# PI07018Q1 TYPE

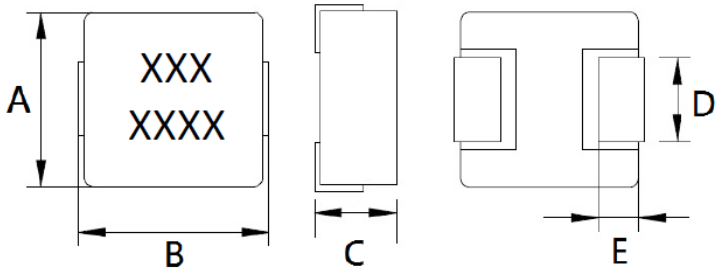
## ●FEATURE

1. Shielded construction，Frequency range up to 5MHz
2. AEC-Q200 Grade 1 qualified

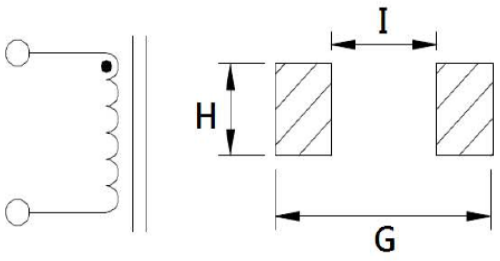
## ●Applications

1. Notebook, server application, High current power supplier

## ●Shape and Dimension




## ●Schematics and Land Patterns(mm)




A=6.80m/m Max ; B=7.30m/m Max ; C=1.80m/m Max ; D=3.00±0.3m/m ; E=1.50m/m Ref. ; G=8.00m/m Ref. ; H=3.45m/m Ref. ; I=3.70m/m Ref.

## ●Specification

| P/N | L (μH) | RDC (mΩ)Max | Isat (A) | Irms (A) |
|---|---|---|---|---|
| PI07018Q1-R33M | 0.33±20% | 7.0 | 18.0 | 12.0 |
| PI07018Q1-R68M | 0.68±20% | 13.9 | 15.0 | 9.0 |
| PI07018Q1-R82M | 0.82±20% | 15.9 | 14.0 | 8.0 |
| PI07018Q1-1R0M | 1.0±20% | 18.5 | 11.5 | 7.0 |
| PI07018Q1-1R5M | 1.5±20% | 34.0 | 10.0 | 6.0 |
| PI07018Q1-2R2M | 2.2±20% | 46.0 | 8.5 | 5.0 |
| PI07018Q1-3R3M | 3.3±20% | 60.1 | 6.0 | 3.25 |
| PI07018Q1-4R7M | 4.7±20% | 78.0 | 5.5 | 3.0 |
| PI07018Q1-6R8M | 6.8±20% | 136 | 4.5 | 2.5 |
| PI07018Q1-100M | 10±20% | 195 | 4.0 | 2.0 |
| PI07018Q1-220M | 22±20% | 600 | 2.5 | 1.0 |

Note1. Measurement frequency of Inductance value : at 100KHz

Note2. Measurement ambient temperature of L, DCR and IDC : at 25℃

Note3. Isat: DC current at which the inductance drops 20%(typ) from its value without current

Note4. Irms: Average current for 40℃ temperature rise from 25℃ ambient(typical)

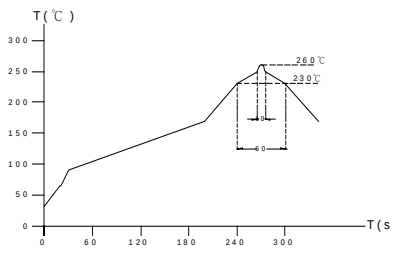
Note5. Inductance tolerance: M: ±20%

Note6. Packaging: Taping : 1500 Piece/reel

# GENERAL CHARACTERISTICS

1. Operating temperature range: -55 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(-55 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@155℃ 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