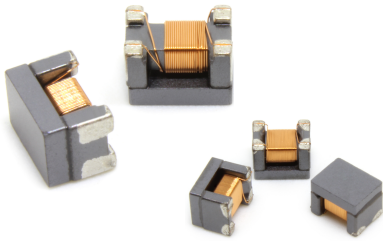


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EMI Suppression for CAN-Bus Networks

2-Line Common Mode Chokes

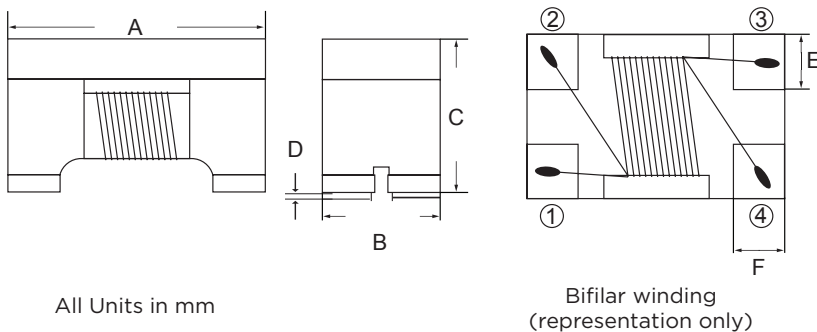


- Ⓜ Meets AEC-Q200 Requirements
- Ⓜ Suppresses common mode noise without attenuating the signal
- Ⓜ Magnetically shielded versions for lower Rdc and higher current
- Ⓜ High-sided Metallization for improved solder joint
- Ⓜ Supports CAN-Bus, A2B and other IVN high speed differential signal lines (LVDS)

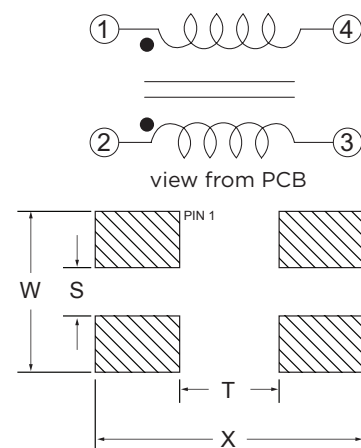
Electrical Specifications @ 25°C

Part Number	Common Mode Impedance (10MHz)		Inductance (uH)	Standard Tolerance	RDC (Ω Max)	Leakage Inductance (nH) Typ	IDC (A MAX)	Isolation Resistance (MΩ) Min	Rated Voltage (V) Max
	Min	Typ							
PE-1210ACCCXXSTS Operating Temperature Range -40°C to +125°C									
PE-1210AGC110STS	300	550	11	+50/-30%	0.4	30	0.3	10	80
PE-1210AGC220STS	500	1100	22	+50/-30%	0.5	50	0.25	10	80
PE-1210AGC510STS	1000	2600	51	+50/-30%	1.5	100	0.2	10	80
PE-1210AGC101STS	2200	5100	100	+50/-30%	2.0	150	0.15	10	80
PE-1812ACCCXXSTS Operating Temperature Range -40°C to +125°C									
PE-1812AGC110STS	300	600	11	+50/-30%	0.6	43	0.36	10	50
PE-1812AGC220STS	600	1200	22	+50/-30%	1.0	30	0.31	10	50
PE-1812AGC510STS	1500	3500	51	+50/-30%	1.0	110	0.23	10	50
PE-1812AGC101STS	3000	7500	100	+50/-30%	2.0	160	0.15	10	50

Mechanical



Schematic



Component Dimensions (mm)

Series	Component Dimensions (mm)						SOLDER PAD (mm)			
	A	B	C	D	E	F	X	T	W	S
1210 AGC	3.2 +/-0.20	2.5 +/-0.20	2.40 +/-0.20	0.15 +/-0.10	0.95 +/-0.10	0.75 +/-0.10	3.60	1.60	2.70	0.60
1812 AGC	4.5 +/-0.20	3.2 +/-0.20	3.05 +/-0.20	0.15 +/-0.10	0.95 +/-0.10	0.80 +/-0.10	5.90	3.20	3.40	1.60

