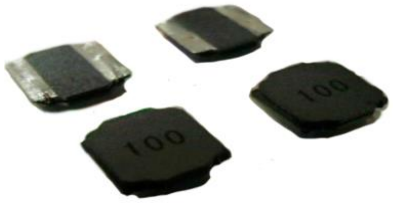
•FEATURE

1. Excellent Solder Heat Resistance
2. Low Voltage Drops and Small Variations Inductance
3. Power supply PWM circuit input / output inductor
4. Power line noise suppression
5. DC-DC Converter
6. Pass CE/FCC purpose
7. Operating Temperature: -40 ~ +125 ℃
8. Compliant with AEC-Q200



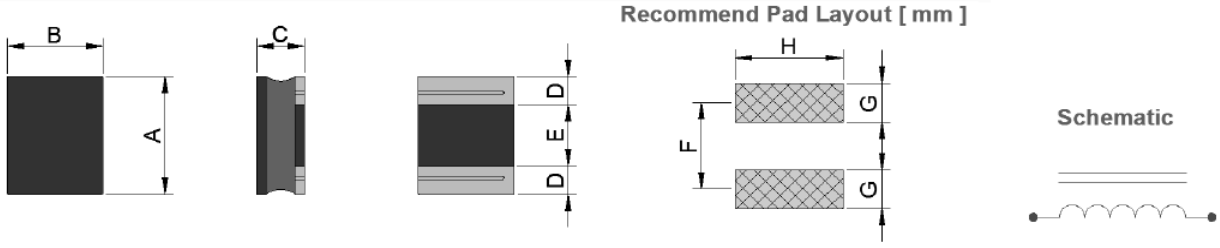
•APPLICATION

TFT, WIFI, Mobile Phone, MP3, PDA, Low Profile For All Compact Design

•ORDERING INFORMATION

PIQ	252010	U	-R24	M	Q
Series	Dimension (L*W*H)	Material code (A)	Impedance (Ω)	Tolerance M=±20%	AEC-Q

•SHAPE AND DIMENSION



•SPECIFICATION

Unit: mm (Measured before solder)

TYPE	A	B	C	D	E	F	G	H
201610	2.00±0.2	1.60±0.2	1.00 Max.	0.60 Ref.	0.60 Ref.	1.20 Ref.	0.60 Ref.	1.80 Ref.
201610A	$2.00^{+0.20}_{-0.10}$	$1.60^{+0.20}_{-0.10}$	1.00 Max.	0.50 Ref.	1.00 Ref.	1.55 Ref.	0.75 Ref.	1.90 Ref.
252010	2.50±0.2	2.00±0.2	1.00 Max.	0.80 Ref.	0.80 Ref.	1.65 Ref.	0.85 Ref.	2.00 Ref.
252010A	2.50±0.2	2.00±0.2	1.00 Max.	0.75 Ref.	1.00 Ref.	1.95 Ref.	0.95 Ref.	2.40 Ref.

●ELECTRICAL CHARACTERISTICS

Part Number	Inductance (uH)	DCR (mΩ) Max.	Isat (A) Typ.	Irms (A) Typ.
PIQ201610-R24M	0.24	32	4.20	4.30
PIQ201610-R33M	0.33	41	3.80	3.80
PIQ201610-R47M	0.47	41	3.00	3.00
PIQ201610-R68M	0.68	60	2.60	2.80
PIQ201610-1R0M	1.0	72	2.00	2.25
PIQ201610-2R2M	2.2	215	1.35	1.40
PIQ201610-4R7M	4.7	420	1.00	1.00
PIQ201610-100M	10	820	0.65	0.70

* Inductance test Freq.: 1MHz / 1.0V
* M=Tolerance= ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (uH)	DCR (mΩ) Max.	Isat (A)Typ.	Irms (A)Typ.
PIQ201610A-R24M	0.24	20	7.50	6.50
PIQ201610A-R33M	0.33	23	5.50	5.60
PIQ201610A-R47M	0.47	29	5.20	5.30
PIQ201610A-R68M	0.68	44	5.10	4.20
PIQ201610A-1R0M	1.00	60	4.50	3.40
PIQ201610A-1R5M	1.50	82	3.20	3.10
PIQ201610A-2R2M	2.20	120	2.70	2.30
PIQ201610A-3R3M	3.30	192	2.00	2.00
PIQ201610A-4R7M	4.70	216	1.60	1.80

