

PIC03020YDQ1 TYPE

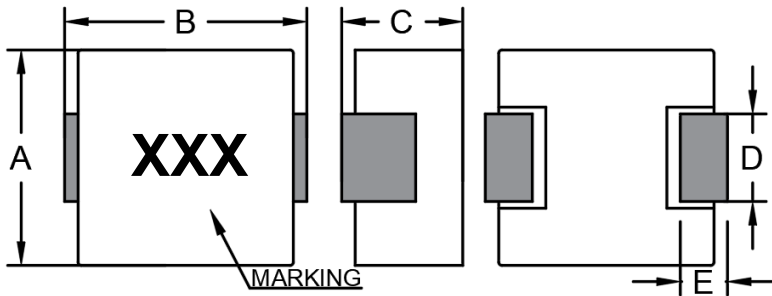
●FEATURE

1. Shielded construction
2. Alloy metal material used, Low DCR ,Low Buzz Noise

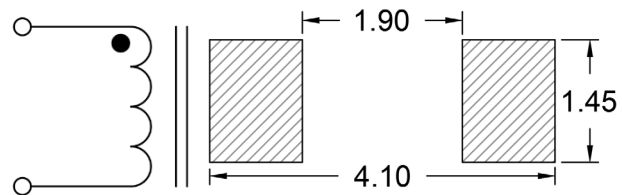
●Applications

1. AEC-Q200 qualified.

●Shape and Dimension



●Schematics and Land Patterns(mm)



A=3.20±0.2mm ; B=3.50±0.2mm ; C=1.80±0.2mm ; D= 1.20±0.2mm ; E=0.70±0.2mm

●Specification

P/N	L (uH)	RDC (mΩ) Typ.	RDC (mΩ) Max.	Isat (A) Typ./Max	Irms (A) Typ./Max
PIC03020YDQ1-R15N	0.15±30%	8.0	9.6	14.0 / 13.0	11.0 / 10.0
PIC03020YDQ1-R22M	0.22±20%	10.0	12.0	12.0 / 10.8	10.0 / 9.0
PIC03020YDQ1-R33M	0.33±20%	12.0	14.4	10.0 / 9.0	9.0 / 8.1
PIC03020YDQ1-R47M	0.47±20%	14.5	17.4	8.5 / 7.5	8.0 / 7.0
PIC03020YDQ1-R68M	0.68±20%	20.0	24.0	7.0 / 6.3	6.8 / 6.1
PIC03020YDQ1-1R0M	1.0±20%	27.0	33.0	6.0 / 5.4	5.8 / 5.2
PIC03020YDQ1-1R5M	1.5±20%	35.0	42.0	5.5 / 5.0	5.1 / 4.6
PIC03020YDQ1-2R2M	2.2±20%	55.0	66.0	4.5 / 4.1	4.0 / 3.6
PIC03020YDQ1-3R3M	3.3±20%	92.0	111.0	3.2 / 2.9	3.0 / 2.7
PIC03020YDQ1-4R7M	4.7±20%	122.0	147.0	2.8 / 2.5	2.5 / 2.2
PIC03020YDQ1-6R8M	6.8±20%	211.0	254.0	2.2 / 2.0	2.0 / 1.8
PIC03020YDQ1-100M	10±20%	285.0	342.0	1.6 / 1.5	1.5 / 1.4

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.)

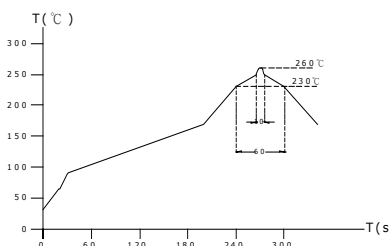
Note5. Inductance tolerance: N: ±30% · M: ±20%

Note6. Packaging: Taping ; Quantity: 3000 Pieces/Reel (MSL: 1 level)

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@155°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