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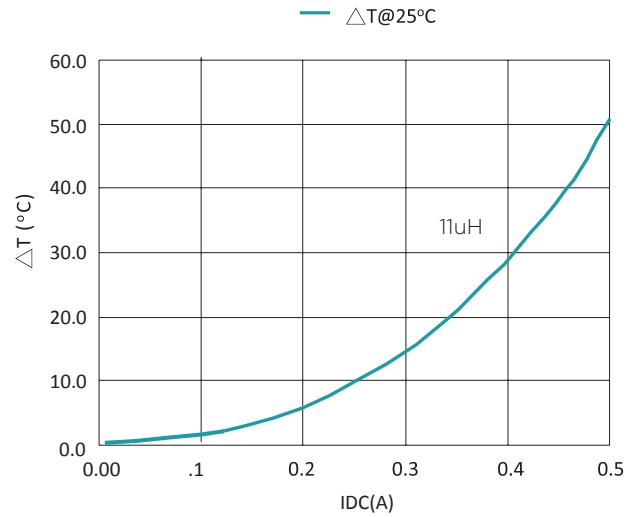
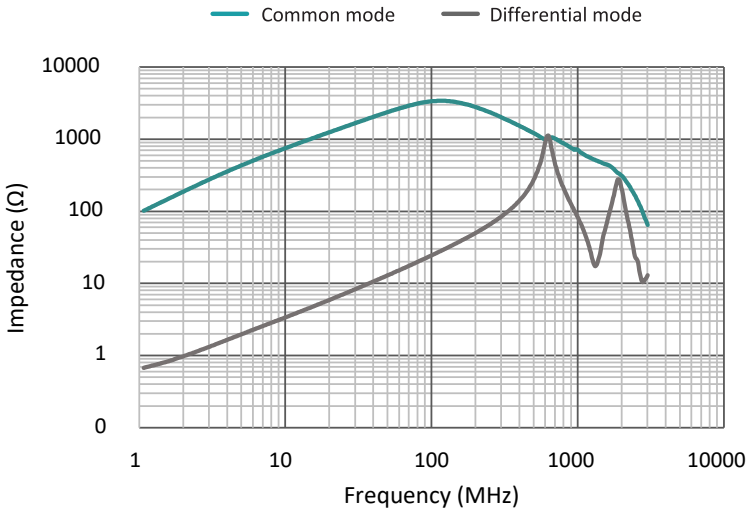
2-Line Common Mode Chokes



Impedance vs Frequency

Temp vs DC Current

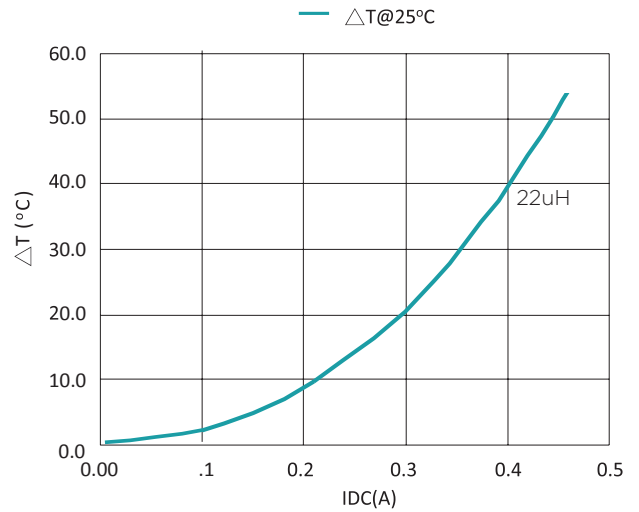
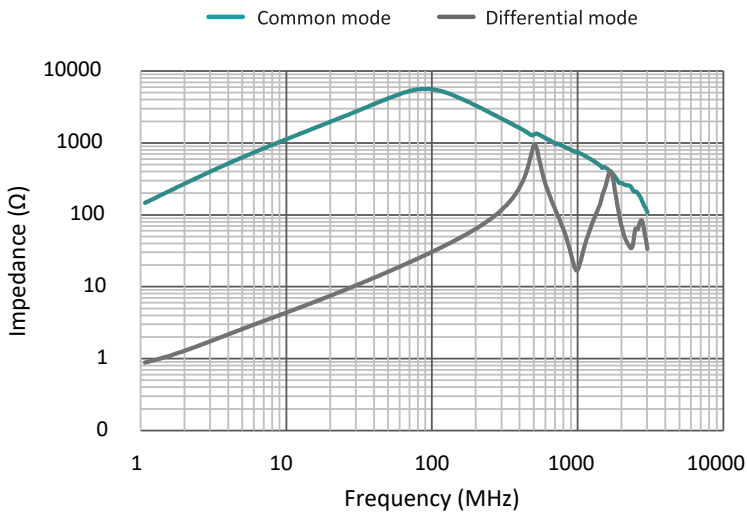
PE-1210AGC110STS



