

**F4P3225ELQ1 TYPE**

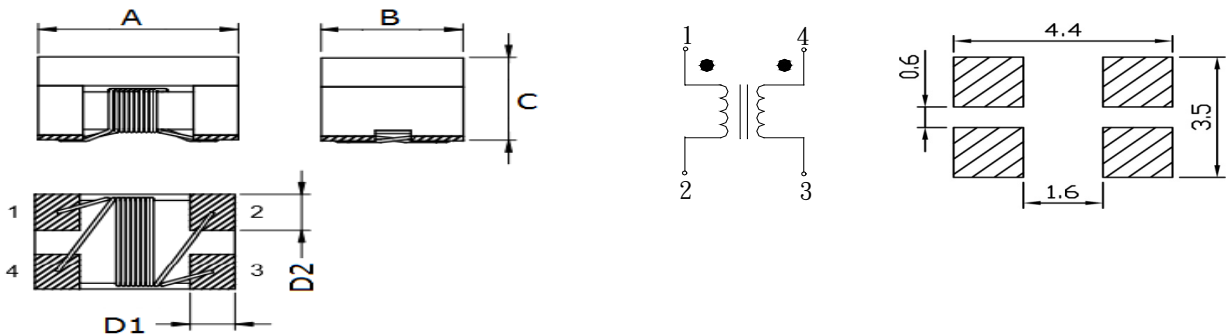
● FEATURE

1. Ideal for use as common-mode chokes
2. AEC-Q200 Qualified

● Applications

1. CAN-BUS, FAXs, modems, ISDNs, etc
2. For automobile signal line

● Shape and Dimension and Schematics and Land Patterns(mm)



A=3.20±0.20 mm ; B=2.50±0.20 mm; C=2.20±0.20 mm; D1= 0.80 mm ref.; D2=0.90 mm ref.

● Specification

Dimension in m/m

PART NO.	Common Mode INDUCTANCE (uH) (+50%/-30%)	Common Mode Impedance(Ω) at 10MHz	Rated Current (mA)	Rated Voltage (Vdc)	Insulation Resistance (M ohm)	DC Resistance (max.) (ohm)
F4P3225ELQ1-110	11uH at 100KHz	300Ω min. 550Ω typ.	300	80	10 min	0.4
F4P3225ELQ1-220	22uH at 100KHz	500Ω min. 1100Ω typ.	250	80	10 min	0.5
F4P3225ELQ1-510	51uH at 100KHz	1000Ω min. 2600Ω typ.	200	80	10 min	0.7
F4P3225ELQ1-101	100uH at 100KHz	2000Ω min. 5100Ω typ.	150	80	10 min	1.5

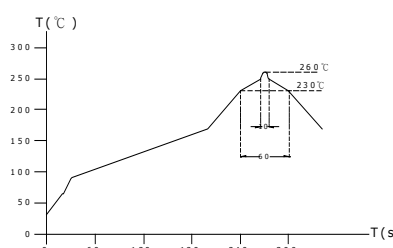
Note1. Measurement ambient temperature of electrical : at 20°C

