Automotive PulseChip™ CAN chokes
2-Line EMI Suppression for CAN-Bus Networks

Pulse
a YAGEO company



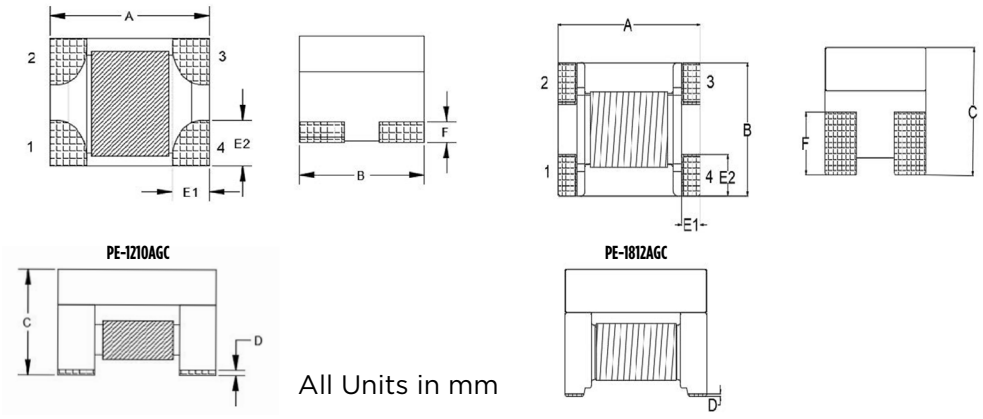
Features and Benefits:

- *PulseChip design 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 join*
- *Supports CAN-Bus, A2B and other IVN high speed differential signal lines (LVDS)*

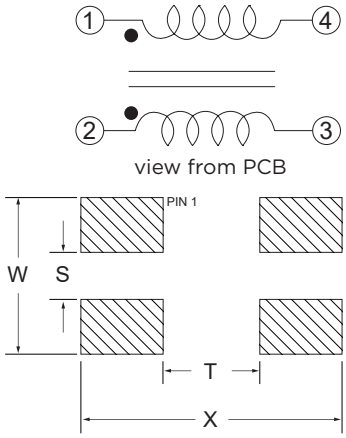
Electrical Specifications @ 25°C

Part Number	Common Mode Impedance (10MHz)		Inductance (uH)	Standard Tolerance	RDC (Ω Max)	IDC (mA MAX)	Isolation Resistance (M Ω) Min	Rated Voltage (V) Max
	Min	Typ						
PE-1210AGCXXXSTS	**Operating Temperature Range -40°C to +125°C**							
PE-1210AGC110STS	300	550	11	+/-30%	0.4	300	10	80
PE-1210AGC220STS	500	1100	22	+/-30%	0.5	250	10	80
PE-1210AGC510STS	1000	2600	51	+/-30%	1.5	200	10	80
PE-1210AGC101STS	2200	5100	100	+/-30%	2.0	150	10	80
PE-1812AGCXXXSTS	**Operating Temperature Range -40°C to +125°C**							
PE-1812AGC110STS	300	600	11	+/-30%	0.6	360	10	50
PE-1812AGC220STS	600	1200	22	+/-30%	1.0	310	10	50
PE-1812AGC510STS	1500	3500	51	+/-30%	1.0	230	10	50
PE-1812AGC101STS	3000	7500	100	+/-30%	2.0	150	10	50

