SMD Power Choke Coil
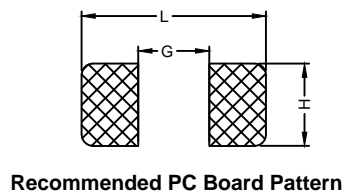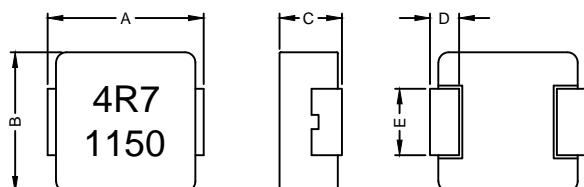
1. PART NO. EXPRESSION :

P I C 1 2 0 5 H P 4 R 7 M F - ☐ ☐
(a)   (b)   (c)   (d) (e)(f)   (g)

(a) Series code

(b) Dimension code

(c) Type code

(d) Inductance code : 4R7 = 4.70uH

(e) Tolerance code : M = ±20%, Y = ±30%

(f) F : RoHS Compliant

(g) 11~99 : Internal controlled number

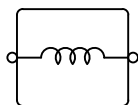## 2. CONFIGURATION & DIMENSIONS :

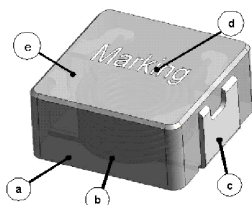4R7
1150

Recommended PC Board Pattern

Unit:m/m

A	B	C	D	E	G	H	L
13.5±0.5	12.5±0.3	4.8±0.2	2.3±0.3	4.7±0.3	8.0	5.0	14.2

3. SCHEMATIC :

4. MATERIALS :

Marking

(a) Core

(b) Wire

(c) Terminal

(d) Ink

(e) Paint

5. GENERAL SPECIFICATION :

a) Test Freq. : L : 100KHz/1.0V

b) Operating Temp. : -40°C to +125°C

c) Storage Temp. : -40°C to +125°C

d) Humidity Range : 85 ± 3% RH

e) Heat Rated Current (Irms) will cause the coil temperature rise approximately Δt of 40°C (keep 1min)

f) Saturation Current (Isat) will cause L0 to drop 20%.

g) Part Temperature (Ambient+Temp. Rise) : Should not exceed 125°C under worst case operating conditions.

h) Storage condition (component in its packaging)
   i) Temperature: -10 to 40°C
   ii) Humidity : 50~60% RH

NOTE : Specifications subject to change without notice. Please check our website for latest information.

RoHS Compliant

06.11.2015

## SUPERWORLD ELECTRONICS (S) PTE LTD

6. ELECTRICAL CHARACTERISTICS :

Part No.	Inductance L0 (μH) @ 0 A	Irms (A) Typ.	Isat (A) Typ.	DCR (mΩ) Typ. @ 25°C	DCR (mΩ) Max. @ 25°C
PIC1205HPR20MF	0.20	52	110	0.45	0.55
PIC1205HPR22MF	0.22	52	110	0.5	0.7
PIC1205HPR33MF	0.33	42	80	0.7	0.9
PIC1205HPR36MF	0.36	42	75	0.75	0.95
PIC1205HPR39MF	0.39	42	70	0.78	0.95
PIC1205HPR47MF	0.47	38	65	0.86	1.1
PIC1205HPR50MF	0.50	37	60	0.9	1.3
PIC1205HPR56MF	0.56	36	55	1.0	1.5
PIC1205HPR68MF	0.68	34	54	1.4	1.7
PIC1205HPR82MF	0.82	31	52	1.7	2.1
PIC1205HP1R0MF	1.00	29	50	1.85	2.5
PIC1205HP1R2MF	1.20	28	49	2.5	3
PIC1205HP1R5MF	1.50	27	48	2.8	3.3
PIC1205HP1R8MF	1.80	21	40	4.0	4.9
PIC1205HP2R2MF	2.20	20	32	4.2	5.5
PIC1205HP3R3MF	3.30	15	32	6.8	9.2
PIC1205HP4R7MF	4.70	12	27	11.4	15.0
PIC1205HP5R6MF	5.60	11.5	22	12.3	16.5
PIC1205HP6R0MF	6.00	11.5	21.5	13	16.5
PIC1205HP6R8MF	6.80	11	21	14.5	18.5
PIC1205HP8R2MF	8.20	9.5	18	16.8	22.5
PIC1205HP100MF	10.0	9.0	16	21.4	25.5
PIC1205HP150MF	15.0	8.2	13	32	38
PIC1205HP180MF	18.0	7.5	11	40	45
PIC1205HP220MF	22.0	6.5	10	50	58