Impedance vs Frequency

Temp vs DC Current

PE-1210AGC110STS



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EMI Suppression for CAN-Bus Networks

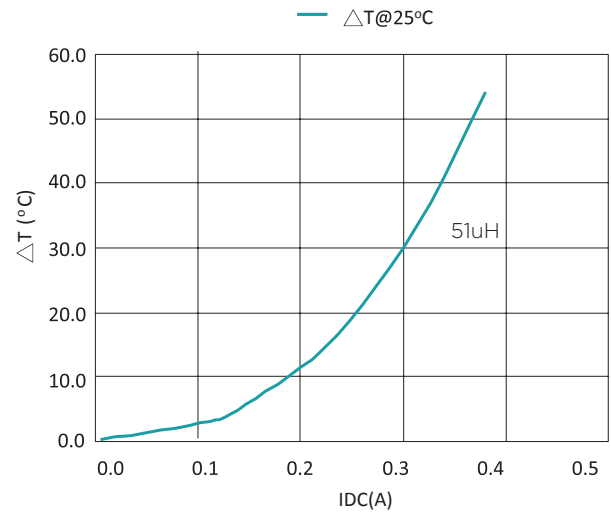
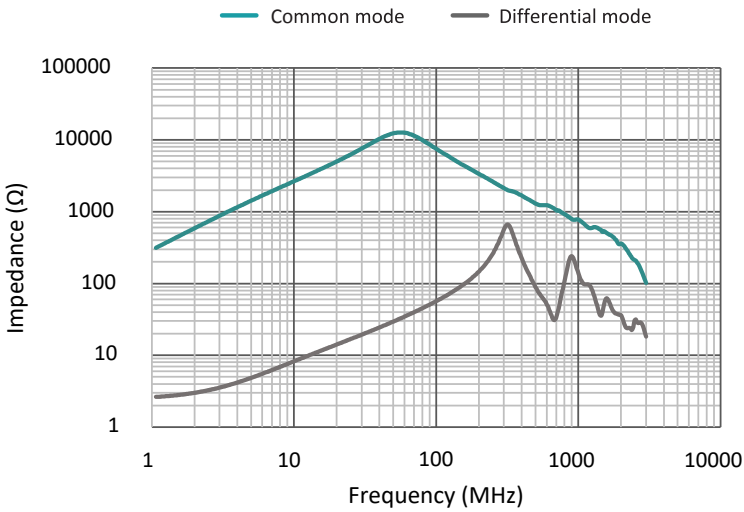
2-Line Common Mode Chokes



