Automotive Chip Choke®
EMI Suppression for CAN-Bus Networks
2-Line Common Mode Chokes



- *Meets AEC-Q200 Requirements*
- *Suppression of common mode noise without attenuating the signal*
- *Magnetically shielded versions for lower Rdc and higher current*
- *USB 3.0 and other high speed differential signal lines (IEEE1394, LVDS)*

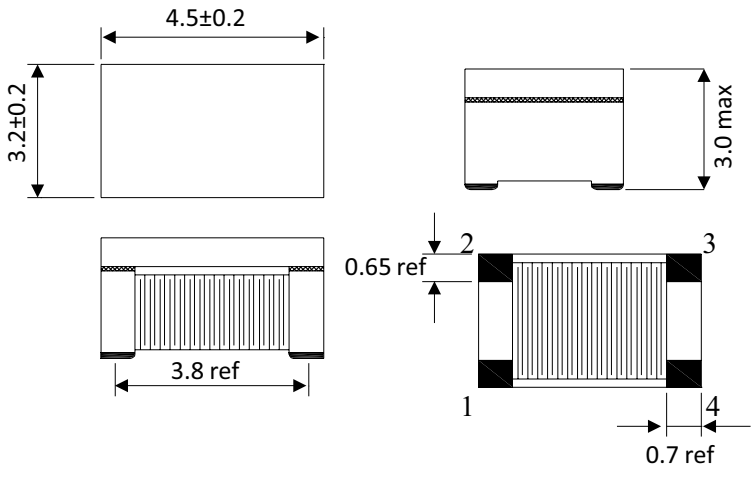
Electrical Specifications @ 25°C – Operating Temperature -40°C to +125°C

Part Number	Common Mode Impedance (10MHZ) Min	Common Mode Impedance (10MHZ) Typ	Inductance (uH)	Standard Tolerance	RDC (Ω Max)	IDC (A MAX)
PE-1812ACC110STS	300	600	11	+50/-30%	0.5	0.36
PE-1812ACC220STS	600	1200	22	+50/-30%	0.6	0.31
PE-1812ACC510STS	1500	3500	51	+50/-30%	1.0	0.23
PE-1812ACC101STS	3000	7500	100	+50/-30%	2.0	0.20

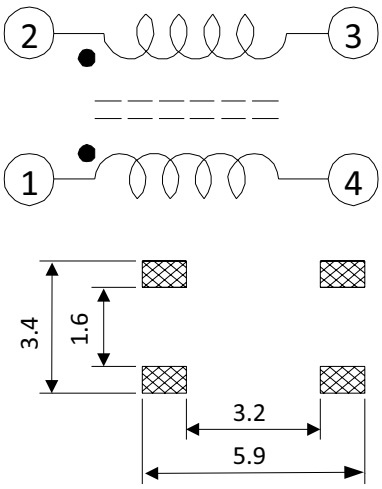
Weight .....120 grams/reel
Tape & Reel 150/reel