Note2. Test equipment: HP4291A

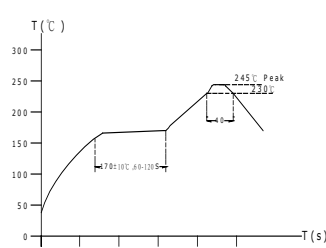
## GENERAL CHARACTERISTICS

1. Operating temperature range: -40 TO + 125°C (Includes temperature when the coil is heated)
2. High temperature exposure(storage) refer MIL-STD-202 Method 108: 1000 hrs at rated operating temperature(e.g. 125°C). Part can be stored for 1000 hrs @125°C . Unpowered. Measurement at 24±4 hours after test conclusion.
3. Temperature cycling refer JESD22 Method JA-104: 1000 cycles(-40 TO + 125°C). Measurement at 24±4 hours after test conclusion. 30 min maximum dwell time at each temp. extreme. 1 min. maximum transition time.
4. Biased Humidity refer MIL-STD-202 Method 103: 1000 hours 85°C/85%RH. Unpowered. Measurement at 24±4 hours after test conclusion.
5. Operational Life refer MIL-PRF-27: 1000 hrs. at 125°C tested. Measurement at 24±4 hours after test conclusion.
6. External Visual refer MIL-STD-883 Method 2009: Inspect device construction, marking and workmanship.
7. Physical Dimension refer JESD22 Method JB-100: Verify physical dimensions to the applicable device detail specification.
8. Resistance to Solvents refer MIL-STD-202 Method 215: Add aqueous wash chemical - OKEM clean or equivalent.
9. Mechanical Shock refer MIL-STD-202 Method 213: Figure 1 of Method 213. Condition C.
10. Vibration refer MIL-STD-202 Method 204: 5g;s for 20 minutes, 12 cycles each of 3 orientations. Test from 10-2000 Hz.
11. Resistance to soldering Heat refer MIL-STD-202 Method 210: Condition B No pre-heat of samples. Single wave solder-procedure 2 for SMD and procedure 1 for leaded with solder within 1.5mm of device body.
12. ESD refer AEC-Q200-002 or ISO/DIS 10605: Direct contact discharge 2kV.
13. Solderability refer J-STD-002: For both Leaded & SMD. Magnification 50X. Conditions: Leaded, Method A@235°C,category 3 ; SMD, a)Method B, 4hrs@125°C dry heat @235°C , b)Method B@215°C category 3., c)Method D category 3@260°C
14. Electrical Characterization refer spec: Show Min, Max Mean and Standard deviation at room from Min and Max temperature.
15. Flammability refer UL-94: V-0 or V-1 Acceptable.
16. Board Flex refer AEC-Q200-005: 60 sec minimum holding time.
17. Terminal Strength(SMD) refer AEC-Q200-006
18. Reflow profile recommend:

