

PIC10040Q1 TYPE

● **FEATURE**

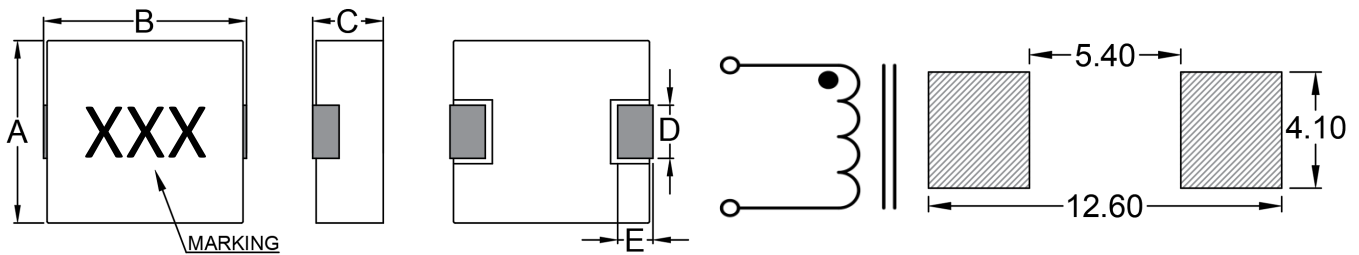
1. Shielded construction
2. Alloy metal material used, Low DCR ,Low Buzz Noise
3. AEC-Q200 qualified

● **Applications**

1. Notebook, server application, High current power supplier

● **Shape and Dimension**

● **Schematics and Land Patterns(mm)**



A=10.30mm Max. ; B=11.50mm Max. ; C=4.00mm Max. ; D=3.00±0.50mm ; E=2.00±0.50mm

● **Specification**

P/N	L (uH)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (A)	Irms (A)
PIC10040Q1-R36M	0.36±20%	1.05	1.20	50.0	30.0
PIC10040Q1-R47M	0.47±20%	1.50	1.70	40.0	30.0
PIC10040Q1-R56M	0.56±20%	1.60	1.80	33.0	25.0
PIC10040Q1-R68M	0.68±20%	2.10	2.40	30.0	23.0
PIC10040Q1-R80M	0.80±20%	2.60	2.70	29.0	23.0
PIC10040Q1-1R0M	1.00±20%	3.00	3.30	28.0	19.0
PIC10040Q1-2R2M	2.20±20%	6.00	7.00	18.0	12.0
PIC10040Q1-3R3M	3.30±20%	10.00	11.80	16.0	11.0
PIC10040Q1-4R7M	4.70±20%	17.00	20.00	15.0	9.0
PIC10040Q1-6R8M	6.80±20%	22.00	25.00	12.0	8.5
PIC10040Q1-8R2M	8.20±20%	25.00	27.00	9.0	8.0
PIC10040Q1-100M	10.0±20%	27.00	30.00	8.5	7.8
PIC10040Q1-150M	15.0±20%	40.00	45.00	7.0	6.5
PIC10040Q1-220M	22.0±20%	58.00	66.00	5.5	5.0
PIC10040Q1-330M	33.0±20%	85.00	92.00	5.0	4.4
PIC10040Q1-470M	47.0±20%	130.00	145.00	3.5	3.3
PIC10040Q1-680M	68.0±20%	178.00	195.00	3.0	2.5

FENG-JUI TECHNOLOGY CO., LTD

Note1. Measurement frequency of Inductance value : at 100kHz, 1.0V

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

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

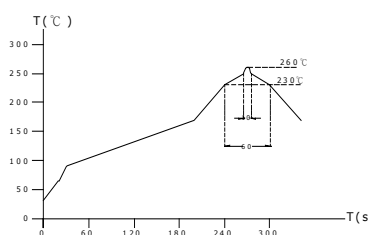
Note4. Irms: Average current for 40°C temperature rise from 25°C ambient(Typ.)

Note5. Packaging: Taping ; Quantity: 500 Pieces/Reel

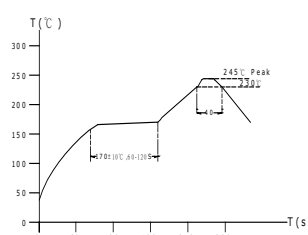
GENERAL CHARACTERISTICS

1. Operating temperature range: -55 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(-55 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