Mechanical

PE-1812ACCXXXSTS



Schematic

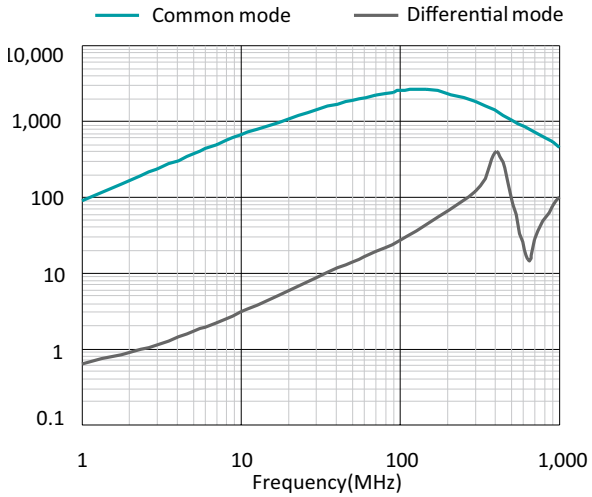


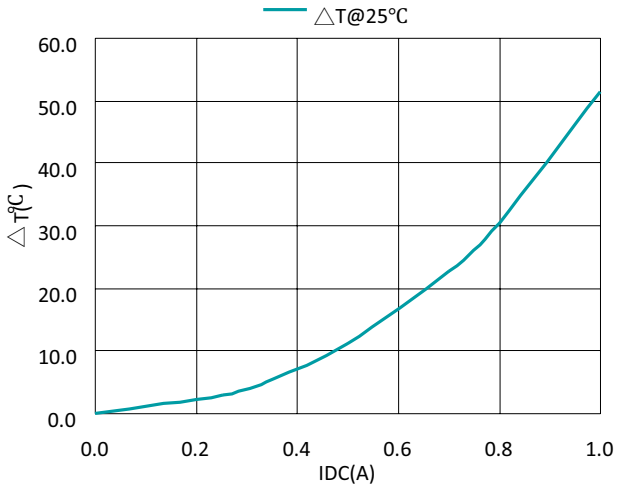
All Units in mm

Impedance vs Frequency

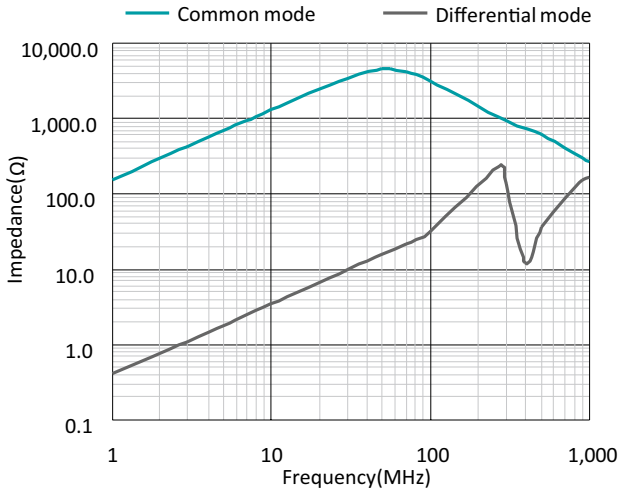
Temp vs DC Current

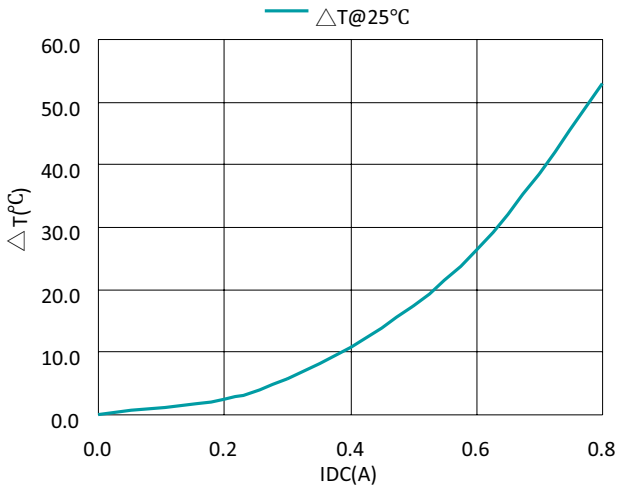
PE-1812ACC110STS





PE-1812ACC220STS

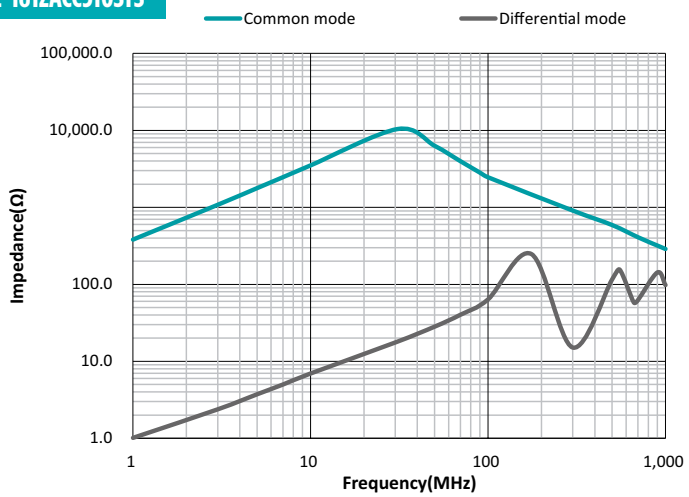




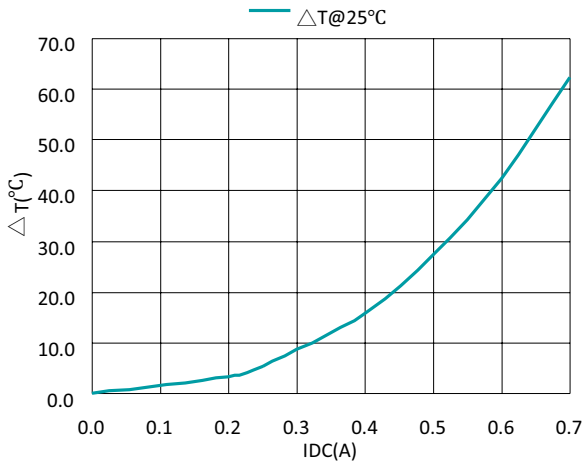
Automotive Chip Choke®
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PE-1812ACC510STS