Impedance vs Frequency

Temp vs DC Current

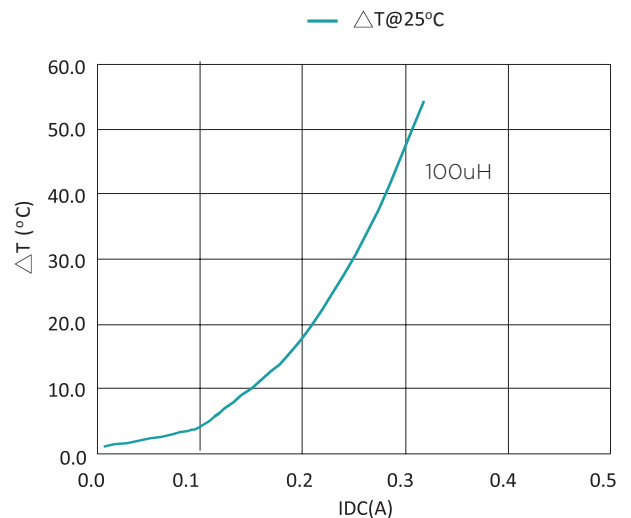
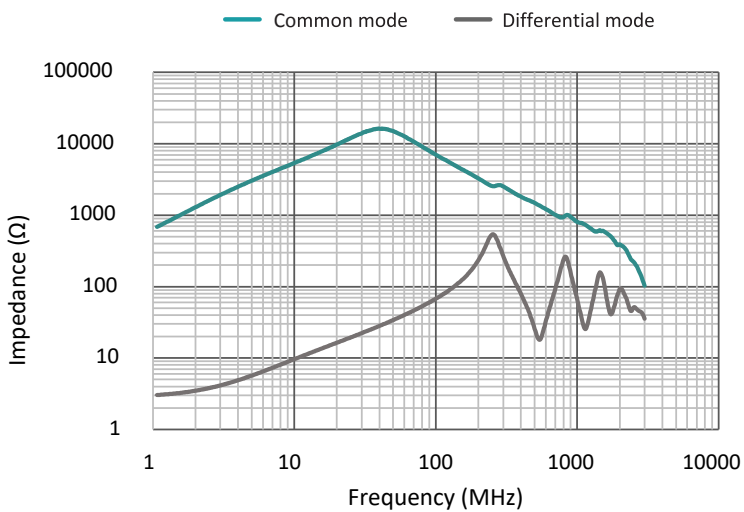
PE-1210AGC510STS



Impedance vs Frequency

Temp vs DC Current

PE-1210AGC101STS



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EMI Suppression for CAN-Bus Networks

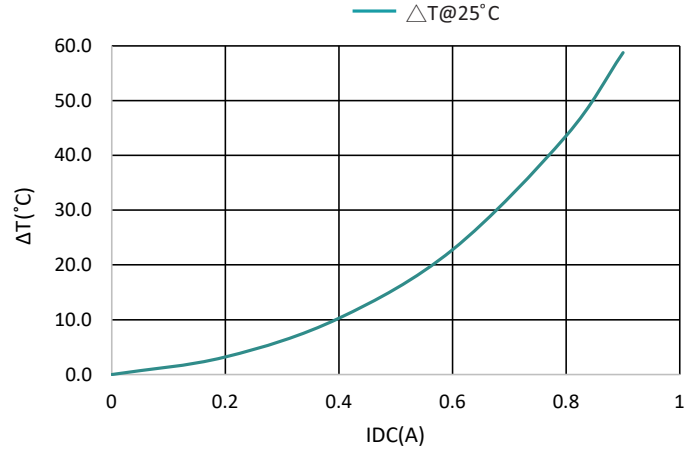
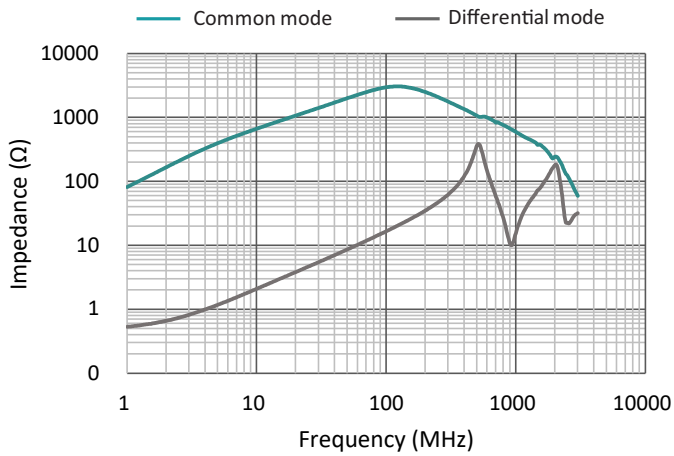
2-Line Common Mode Chokes