Lead-free heat endurance test

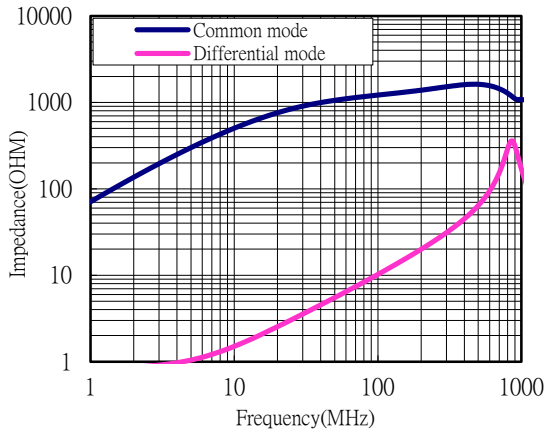


Lead-free the recommended reflow condition

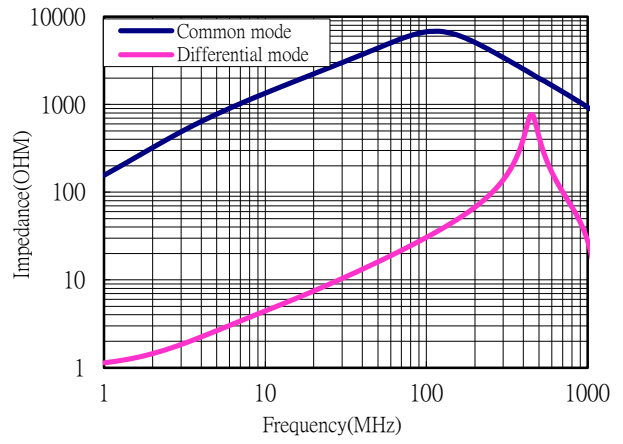


● **Impedance curve**

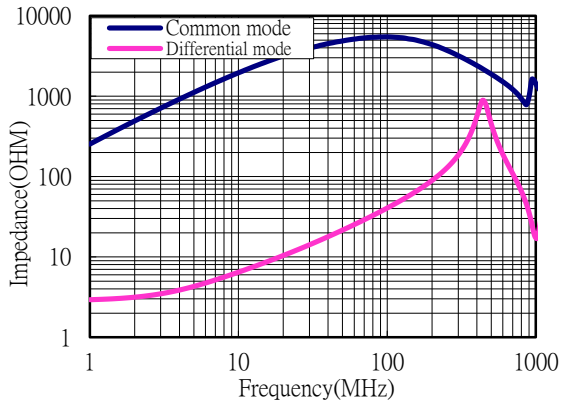
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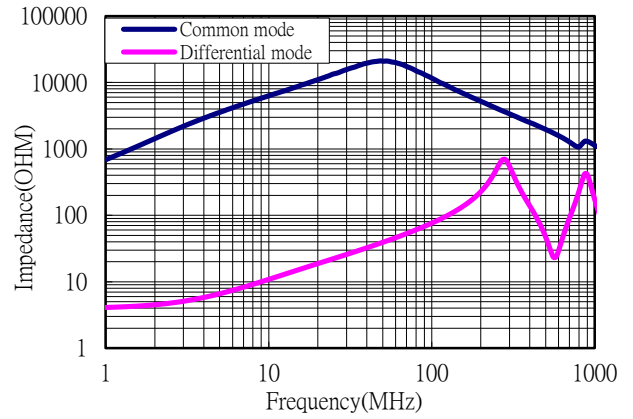
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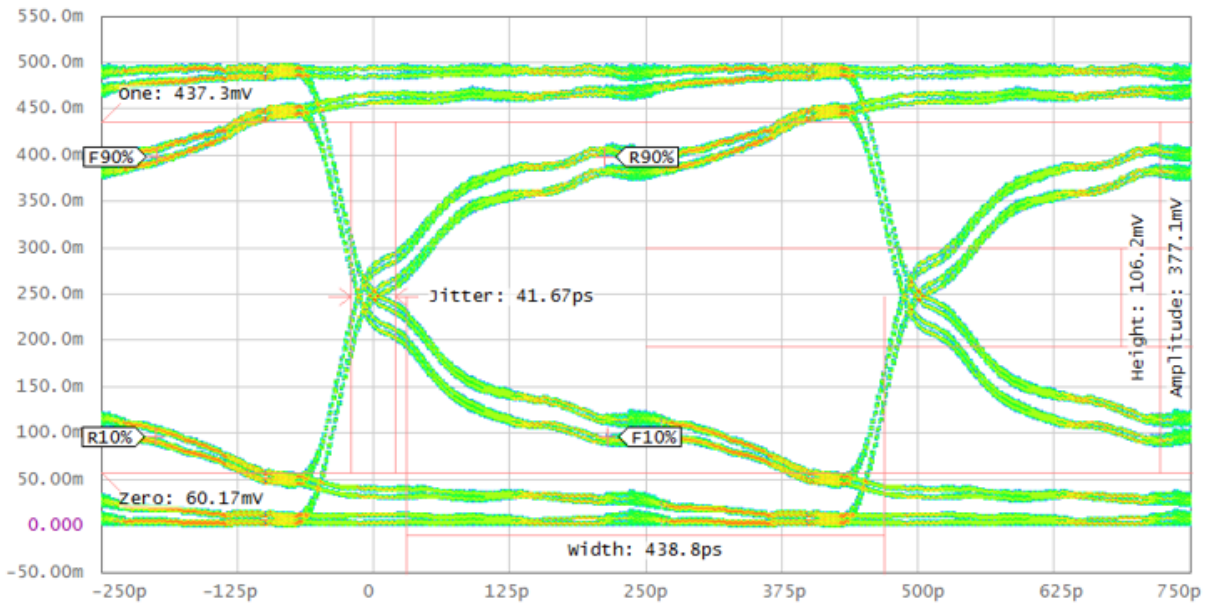