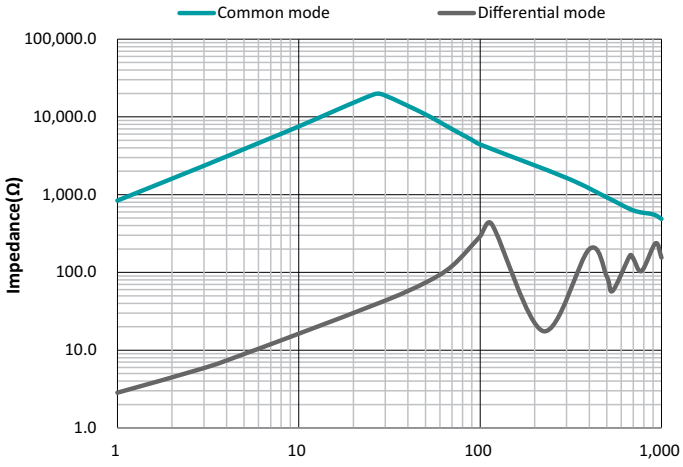
Impedance vs Frequency

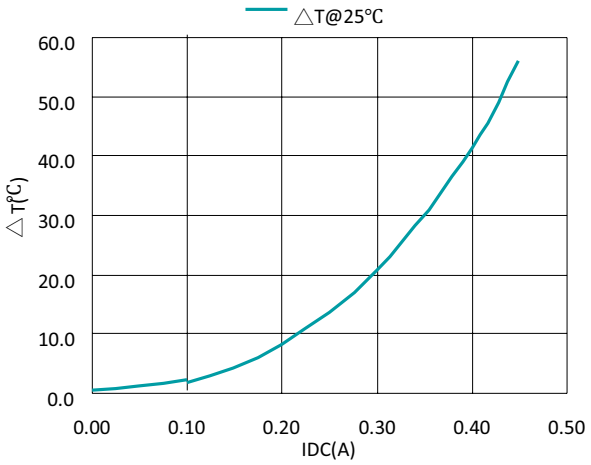


Temp vs DC Current



PE-1812ACC101STS



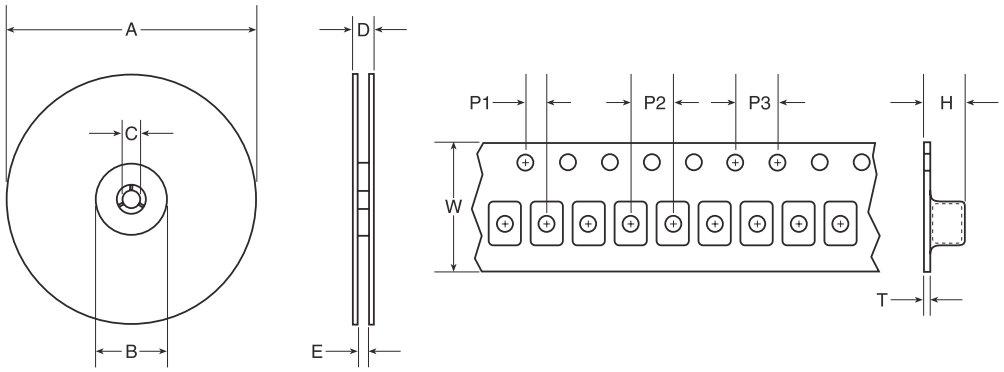


Reliability Test

Item	Reference documents	Test Condition	Test Specification
1. High Temperature Exposure	MIL-STD-202 Method 108	1. Temperature: 125˚C 2. Time: 96 hours	1. No mechanical and electrical damage 2. Inductance shall not change more than ±30%
2. Temperature Cycling	JESD22 Method JA-104	1. Temperature: 40˚C~125˚C 2. Number of cycles: 96 cycle 3.Dwell time: 30 minutes	1. No mechanical and electrical damage 2. Inductance shall not change more than ±30%
3. Biased Humidity Test	MIL-STD-202 Method 103	1. Temperature: 85±5˚C 2. Time: 96 hours 3. Humidity: 85±5% RH	1. No mechanical and electrical damage 2. Inductance shall not change more than ±30%
4. Operational Life	MIL-PRF-27	1. Temperature: 125˚C 2. Time: 96 hours 3. Apply rated current	1. No mechanical and electrical damage 2. Inductance shall not change more than ±30%
5. External Visual	MIL-STD-883 Method 2009	Inspect product construction, marking and workmanship	Per product specification standard
6. Physical Dimensions	JESD22 Method JB-100	Verify physical dimensions to the applicable product detail specification	Per product specification standard
7. Resistance to solvents	MIL-STD-202 Method 215	Immerse into solvent for 3±0.5 minutes & brush 10 times for their cycles.	1. No body change in appearance 2. No marking blurred. 3. Inductance shall not change more than ±30%
8. Vibration Test	MIL-STD-202 Method 204	1. Frequency and Amplified: 10-2000-10 Hz, 1.5mm 2. Direction: X, Y, Z 3. Test duration: 2 hours for each direction, 6 hours in total	1. No mechanical and electrical damage 2. Inductance shall not change more than ±30%
9. Resistance to Soldering Heat Test	MIL-STD-202 Method 210	1. Temperature: 250±5˚C 2. Time: (temp.≥217˚C) 60~150 Second 3. IR reflow times: 3 times	1. No mechanical and electrical damage 2. Inductance shall not change more than ±30%
10. Rated Current	MIL-STD-202 Method 330	Apply rated current for 5 seconds.	1. No mechanical and electrical damage 2. Inductance shall not change more than ±30%