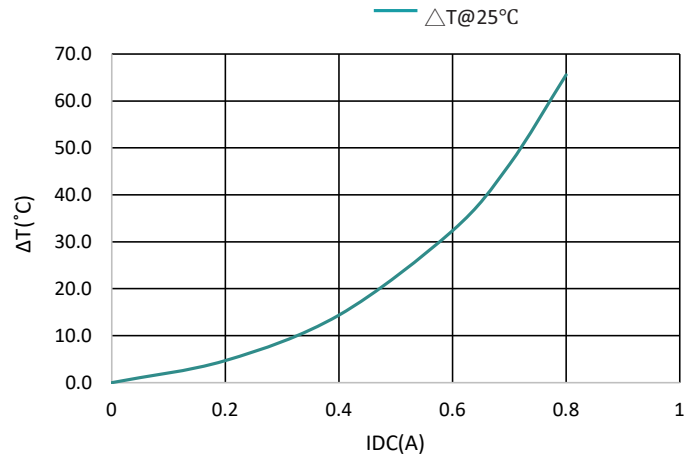
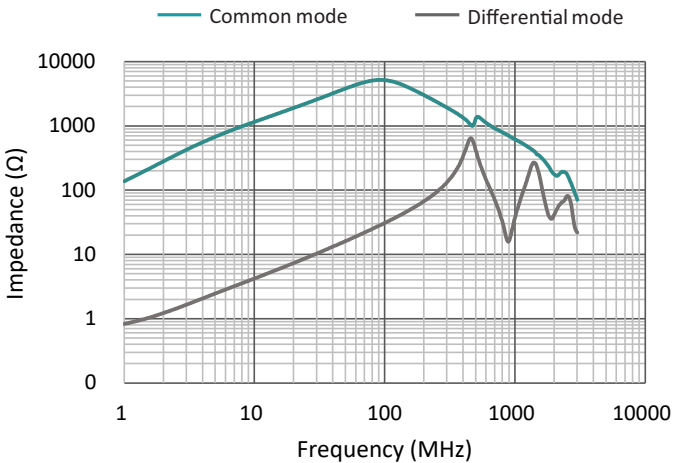
Impedance vs Frequency

Temp vs DC Current

PE-1812AGC110ST5



PE-1812AGC220ST5



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EMI Suppression for CAN-Bus Networks

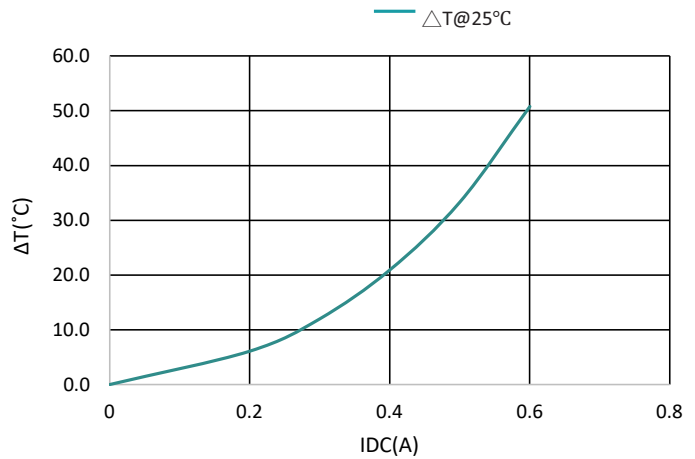
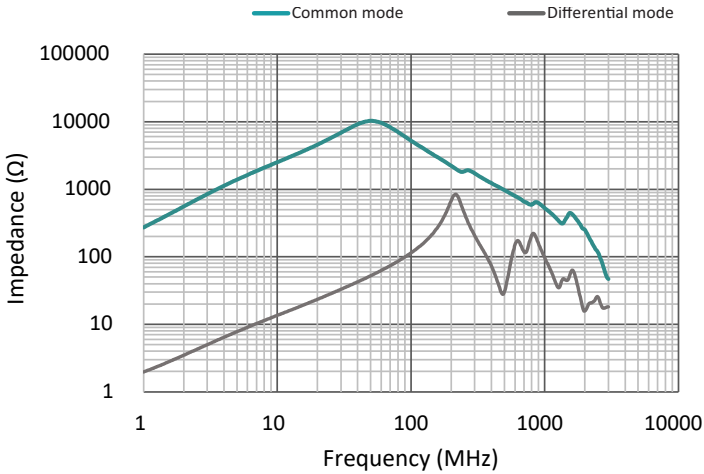
2-Line Common Mode Chokes