MECHANICAL



SCHEMATIC

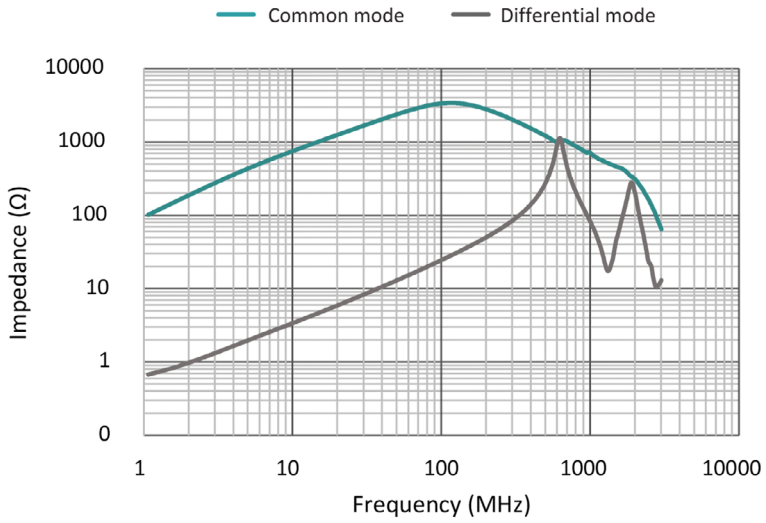


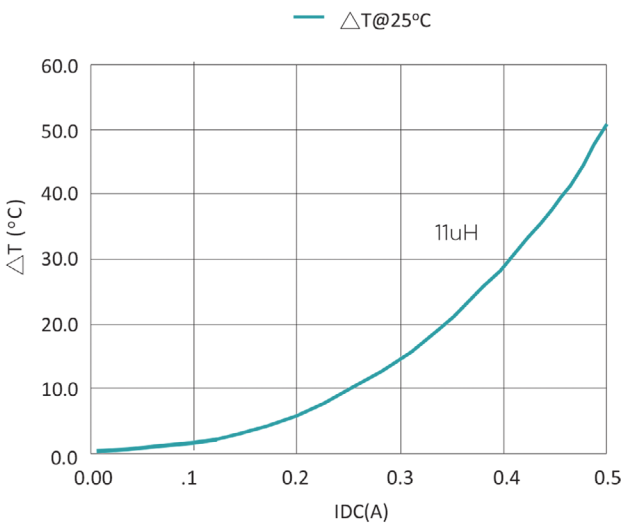
Component Dimensions (mm)								SOLDER PAD (mm)			
Series	A	B	C	D	E1	E2	F	X	T	W	S
1210 AGC	3.2 +/-0.20	2.5 +/-0.20	2.40 +/-0.20	0.15+/-0.10	0.75+/-0.10	0.95+/-0.10	0.4+/-0.10	3.60	1.60	2.70	0.60
1812 AGC	4.5 +/-0.20	3.2 +/-0.20	3.05 +/-0.20	0.15+/-0.10	0.60+/-0.10	1.00+/-0.10	1.50+/-0.10	5.90	3.20	3.40	1.60

