

PIC10040CYDQ1 TYPE

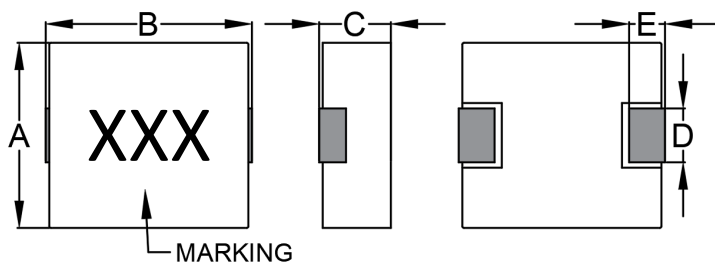
● FEATURE

1. Magnetically shielded, low EMI
2. High current carrying capacity, Low core losses
3. AEC-Q200 Qualified

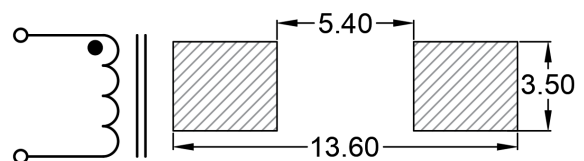
● Applications

1. Notebook, server application, High current power supplier

● Shape and Dimension



● Schematics and Land Patterns(mm)



A=10.0±0.30mm ; B=11.0±0.50mm ; C=3.80±0.20mm ; D= 3.00±0.30mm ; E=2.30±0.30mm

● Specification

P/N	L (uH)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (A)	Irms (A)
PIC10040CYDQ1-R10N	0.10±30%	0.35	0.41	85.0	46.0
PIC10040CYDQ1-R15N	0.15±30%	0.50	0.60	75.0	43.0
PIC10040CYDQ1-R22M	0.22±20%	0.80	1.00	60.0	35.0
PIC10040CYDQ1-R33M	0.33±20%	1.00	1.20	60.0	31.0
PIC10040CYDQ1-R47M	0.47±20%	1.30	1.50	43.0	28.0
PIC10040CYDQ1-R56M	0.56±20%	1.60	1.80	40.0	25.0
PIC10040CYDQ1-R68M	0.68±20%	2.40	2.70	39.0	22.0
PIC10040CYDQ1-1R0M	1.00±20%	3.00	3.30	36.0	18.0
PIC10040CYDQ1-1R5M	1.50±20%	4.00	4.60	33.0	16.0
PIC10040CYDQ1-2R2M	2.20±20%	6.50	7.00	27.0	12.0
PIC10040CYDQ1-3R3M	3.30±20%	10.8	11.8	20.0	11.0
PIC10040CYDQ1-4R7M	4.70±20%	15.0	15.5	17.0	10.0
PIC10040CYDQ1-5R6M	5.60±20%	17.0	19.3	14.0	9.00
PIC10040CYDQ1-6R8M	6.80±20%	17.5	23.3	13.5	8.50
PIC10040CYDQ1-8R2M	8.20±20%	20.0	22.5	12.5	8.00
PIC10040CYDQ1-100M	10.0±20%	27.0	30.0	12.0	7.50
PIC10040CYDQ1-150M	15.0±20%	40.0	45.0	10.0	6.25

P/N	L (uH)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (A)	Irms (A)
PIC10040CYDQ1-220M	22.0±20%	64.0	74.0	7.00	5.00
PIC10040CYDQ1-330M	33.0±20%	92.0	112	5.00	3.50
PIC10040CYDQ1-470M	47.0±20%	145	167	4.50	3.00
PIC10040CYDQ1-680M	68.0±20%	205	240	3.00	2.00
PIC10040CYDQ1-820M	82.0±20%	265	320	2.50	1.50

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

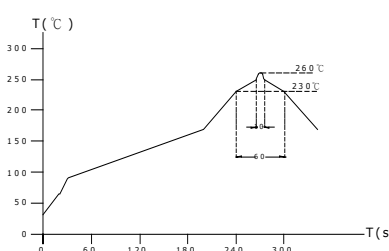
Note4. Irms: Average current for 40°C temperature rise from 25°C ambient(Typ.)

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