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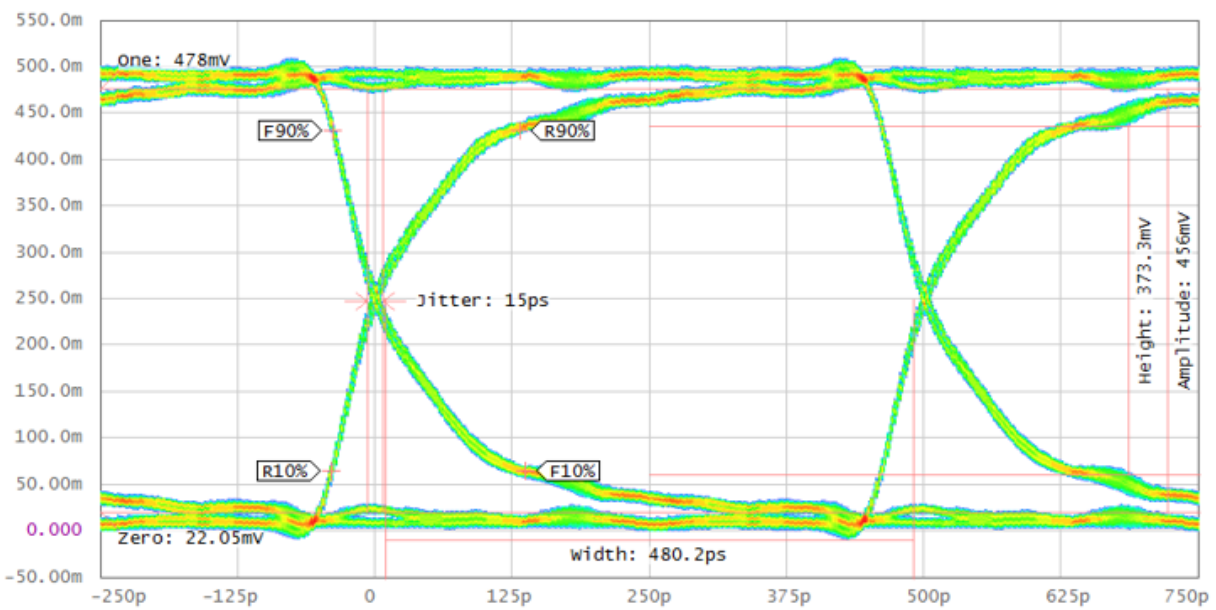


●F4P 3225ELQ1 (Eye Diagram Graphic)

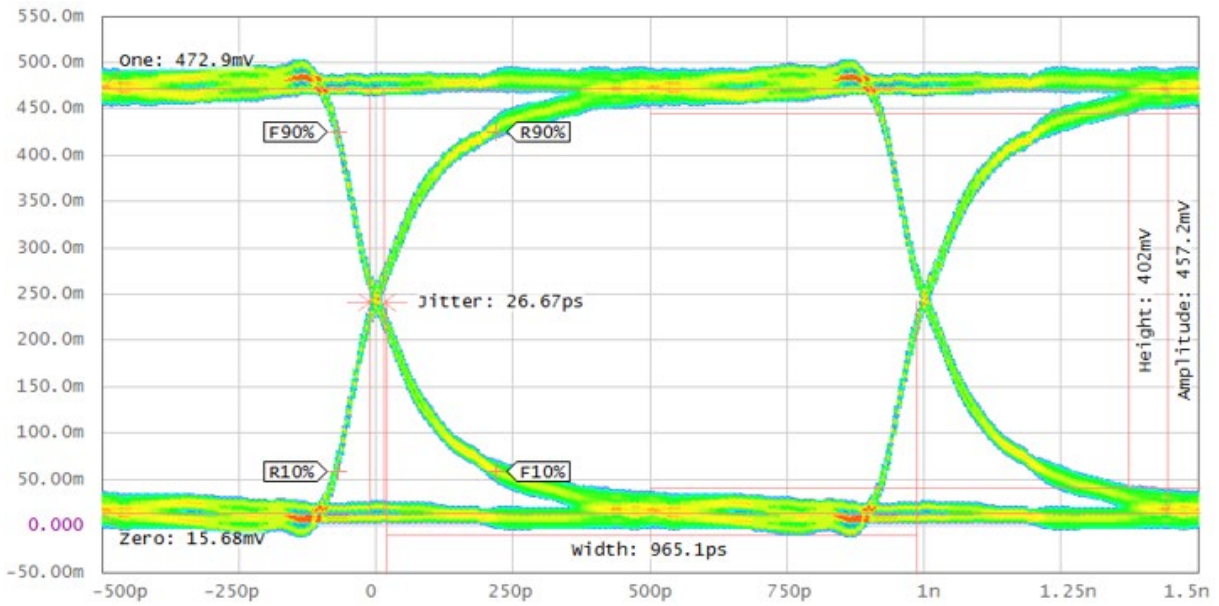
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F4P3225ELQ1-220



F4P3225ELQ1-510



F4P3225ELQ1-101