Impedance vs Frequency

Temp vs DC Current

PE-1210AGC110STS

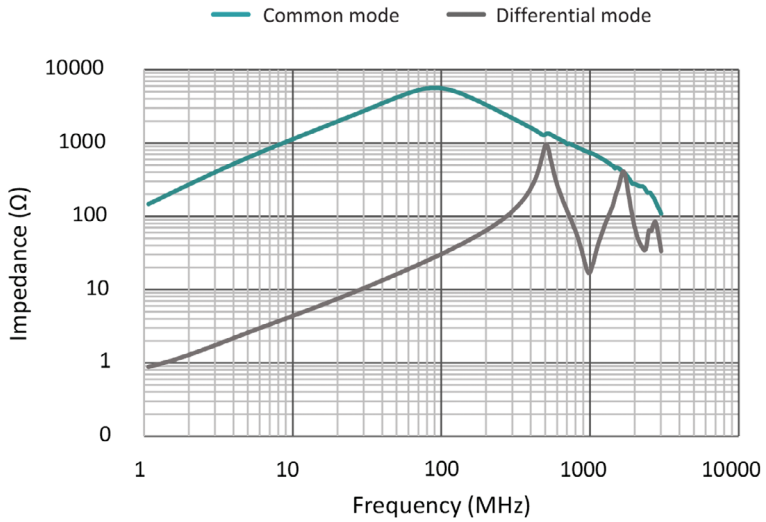


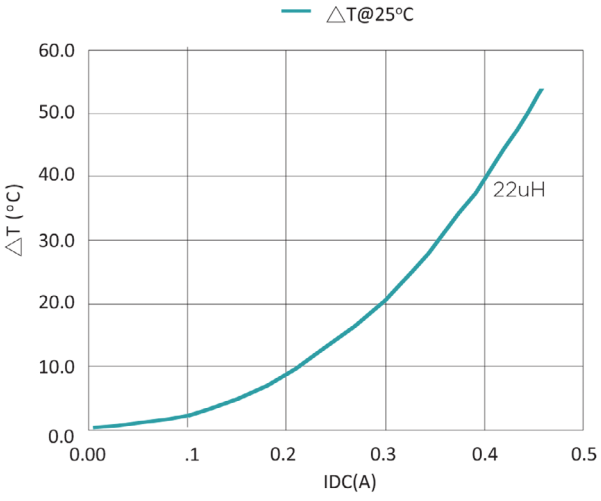


Impedance vs Frequency

Temp vs DC Current

PE-1210AGC220STS

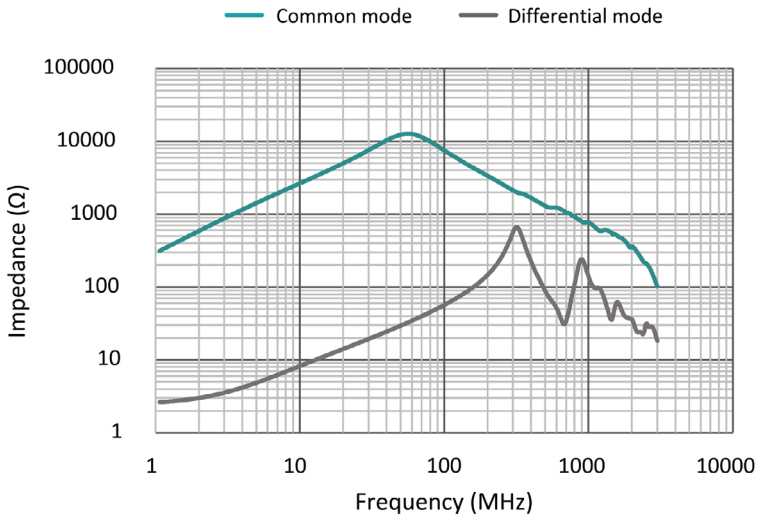


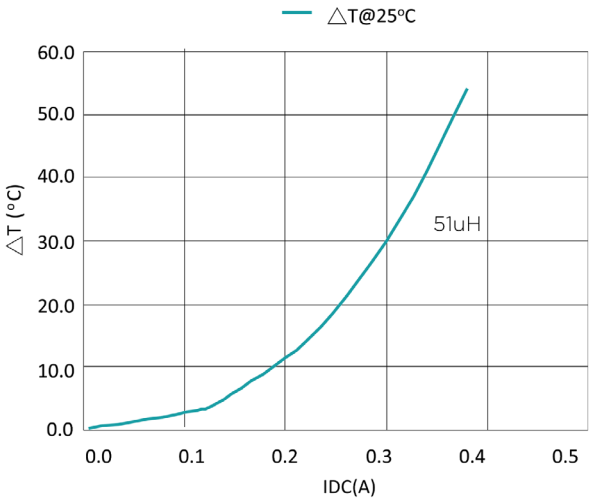


Impedance vs Frequency

Temp vs DC Current

PE-1210AGC510STS

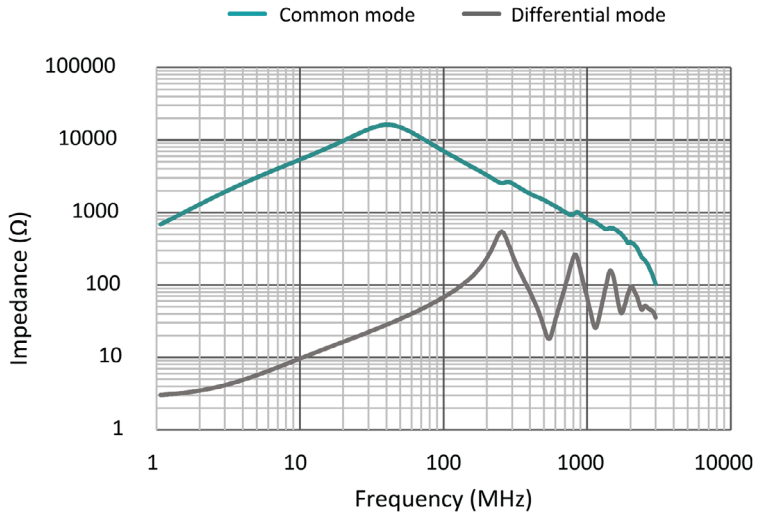


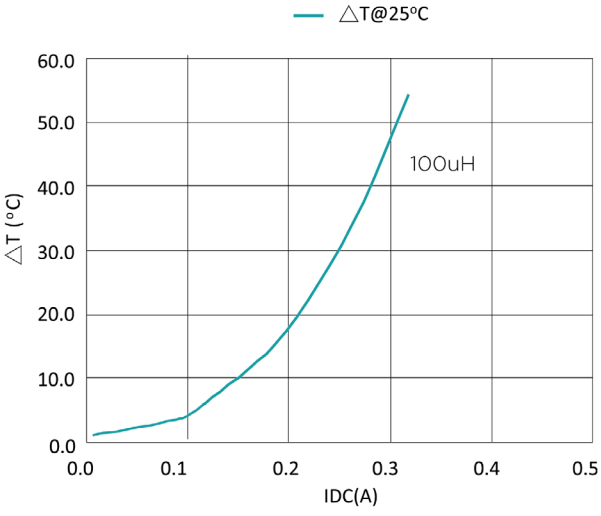


Impedance vs Frequency

Temp vs DC Current

PE-1210AGC101STS

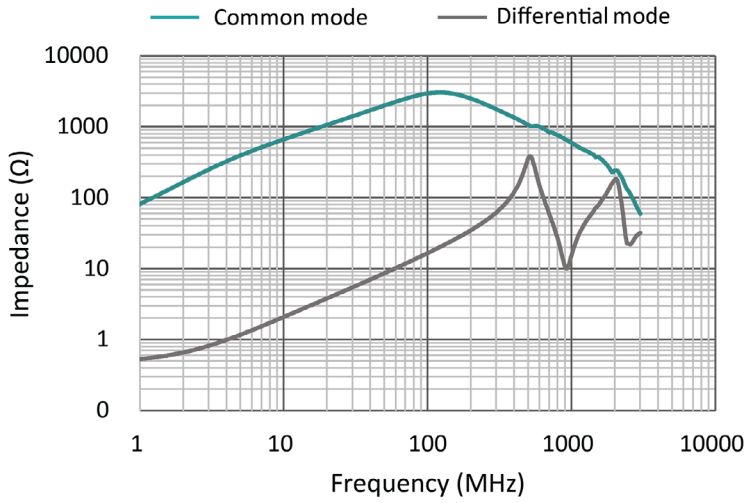


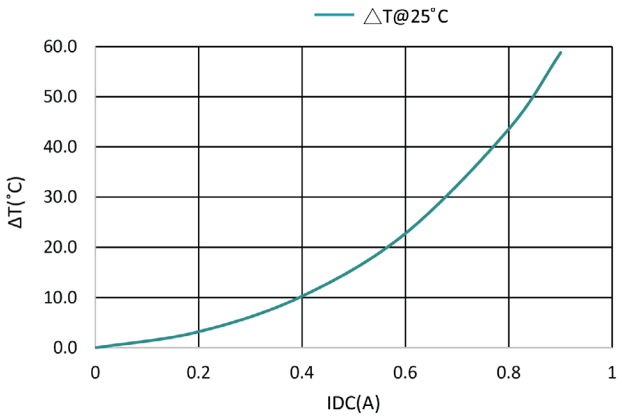


Impedance vs Frequency

Temp vs DC Current

PE-1812AGC110STS

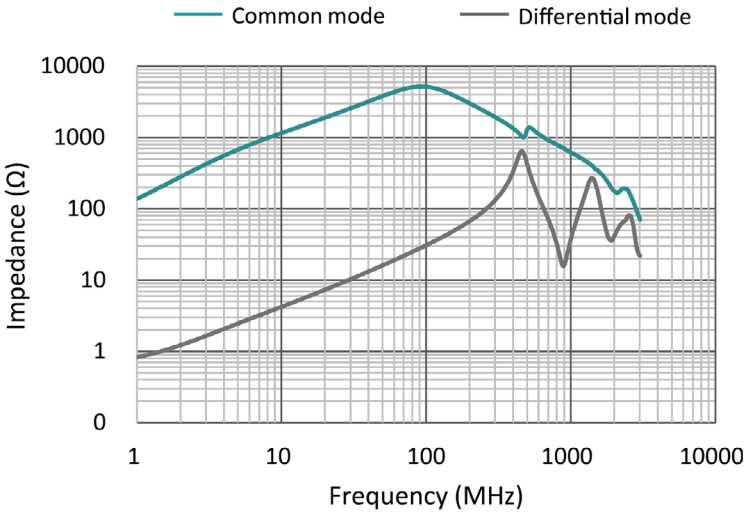


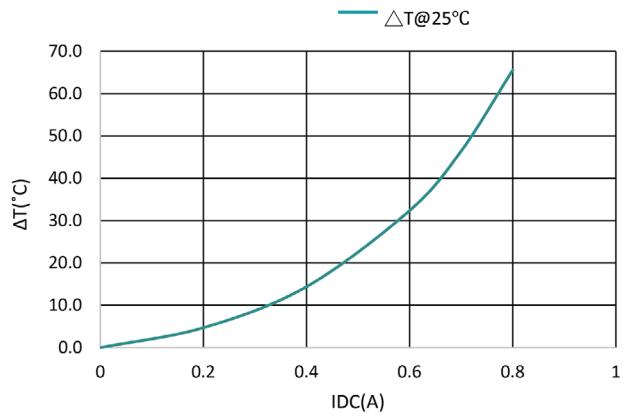


