Dimension.	Meet the specifications.	Reference documents: JESD22 - Method "JB-100" Sample size: 30pcs.
7	Terminal Strength. (Leaded)	Appearance : No visible mechanical damage. Electrical Test : within $\pm 10\%$ of initial.	Reference documents: MIL-STD-202 - Method "211" Test leaded device lead integrity only. Conditions: A (910 g), C (1.13 kg), E (1.45 kg-mm). 
8	Resistance to Solvents.	Appearance: No visible mechanical damage.	Reference documents: MIL-STD-202 - Method "215" Note: Add Aqueous wash chemical. OKEM Clean or equivalent. Do not use banned solvents.

SPECIFICATION



Brand ZenithTek
Product Series Code ZCMT - F1 - Series
File Version V1.0
Description SMD Wire Wound Common Mode Filter



Reliability Test

No.	Item	Specification	Test Method
9	Mechanical Shock.	Appearance : No visible mechanical damage. Electrical Test : within $\pm 10\%$ of initial.	Reference documents: MIL-STD-202G - Method "213" / Condition "C" Peak acceleration: 100 g's. Duration of pulse: 6ms. Waveform: Half-sine. Velocity change: 12.3 ft/sec. Shocks in each direction along 3 perpendicular axes.
10	Vibration test.	Appearance : No visible mechanical damage. Electrical Test : within $\pm 10\%$ of initial.	Reference documents: MIL-STD-202G - Method "204" Frequency: 10Hz~2KHz~10Hz, 20 minutes cycle. Duration: Approximately 12 hours - 36 cycles in total.
11	Resistance to Soldering Heat.	Appearance : No visible mechanical damage. Electrical Test : within $\pm 10\%$ of initial.	Reference documents: MIL-STD-202G - Method "210" / Condition "K" Setting: Reflow Peak $260 \pm 5^\circ\text{C}$ ($30 \pm 5\text{s}$) / Time above 183°C ($90 \sim 120\text{s}$). (The Reflow Peak can be according to customer requirements).
12	ESD	Electrical Test : within $\pm 10\%$ of initial.	Reference documents: ACE-Q200 - Method "002" Voltage is defined in product spec and AEC-Q200 table 2 around 500V~8KV. ESD Waveform is defined in AEC-Q200 Fig 3.
13	Solderability test.	The surface of terminals tested shall be covered with new solder by 95%.	Reference documents: J-STD-002. Preheating: $150 \pm 10^\circ\text{C}$ 60 sec. Soldering: $245 \pm 5^\circ\text{C}$ for $5+0/-0.5$ sec.
14	Electrical Characterization.	Meet the specifications.	Reference documents: User Spec. All qualification parts submitted for testing.
15	Flammability	V-0 or V-1 Acceptable. Not have any specimens with glowing combustion that persists for more than 30 sec.	Reference documents: UL-94 The length of the yellow-tipped blue flame: $20 \pm 1\text{mm}$. The test flame is to be placed centrally under the lower end of the test specimen and remain 10 ± 0.5 sec.
16	Board Flex.	Appearance : No visible mechanical damage. Electrical Test : within $\pm 10\%$ of initial.	Reference documents: ACE-Q200 - Method "005" Setting: 2mm minimum downward displacement of PCB board. (or as defined in the customer specification or Q200) Duration: $60+5$ sec. The force is to be applied only once to the board.
17	Terminal Strength. (SMD)	Appearance : No visible mechanical damage. Electrical Test : within $\pm 10\%$ of initial.	Reference documents: ACE-Q200 - Method "006" Setting: Mounted to PCB apply a 17.7 N (1.8 Kg) force to the side of a device being tested. Duration: $60+1$ sec.

Note 1: Grade is defined in AEC-Q200 section 1.1.1 and product's spec.

Grade 0: $T=150^\circ\text{C} \pm 3^\circ\text{C}$

Grade 1: $T=125^\circ\text{C} \pm 3^\circ\text{C}$

Grade 2: $T=105^\circ\text{C} \pm 3^\circ\text{C}$

Grade 3: $T=85^\circ\text{C} \pm 3^\circ\text{C}$

Note 2: Interval measurements for 1000 hours tests required at 250 and 500 hours.

