Automotive PulseChip™ CAN chokes

2-Line EMI Suppression for CAN-Bus Networks



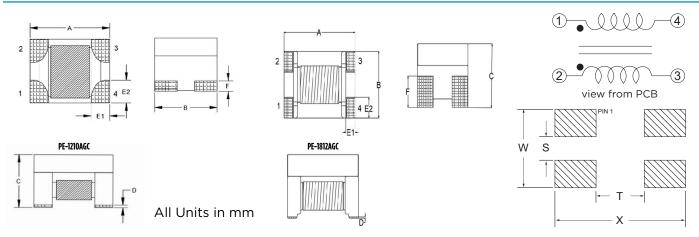


Features and Benefits:

- @ 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	Standard	RDC (O.Mov)	IDC (mA MAY)	Isolation Resistance				
	Min	Тур	(uH)	Tolerance	(Ω Max)	(ma max)	(M Ω) Min	(V) Max			
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	TS 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

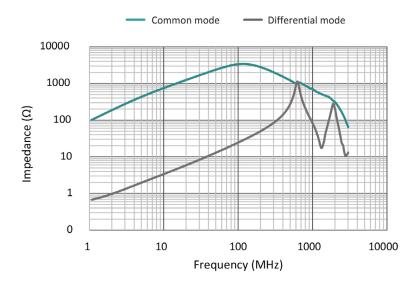


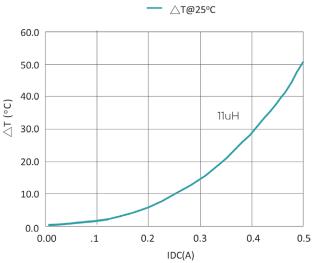
Component Dimensions (mm)								SOLDER PAD (mm)				
Series	Α	В	C	D	E1	E2	F	Х	T	W	S	
1210 AGC	3.2 +/-0.20	2.5 +/-0.20	2.40 +/-0.20	0.15+/-0.10	0.75+/-0.10	0.95+/-0.10	0.4+/-0.10	3.60	1.60	2.70	0.60	
1812 AGC	4.5 +/-0.20	3.2 +/-0.20	3.05 +/-0.20	0.15+/-0.10	0.60+/-0.10	1.00+/-0.10	1.50+/-0.10	5.00	2.80	3.40	1.10	