Impedance vs Frequency

Temp vs DC Current

PE-1812AGC220STS

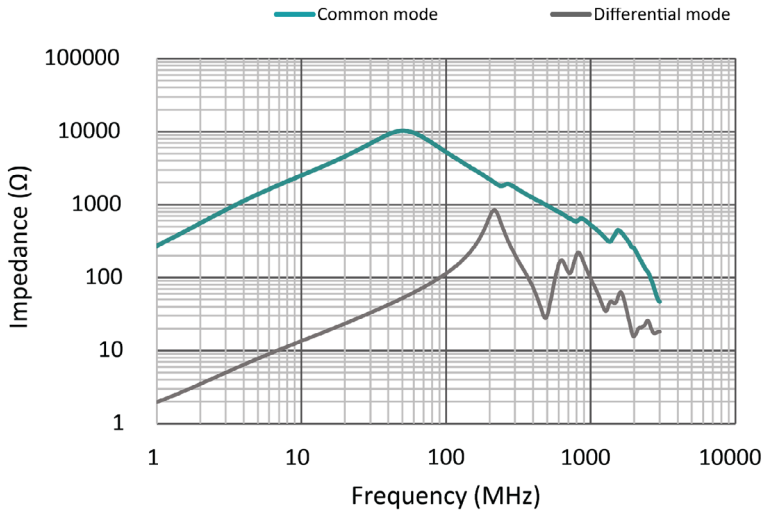


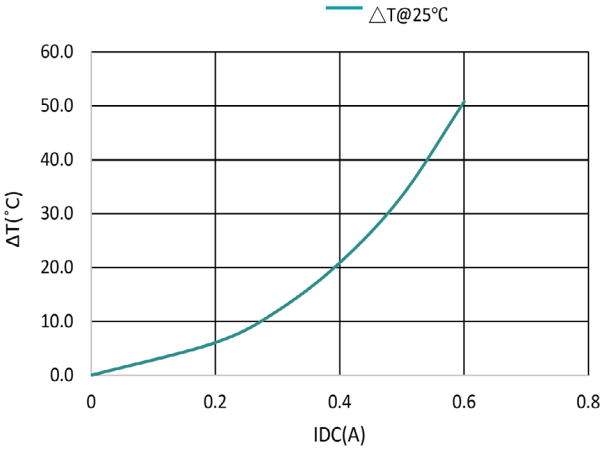


Impedance vs Frequency

Temp vs DC Current

PE-1812AGC510STS

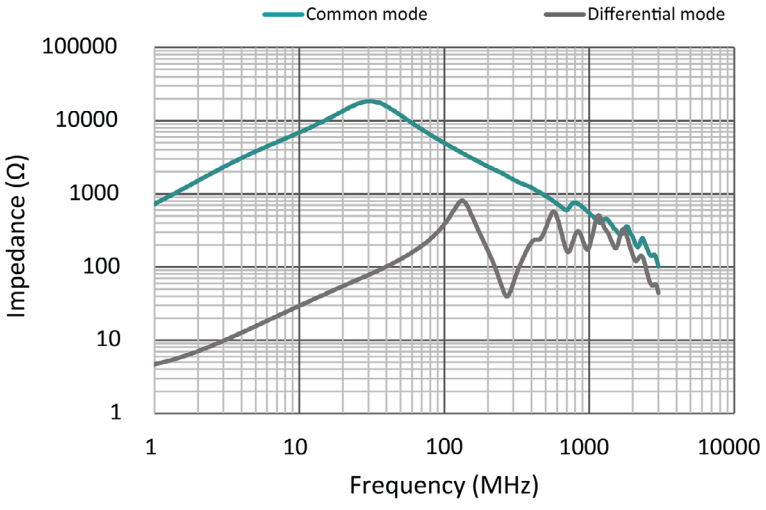


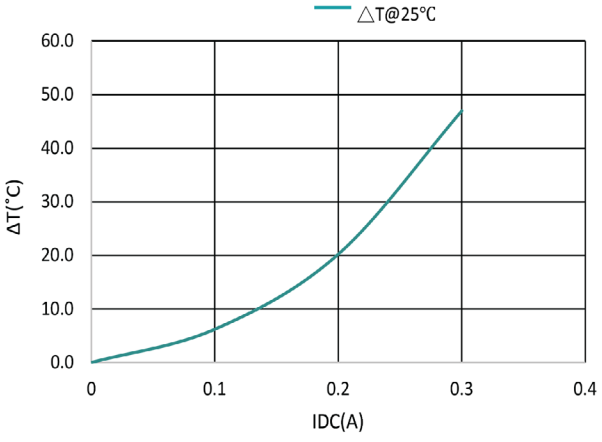


Impedance vs Frequency

Temp vs DC Current

PE-1812AGC101STS





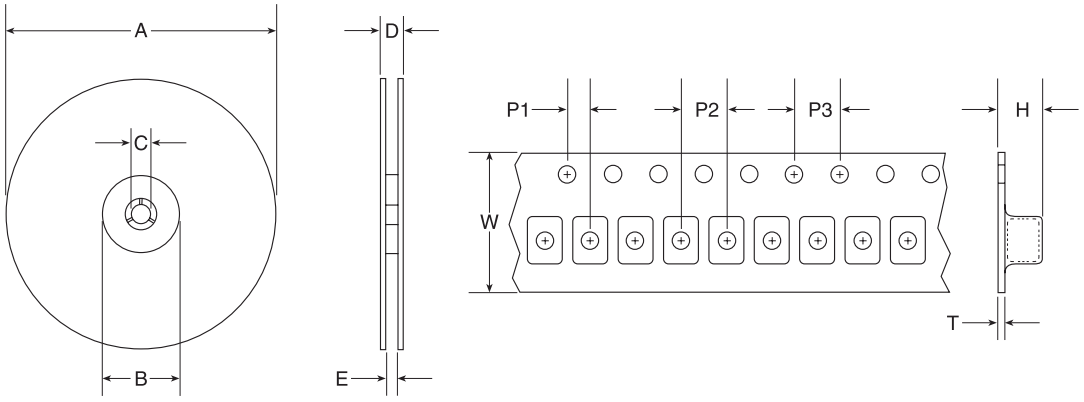
Reliability Test

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 be within specification
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 be within specification
3. Biased Humidity Test	MIL-STD-202 Method 103	1. Temperature: 85±5°C 2. Time: 1000 hours 3. Humidity: 85±5% RH	1. No mechanical and electrical damage 2. Inductance shall be within specification