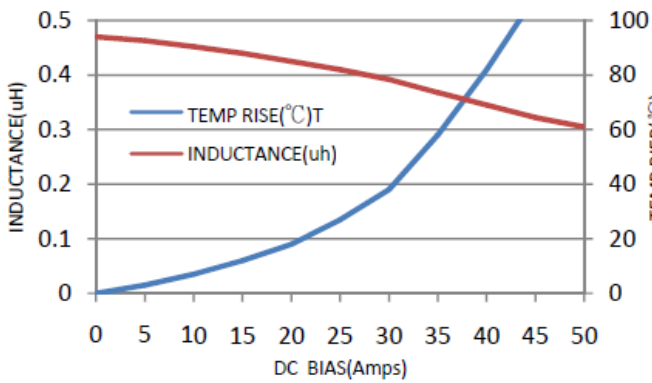


Lead-free the recommended reflow condition

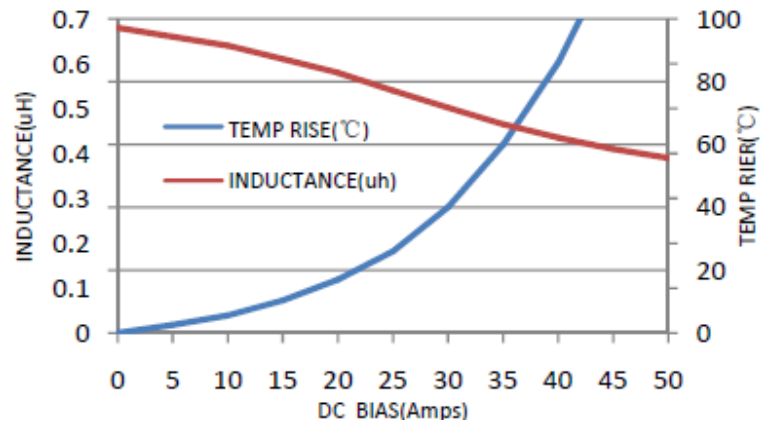


● Typical Electrical Curve: Inductance VS Isat , Irms VS TEMP.