Temp vs DC Current

PE-1210AGC110STS

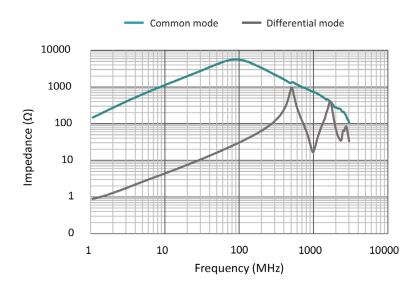


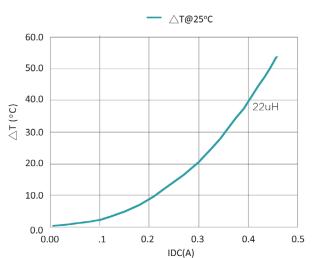


Impedance vs Frequency

Temp vs DC Current

PE-1210AGC220STS

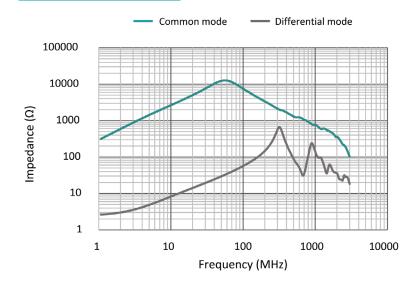


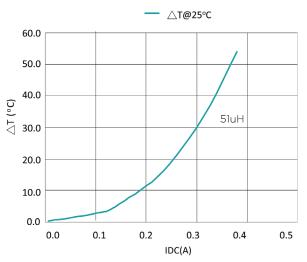




Temp vs DC Current

PE-1210AGC510STS

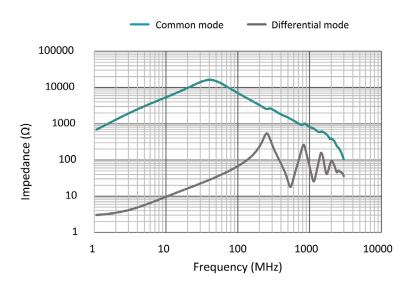


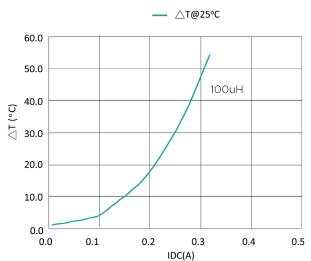


Impedance vs Frequency

Temp vs DC Current

PE-1210AGC101STS

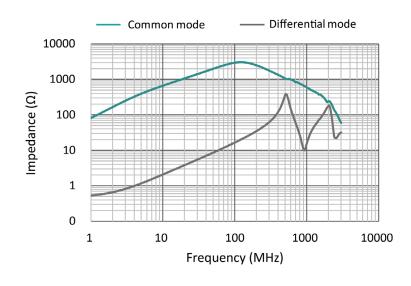


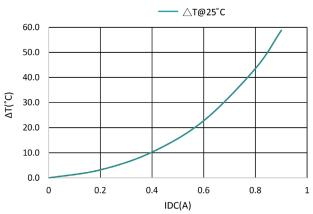




Temp vs DC Current

PE-1812AGC110STS

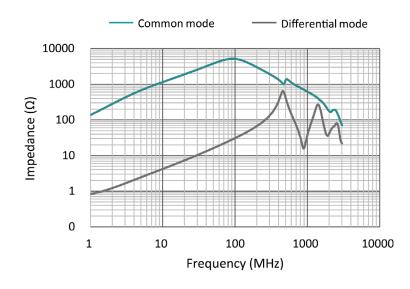


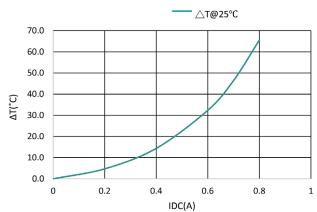


Impedance vs Frequency

Temp vs DC Current

PE-1812AGC220STS

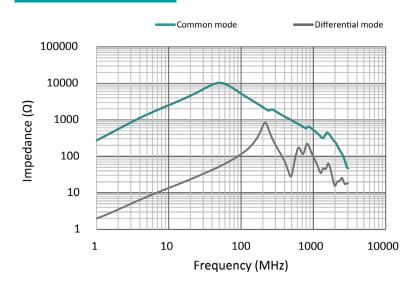


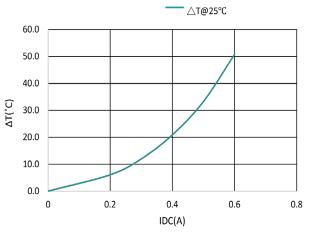




Temp vs DC Current

PE-1812AGC510STS

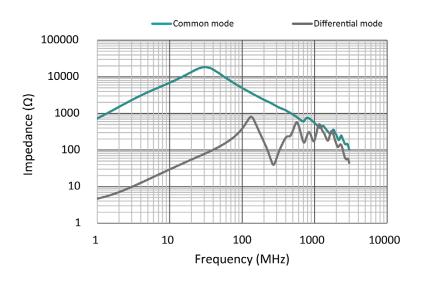


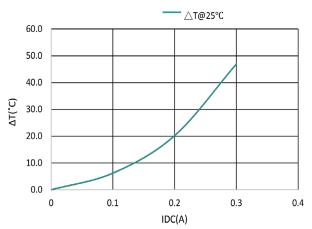


Impedance vs Frequency

Temp vs DC Current

PE-1812AGC101STS





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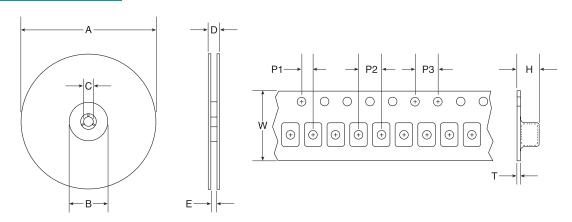


Reliability Test

Item	Reference documents	Test Condition	Test Specification			
1. High Temperature Exposure	MIL-STD-202 Method 108	1. Temperature: 125°C 2. Time: 1000 hours	No mechanical and electrical damage 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	No mechanical and electrical damage 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	No mechanical and electrical damage Inductance shall be within specification			
4. Operational Life	MIL-PRF-27	 Temperature: 125°C Time: 1000 hours Apply DC current reference 	No mechanical and electrical damage 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	No mechanical and electrical damage Inductance shall be within specification			
8. Vibration Test	MIL-STD-202 Method 204	 Frequency and Amplified: 10-2000-10 Hz, 1.5mm Direction: X, Y, Z 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	No mechanical and electrical damage 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	No mechanical and electrical damage 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	During the test no breakdown. 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.			

Tape and Reel Specifications

CARRIER TAPE - SEE TABLES BELOW



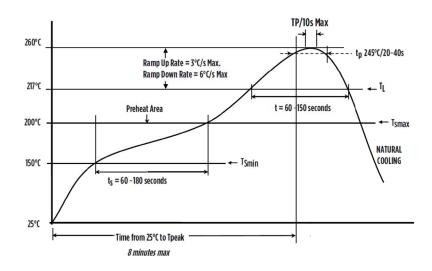
Reel Dimensions (mm)							Tape Dimensions (mm)					
Series	Parts per Reel	A	В	C	D	E	W	P1	P2	P3	Н	T
1210 AGC	2000	330	103	13.5	16.5	12.5	12.0	2.0	8.0	4.0	2.70	0.30
1812 AGC	2000	330	103	13.5	16.5	12.5	12.0	2.0	8.0	4.0	3.60	0.30

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:

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