11. Temperature Rise	MIL-PRF-27	Apply rated current for 10 minutes.	1. No mechanical and electrical damage 2. Inductance shall not change more than ±30%
12. Over load	MIL-PRF-27	Apply twice as rated current for 5 minutes.	1. No mechanical and electrical damage 2. Inductance shall not change more than ±30%
13. Solderability Test	J-STD-002	1. Bakeing in pre-testing: 155±5˚C / 16Hours±30min. 2. Peak temperature: 240±5˚C 3. Time: (temp.≥217˚C) 60~150 Second 4. IR reflow times: 1 time	The terminal shall be at least 95% covered with fresh solder.
14. Electrical Characterization	User Spec.	1. Operating temperature:-40˚C~125˚C 2. Room Temperature: 25˚C	1. No mechanical and electrical damage 2. Inductance shall not change more than ±30%
15. Withstanding Voltage Test	MIL-STD-202 Method 201	1. DV: 500V 2. Time: 1 minute	1. During the test no breakdown. 2. The characteristic is normal after test.
16. Drop	JESD22-B111	Package & Drop down from 1m. In 1 angle 1 ridge & 2 surfaces orientation	1. No case deformation or change in appearance. 2. Inductance shall not change more than ±30%
17. Terminal Strength Test	JIS-C-6429	1. Apply push force to samples mounted on PCB. 2. Force of 1.8 kg for 60±1 seconds.	After test, inductors shall be on mechanical damge.

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Tape and Reel Specifications



		Reel Dimensions (mm)					Tape Dimensions (mm)					
Series	Parts per Reel	A	B	C	D	E	W	P1	P2	P3	H	T
1812 ACC	500	178	60	13	17	14	12	2	8	4	4	0.35

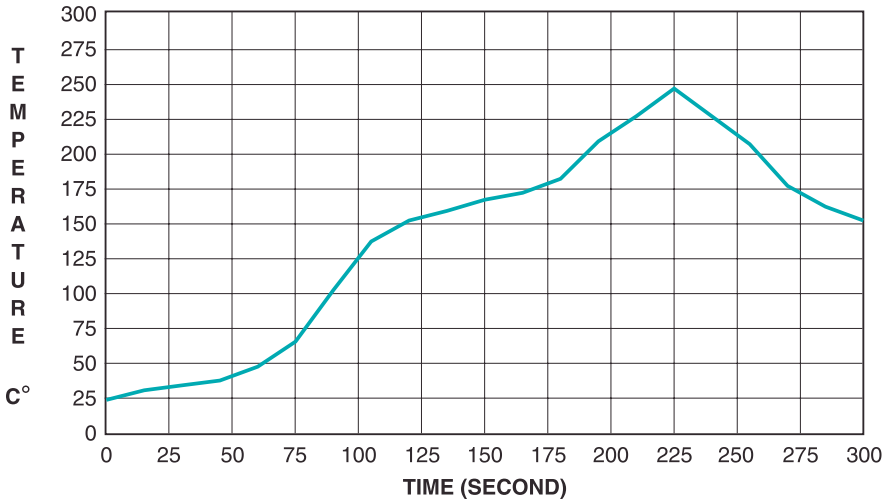
III. Description:

a. Ferrite drum core construction
b. Magnetically shielded
c. Enameled copper wire: H class
d. Product weight: 0.15g (ref.)
e. Moisture sensitivity Level 1
f. Products comply with RoHS' requirements
g. Halogen Free available

IV. General specification:

a. Storage temp: -40˚Cto+125˚C
b. Operating temp: -40˚Cto+125˚C
(Temp. rise included)
c. Resistance to solder heat: 250˚C 10 secs.

Recommended Solder Heat Resistance Profile



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