* Inductance test Freq.: 1MHz / 1.0V
* M=Tolerance= ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)
* Measurement board data : Material : FR4
  Board dimensions : 100 X 50 X 1.6t mm
  Pattern dimensions: 45 X 45 mm (Double side board)
  Pattern thickness : 70 μm

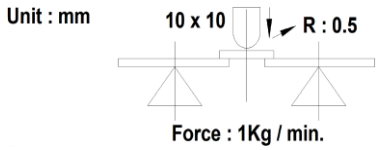
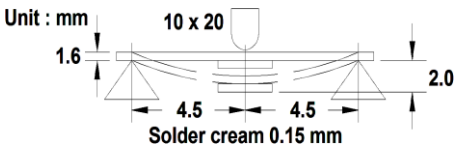
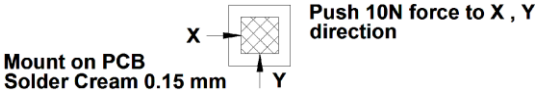
Part Number	Inductance (uH)	DCR (mΩ) Max.	Isat (A) Typ.	Irms (A) Typ.
PIQ252010-R24M	0.24	18	8.90	6.50
PIQ252010-R33M	0.33	24	7.50	5.50
PIQ252010-R47M	0.47	30	6.50	4.70
PIQ252010-R68M	0.68	40	5.60	4.20
PIQ252010-1R0M	1.0	53	4.60	4.00
PIQ252010-1R5M	1.5	75	3.80	3.30
PIQ252010-2R2M	2.2	100	3.00	2.70
PIQ252010-4R7M	4.7	250	1.70	1.50

* Inductance test Freq.: 1MHz / 1.0V
* M=Tolerance= ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

Part Number	Inductance (uH)	DCR (mΩ) Max.	Isat (A) Typ.	Irms (A) Typ.
PIQ252010A-R24M	0.24	22.00	9.50	5.50
PIQ252010A-R33M	0.33	28.00	8.00	5.30
PIQ252010A-R47M	0.47	35.00	7.00	4.60
PIQ252010A-R68M	0.68	40.00	5.50	4.20
PIQ252010A-1R0M	1.00	53.00	4.90	3.50
PIQ252010A-1R5M	1.50	74.00	3.80	3.20
PIQ252010A-2R2M	2.20	93.00	2.80	2.60
PIQ252010A-3R3M	3.30	150.00	2.10	2.00
PIQ252010A-4R7M	4.70	216.00	1.70	1.70

* Inductance test Freq.: 1MHz / 1.0V
* M=Tolerance= ±20%
* The saturation current value (Isat) is the DC current value having inductance decrease 30%. (at 20℃)
* The temperature rise current value (Irms) DC current value having temperature increase up to 40℃ (at 20℃)

●RELIABILITY

Test Item	Test Condition	Specification
Dimension	Actual Size ...	Meet Spec
Thermal Shock (Temperature Cycle)	Temperature: -40 ~ +125℃ kept stabilized for 30 min. each Cycle: 100 Cycles (power off)	Elec. no variation Appearance no deformation
Humidity Resistance	Humidity: 90% ~ 95% RH Temperature: 60 ± 2℃ Test Time: 96 ± 2 Hours	Elec. no variation Appearance no deformation
High Temperature	Temperature: 125 ± 2℃ Testing Time: 96 ± 2 Hours	Elec. no variation Appearance no deformation
Low Temperature	Temperature: -40 ± 2℃ Time: 96 ± 2 Hours	Elec. no variation Appearance no deformation
Temperature and Humidity Cycle	Temperature / Humidity / Time 25℃ / 90% ~ 95% RH / 3.0 Hr 55℃ / 95% ~ 96% RH / 5.0 Hr 25℃ / 90% ~ 95% RH / 3.0 Hr Cycle: 20 Cycles	Elec. no variation Appearance no deformation
Vibration	Frequency: 10Hz ~ 55Hz , Amplitude: 1.5 mm Direction: X, Y, Z, Time: 2 Hours each	Elec. no variation Appearance no deformation
Solderability	Go through real SMT IR-Reflow .... The profile like our suggest profile. Preheat: 160 ± 10℃ (90 sec) Peak: 245 ± 5℃ Peak Time: 50 Sec. / up 217℃	Elec. no variation Appearance no deformation
Soldering Heat Resistance	Preheat: 160 ± 10℃ (90 sec) Solder: Sn / Ag / Cu (Pb Free) Solder Temp.: 260 ± 5℃, Time: 3 ± 1 seconds	Elec. no variation Appearance no deformation
Iron Solder Heat Resistance	Solder Temp.: 350 ± 5℃ Flux: Rosin, Time: 3 ± 1 seconds	Elec. no variation Appearance no deformation
Bending Strength		Elec. no variation Appearance no deformation
Flexure Strength		Elec. no variation Appearance no deformation
Terminal Strength		Elec. no variation Appearance no deformation
High-Voltage	100 V DC between core & winding	Elec. no variation Appearance no deformation
Load life	Temperature: 25 ± 3℃ Load: Allowed DC Current, Test Time: 96 ± 2 Hours	Elec. no variation Appearance no deformation