4. Operational Life	MIL-PRF-27	1. Temperature: 125°C 2. Time: 1000 hours 3. Apply DC current reference	1. No mechanical and electrical damage 2. Inductance shall be within specification
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. Mechanical Shock	MIL-STD-202 Method 213	Pulse shape: Half-sine waveform Impact acceleration: 100g Pulse duration: 6ms	1. No mechanical and electrical damage 2. Inductance shall be within specification
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	The forces applied on the right conditions must not damage the terminal electrode and the ferrite
9. Resistance to Soldering Heat Test	MIL-STD-202 Method 210	1. Temperature: 260±5°C 2. Time: 10±1s	1. No mechanical and electrical damage 2. Inductance shall be within specification
10. Solderability Test	J-STD-002	1. 8 hours steam age test 2. Soldering: 245±5°C, for 5±1Sec.	The terminal shall be at least 95% covered with fresh solder.
11. 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 be within specification
12. Board Flex	AEC-Q200-005	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.
13. Terminal Strength Test	AEC-Q200-006	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.

Automotive PulseChip™ CAN chokes
2-Line EMI Suppression for CAN-Bus Networks

Tape and Reel Specifications

CARRIER TAPE - SEE TABLES BELOW



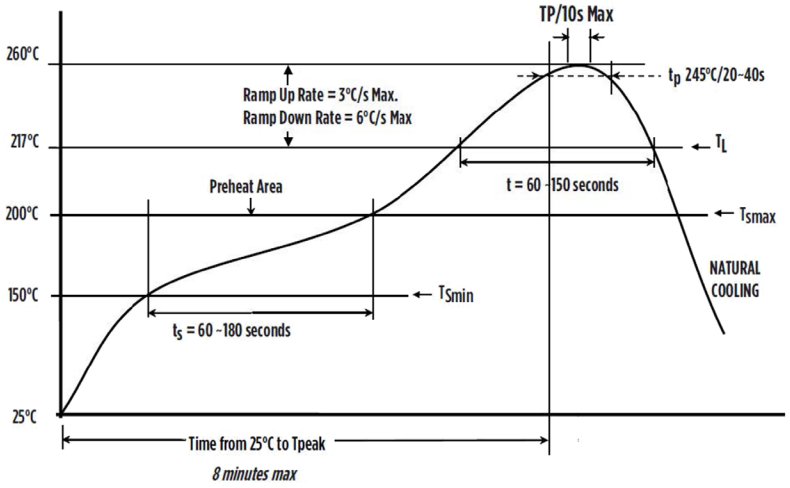
Reel Dimensions (mm)							Tape Dimensions (mm)					
Series	Parts per Reel	A	B	C	D	E	W	P1	P2	P3	H	T
1210 AGC	2000	330	103	13.5	16.5	12.5	12.0	2.0	8.0	4.0	2.7	0.30
1812 AGC	2000	330	103	13.5	16.5	12.5	12.0	2.0	8.0	4.0	2.7	0.30

III. Description:

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



For More Information:

Americas - prodinfo_network_americas@yageo.com | **Europe -** prodinfo_network_emea@yageo.com | **Asia -** prodinfo_network_asia@yageo.com

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners. © Copyright, 2023. Pulse Electronics, Inc. All rights reserved.

YAGEO Corporation and its affiliates do not recommend the use of commercial or automotive grade products for high reliability applications or manned space flight.