Note 3: Flammability and ESD is applied for specific type product or based on customer's need.

SPECIFICATION

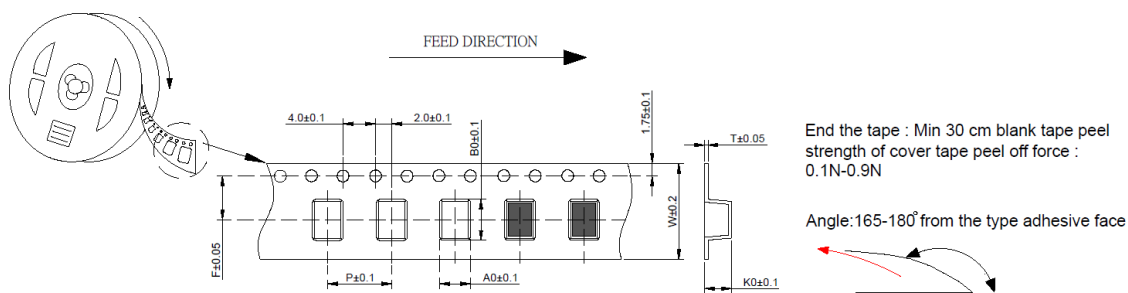


Brand ZenithTek
Product Series Code ZCMT - F1 - Series
File Version V1.0
Description SMD Wire Wound Common Mode Filter



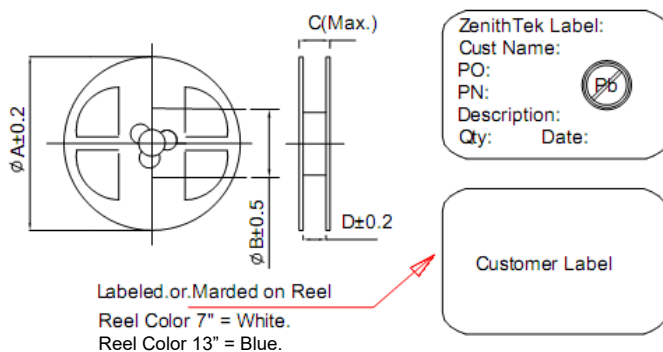
Package

Taping Dimension (mm)



Size(mm)	W	P	A0	B0	K0	T	F
ZCMT322525	8.00	4.00	2.85	3.65	2.55	0.26	3.50
ZCMT453228	12.00	8.00	3.55	4.85	3.05	0.30	5.50

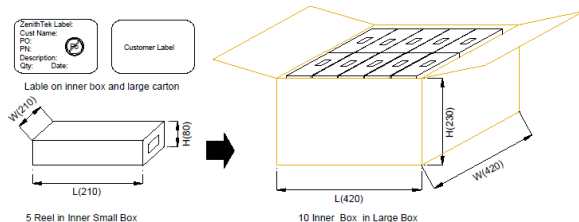
Reel Dimension (mm)



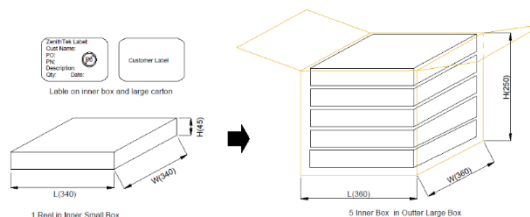
Size(mm)	A	B	C	D	Reel/Size	Qty./Size
ZCMT322525	178	60	14.4	8.4	7"	1500 Pcs
ZCMT453228	330	100	18.4	12.4	13"	2000 Pcs

Box Dimension (mm)

7" Size



13" Size



ES France - Département Composants & Modules
127 rue de Buzenval BP 26 - 92380 Garches



Tél. 01 47 95 99 89
Fax. 01 47 01 16 22



e-mail : comp@es-france.com
Site Web : www.es-france.com