•TEST EQUIPMENT

1. L - WK3260 LCR Meter
2. RDC - Twintex TM8089A
3. IDC - WK3260+3265B DC-Bias
4. Dimension - Mitutoyo
5. Temperature - TECPEL 305A

•OPERATING & STORAGE CONDITION

1. Storage Condition: -40 ~ +125℃ / RH 65 ± 10%
2. Storage Life Time: 6 Months @ 20℃ / RH 65% (no seal off)
3. Operating Condition: -25 ~ +120℃ (Including self-temperature rise)

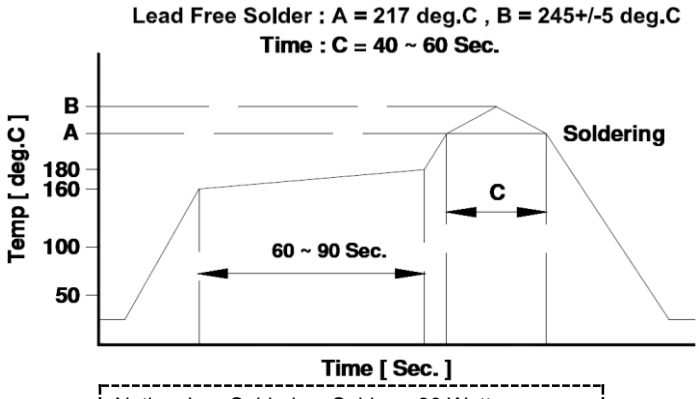
Standard Atmospheric Conditions:

Temperature 20 ± 5℃; Humidity RH 65 ± 20%

If there may be any doubt on the test result, Measurement shall be made within the following limits:

Ambient Temperature 25 ± 5℃; Humidity RH 75 ± 10%

•RECOMMEND IR REFLOW CURVE :

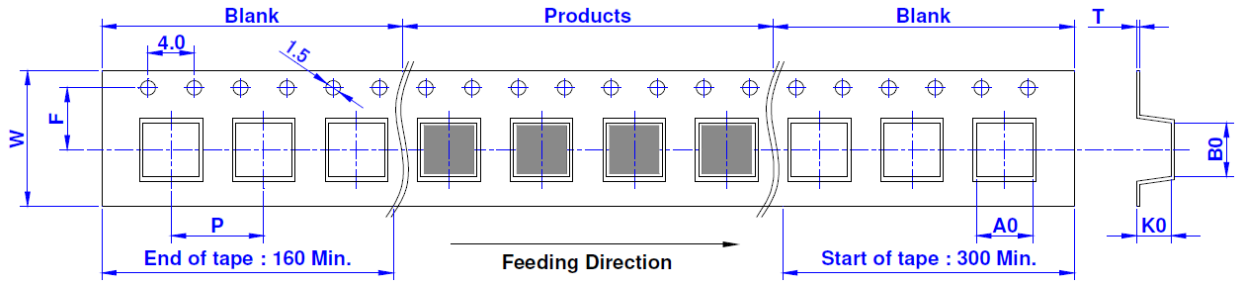


Notice: Iron Soldering, Solder < 30 Watt,
Direct touch the terminal x 3 Sec. Max. @ 350℃

•ATTENTION & CAUTION:

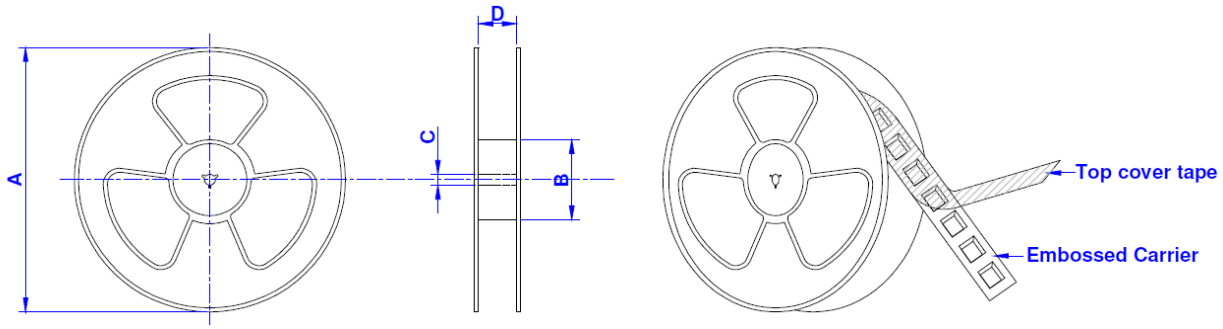
* Keep out of splashing water or salt water
* Toxic Gas (Hydrogen sulfide, Sulfurous acid, Chlorine, Ammonia)
* Vibrations or shocks which exceed the specified condition
* Dew condense
* Please be careful for the stress to this product by board flexure or something after the mounting.

•TAPE DIMENSION: mm



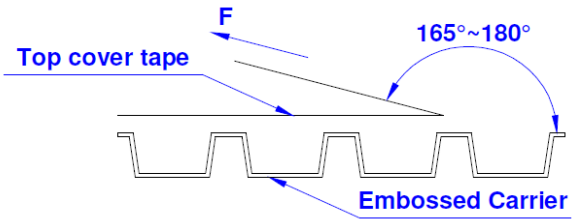
Size / mm	W	P	A0	B0	K0	T	F
201610	8.00	4.00	2.00	2.50	1.20	0.18	3.50
201610A	8.00	4.00	2.00	2.50	1.40	0.23	3.50
252010	8.00	4.00	2.40	2.80	1.35	0.18	3.50
252010A	8.00	4.00	2.45	2.85	1.40	0.23	3.50

•REEL DIMENSION: mm



Size / mm	Reel Size	A	B	C	D	Qty / Reel
201610	7” x 8mm	178	60	13	8.5	2000 PCS
201610A	7” x 8mm	178	60	13	8.5	2000 PCS
252010	7” x 8mm	178	60	13	8.5	2000 PCS
252010A	7” x 8mm	178	60	13	8.5	2000 PCS

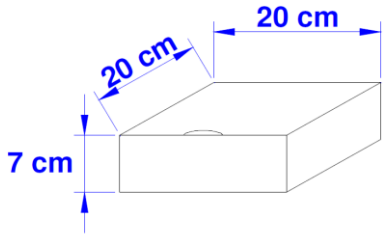
•TEARING OFF FORCE:



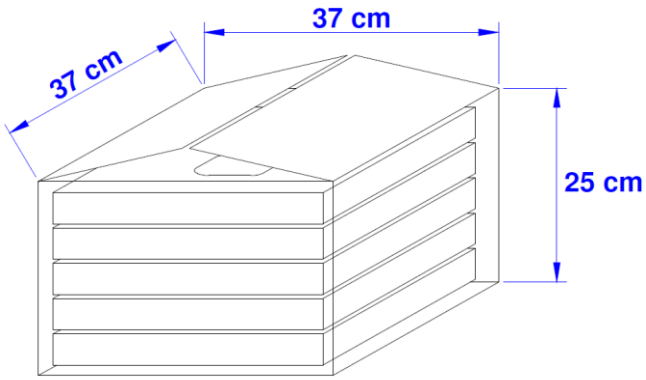
The force for tearing off cover tape is 10 to 130 grams in the arrow direction under the following conditions (referenced ANSI/EIA - 481 - D - 2008 of 4.11stadnard).

Room Temp. (℃)	Room Humidity (%)	Room Atm. (hPa)	Tearing Speed (mm/min)
5 ~ 35	45 ~ 85	860~1060	300

•BOX PACKAGE: cm



7" Small Box



Large Box

SIZE/mm	Reels in Small Box	Small Box in Large Box
201610	5	8
201610A	5	8
252010	5	8
252010A	5	8

IMPORTANT NOTICE

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