FENG-JUI TECHNOLOGY CO., LTD

AEC-Q200

PIC13050CYDQ1 TYPE

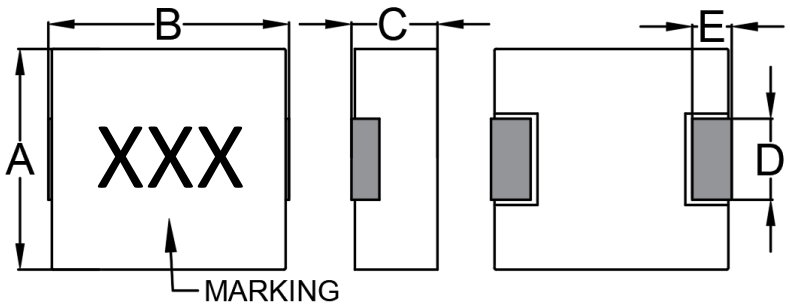
●FEATURE

1. Shielded construction
2. Frequency range up to 5MHz, Low DCR(Ω), Low Buzz Noise
3. AEC-Q200 Qualified

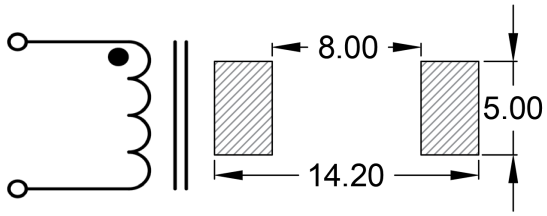
●Applications

1. Notebook, server application, High current power supplier

●Shape and Dimension



●Schematics and Land Patterns(mm)



A=12.5±0.30mm. ; B=13.5±0.50mm ; C=4.80±0.20mm. ; D=4.70±0.30 ; E=2.30±0.30mm

●Specification

P/N	L (μH)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (A)	Irms (A)
PIC13050CYDQ1-R22M	0.22±20%	0.50	0.70	110	52.0
PIC13050CYDQ1-R33M	0.33±20%	0.70	0.90	80.0	42.0
PIC13050CYDQ1-R47M	0.47±20%	0.86	1.10	65.0	38.0
PIC13050CYDQ1-R56M	0.56±20%	1.00	1.50	55.0	36.0
PIC13050CYDQ1-R68M	0.68±20%	1.40	1.70	54.0	34.0
PIC13050CYDQ1-R82M	0.82±20%	1.70	2.10	52.0	31.0
PIC13050CYDQ1-1R0M	1.0±20%	1.85	2.50	50.0	29.0
PIC13050CYDQ1-1R5M	1.5±20%	2.80	3.30	48.0	27.0
PIC13050CYDQ1-2R2M	2.2±20%	4.20	5.50	32.0	20.0
PIC13050CYDQ1-3R3M	3.3±20%	6.80	9.20	32.0	15.0
PIC13050CYDQ1-4R7M	4.7±20%	11.4	15.0	27.0	12.0
PIC13050CYDQ1-5R6M	5.6±20%	12.3	16.5	22.0	11.5
PIC13050CYDQ1-6R8M	6.8±20%	14.5	18.5	21.0	11.0
PIC13050CYDQ1-8R2M	8.2±20%	16.8	22.5	18.0	9.50
PIC13050CYDQ1-100M	10±20%	21.4	25.5	16.0	9.00
PIC13050CYDQ1-150M	15±20%	32.0	38.0	13.0	8.20
PIC13050CYDQ1-220M	22±20%	50.0	58.0	10.0	6.50

P/N	L (μH)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (A)	Irms (A)
PIC13050CYDQ1-330M	33±20%	73.0	88.0	8.00	5.00
PIC13050CYDQ1-470M	47±20%	100	120	6.50	4.00
PIC13050CYDQ1-680M	68±20%	135	162	5.50	3.50
PIC13050CYDQ1-820M	82±20%	198	238	4.80	3.00

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

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

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

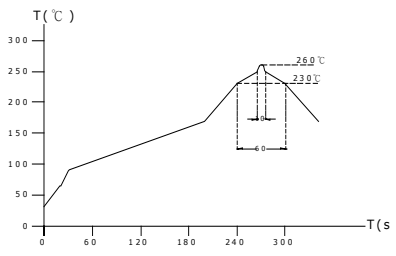
Note4. Irms: Average current for 40℃ temperature rise from 25℃ ambient(Typ.)

Note5. Packaging: Taping ; Quantity: 500pcs/ree

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@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