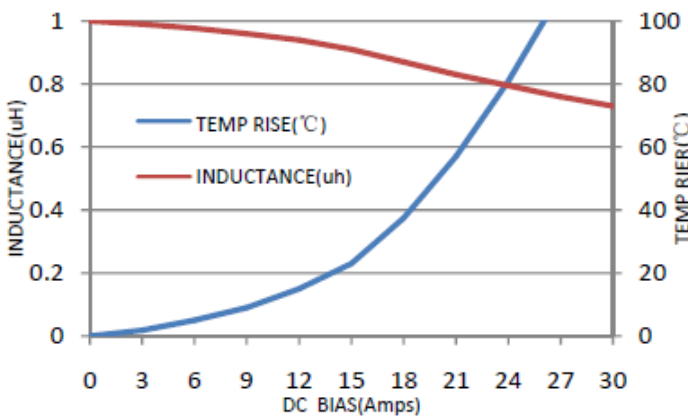
PIC10040Q1-R47M



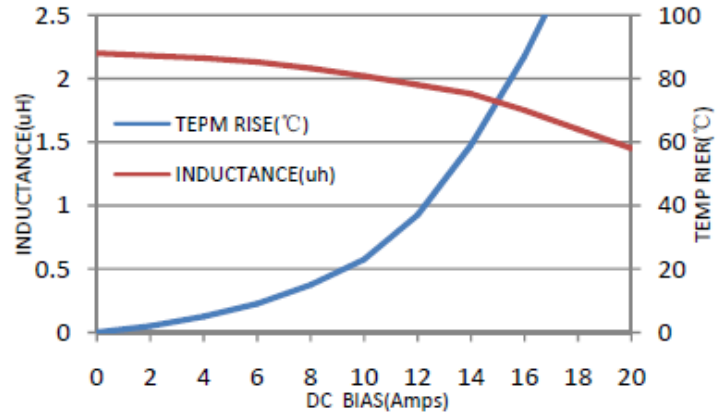
PIC10040Q1-R68M



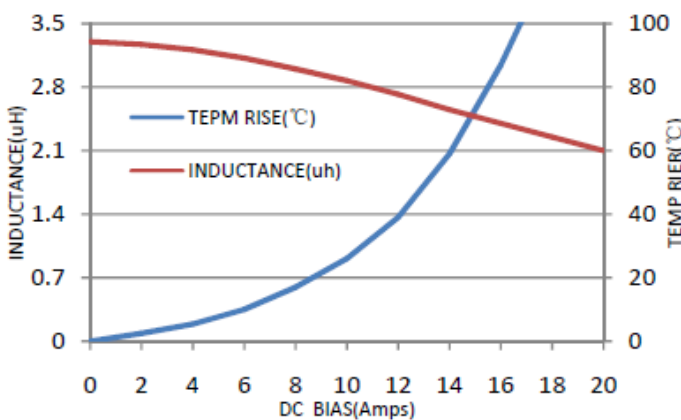
PIC10040Q1-1R0M



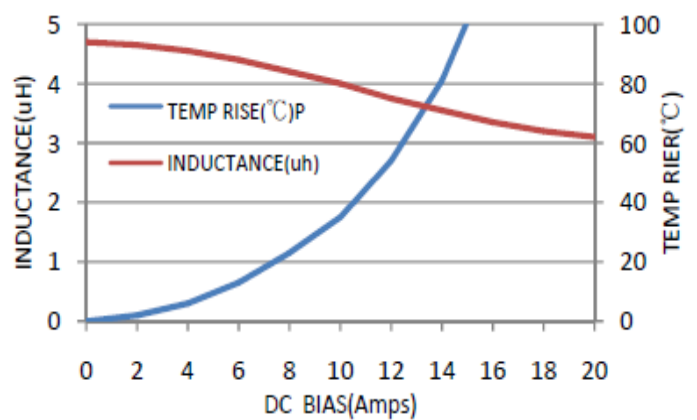
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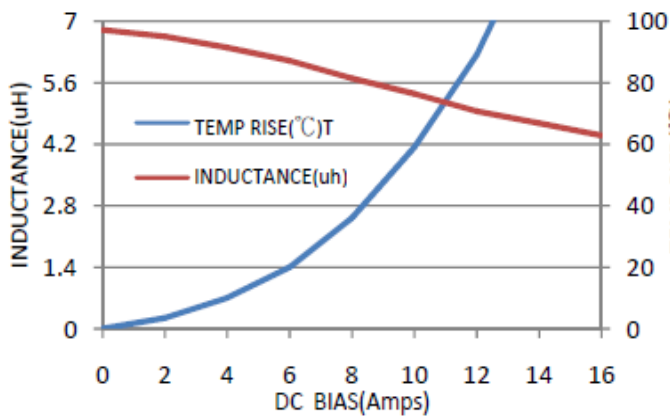
PIC10040Q1-3R3M



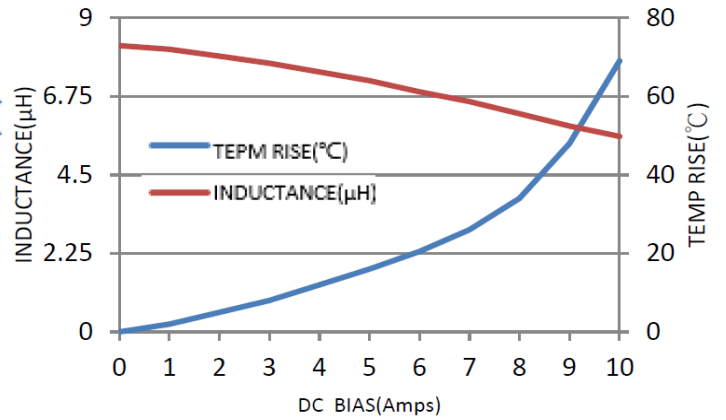
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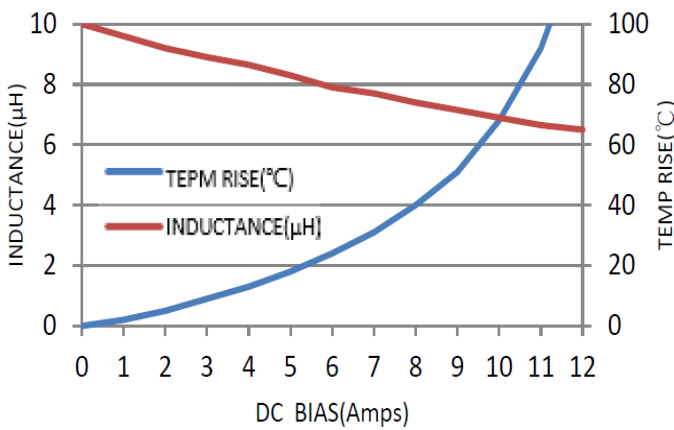
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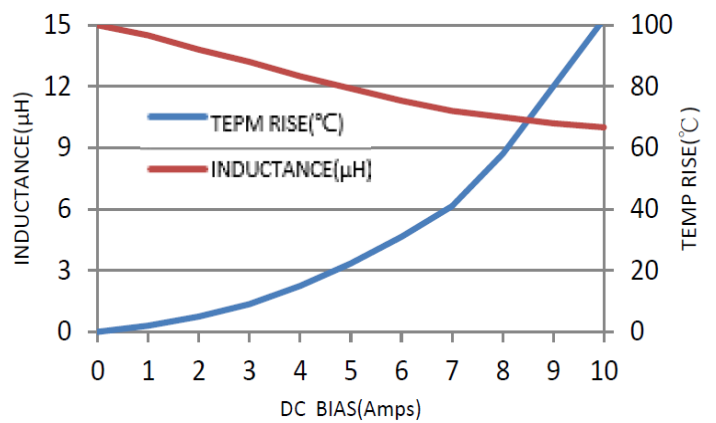
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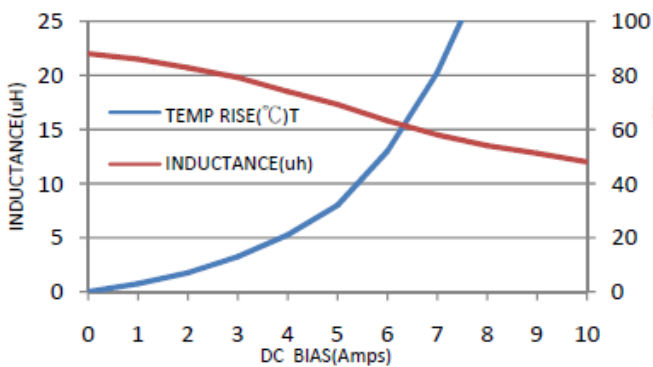
PIC10040Q1-100M



PIC10040Q1-150M



PIC10040Q1-220M



PIC10040Q1-330M