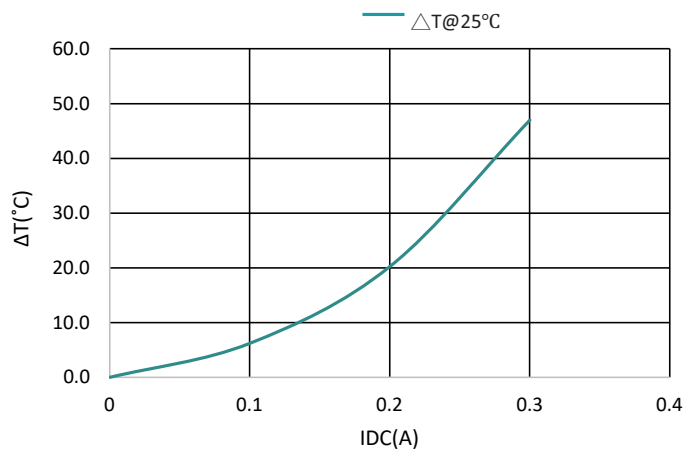
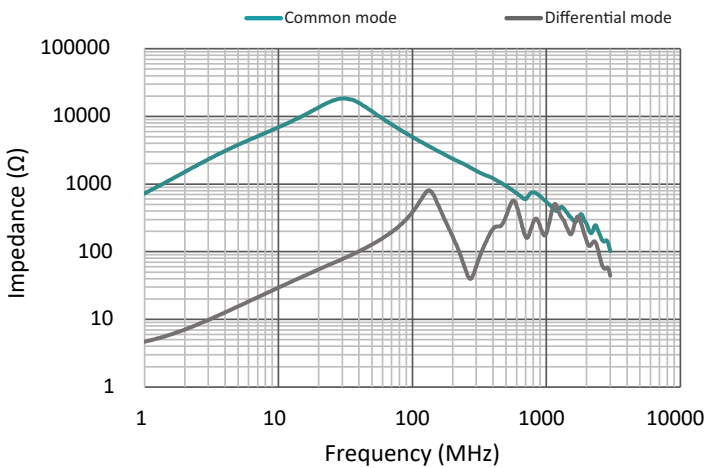
Impedance vs Frequency

Temp vs DC Current

PE-1812AGC510STS



PE-1812AGC101STS



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EMI Suppression for CAN-Bus Networks

2-Line Common Mode Chokes



Reliability Test

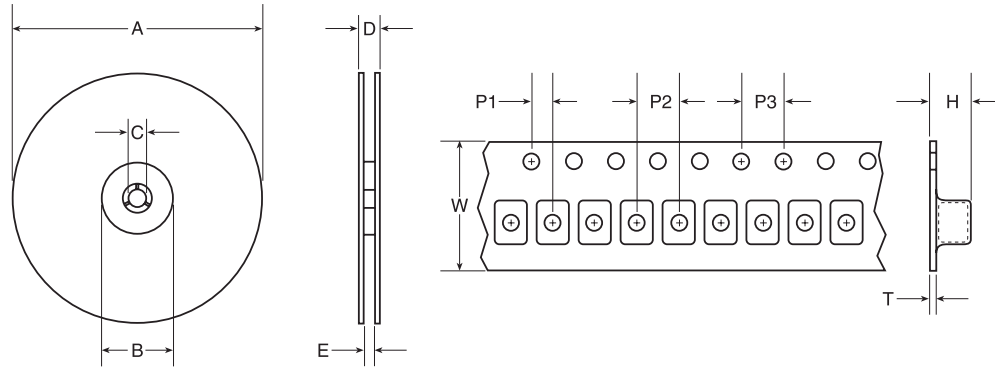
Item	Reference documents	Test Condition	Test Specification
1. High Temperature Exposure	MIL-STD-202 Method 108	1. Temperature: 125°C 2. Time: 1000 hours	1. No mechanical and electrical damage 2. Inductance shall not change more than $\pm 30\%$
2. Temperature Cycling	JESD22 Method JA-104	1. Temperature: -40°C-125°C 2. Number of cycles: 1000 cycle 3. Dwell time: 30 minutes	1. No mechanical and electrical damage 2. Inductance shall not change more than $\pm 30\%$
3. Biased Humidity Test	MIL-STD-202 Method 103	1. Temperature: 85 ± 5 °C 2. Time: 1000 hours 3. Humidity: 85 $\pm 5\%$ RH	1. No mechanical and electrical damage 2. Inductance shall not change more than $\pm 30\%$
4. Operational Life	MIL-PRF-27	1. Temperature: 125°C 2. Time: 1000 hours 3. Apply rated current	1. No mechanical and electrical damage 2. Inductance shall not change more than $\pm 30\%$
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 $\pm 30\%$
8. Mechanical Shock	MIL-STD-202 Method 213	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 $\pm 30\%$
9. Vibration Test	MIL-STD-202 Method 204	Pulse shape: Half-sine waveform Impact acceleration: 100g Pulse duration: 6ms	The forces applied on the right conditions must not damage the terminal electrode and the ferrite
10. Resistance to Soldering Heat Test	MIL-STD-202 Method 210	1. Temperature: 250 ± 5 °C 2. Time: (temp. ≥ 217 °C) 92-109 Seconds 3. IR reflow times: 3 times	1. No mechanical and electrical damage 2. Inductance shall not change more than $\pm 30\%$
11. Solderability Test	J-STD-002	1. Baking in pre-testing: 150 ± 5 °C / 16Hours ± 30 min. 2. Peak temperature: 245°C 3. Time: (temp. ≥ 217 °C) 112 Second 4. IR reflow times: 1 time	The terminal shall be at least 95% covered with fresh solder.
12. Electrical Characterization	User Spec.	1. Operating temperature: -55/40°C-125/150°C 2. Room Temperature: 25°C	1. No mechanical and electrical damage 2. Inductance shall not change more than $\pm 30\%$
13. Board Flex	AEC-Q200-0051	1. Epoxy - PCB (1.6mm) 2. Deflection 2mm (min) 3. Holding tim 60s minimum	1. During the test no breakdown. 2. The characteristic is normal after test.
14. 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 damage.

