AEC-Q200

FENG-JUI TECHNOLOGY CO., LTD

# F2P2012NVQ1 TYPE

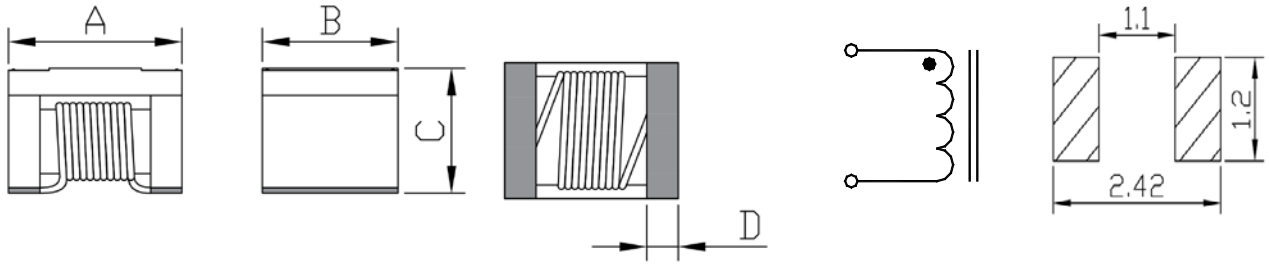
## ●FEATURE

1. Operating temperature range: –40 to +125°C
2. Compliant with AEC-Q200

## ●Applications

1. Inductor for use with separate signal and power lines in in-vehicle PoC (Power Over Coax)

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




A=2.0±0.2m/m ; B=1.2±0.2m/m ; C=1.6±0.2m/m ; D=0.48±0.2m/m

## ●Specification

| P/N | L (μH) | RDC (Ω) Max | SRF (MHz) Min. | Isat (mA) | Irms (mA) at 85°C | Irms (mA) at 105°C |
|---|---|---|---|---|---|---|
| F2P2012NVQ1-R47M | 0.47 | 0.05 | 470 | 1100 | 1100 | 900 |
| F2P2012NVQ1-R82M | 0.82 | 0.09 | 360 | 800 | 800 | 700 |
| F2P2012NVQ1-1R0M | 1.00 | 0.13 | 320 | 700 | 700 | 600 |
| F2P2012NVQ1-1R5M | 1.50 | 0.18 | 260 | 550 | 550 | 500 |
| F2P2012NVQ1-2R0M | 2.00 | 0.29 | 230 | 450 | 450 | 400 |

Note1. Measurement frequency of Inductance value : at 1MHz at 25℃

Note2. Inductance Tolerance: M: ±20%

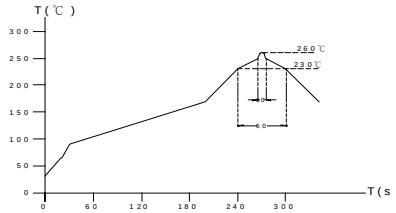
Note3. Isat: DC current at which the inductance drops 30%(typ) from its value without current

Note4. Irms: When based on the temperature increase (temperature increase due to self heating : 40°C at ambient temperature of 85°C, 20°C at ambient temperature of 105°C, )

# GENERAL CHARACTERISTICS

1. Operating temperature range: -40 TO + 125℃(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℃). Part can be stored for 1000 hrs @125℃. Unpowered. Measurement at 24±4 hours after test conclusion.
3. Temperature cycling refer JESD22 Method JA-104: 1000 cycles(-40 TO + 125℃). 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℃/85%RH. Unpowered. Measurement at 24±4 hours after test conclusion.
5. Operational Life refer MIL-PRF-27: 1000 hrs. at 125 ℃ 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℃,category 3 ; SMD, a)Method B, 4hrs@125℃ dry heat @235℃, b)Method B@215℃ category 3., c)Method D category 3@260℃
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