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EMI Suppression for CAN-Bus Networks

2-Line Common Mode Chokes

Tape and Reel Specifications



Series	Parts per Reel	Reel Dimensions (mm)					Tape Dimensions (mm)					
		A	B	C	D	E	W	P1	P2	P3	H	T
1210 AGC	2000	330	103	13.5	16.5	12.5	12.0	2.0	8.0	4.0	2.7	0.30
1812 AGC	2000	330	103	13.5	16.5	12.5	12.0	2.0	8.0	4.0	2.7	0.30

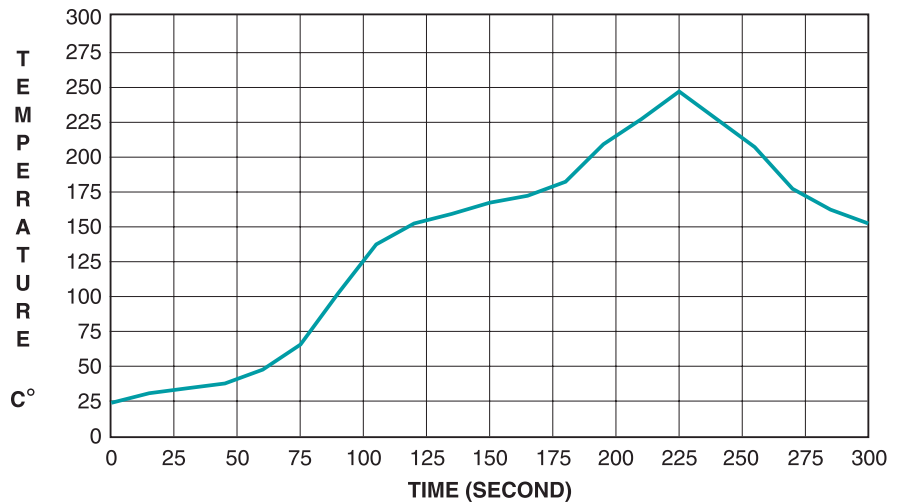
III. Description:

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

IV. General specification:

- Storage temp: -40°C to +125°C
- Operating temp: -40°C to +125°C
(Temp. rise included)
- Resistance to solder heat: 250°C 10 secs.

Recommended Solder Heat Resistance Profile



For More Information:

Americas - prodinfo@networkamericas@pulseelectronics.com | Europe - comms-Apps-Europe@pulseelectronics.com | Asia - prodinfo@networkapac@pulseelectronics.com

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