Tolerance code : M = ±20%, Y = ±30%

NOTE : Specifications subject to change without notice. Please check our website for latest information.

7. CHARACTERISTICS CURVES :

PIC1205HPR20MF
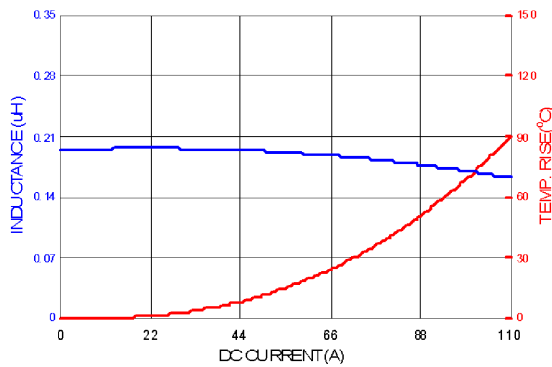
PIC1205HPR22MF
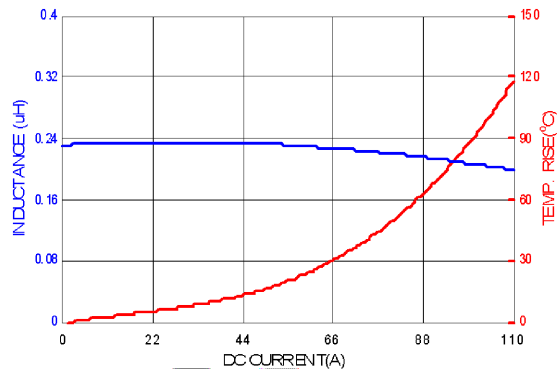
PIC1205HPR33MF
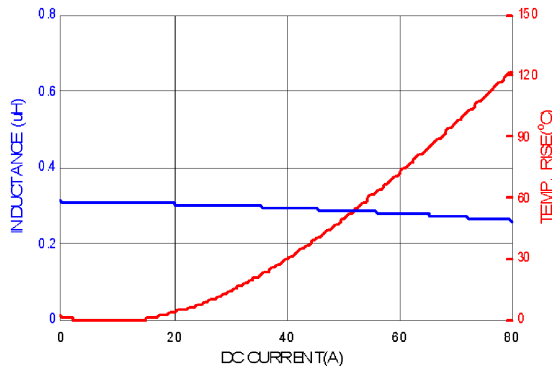
PIC1205HPR36MF
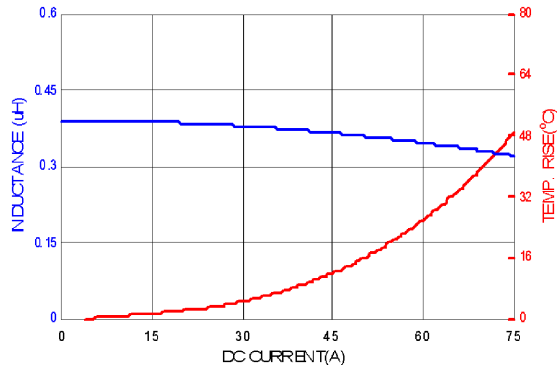
PIC1205HPR39MF
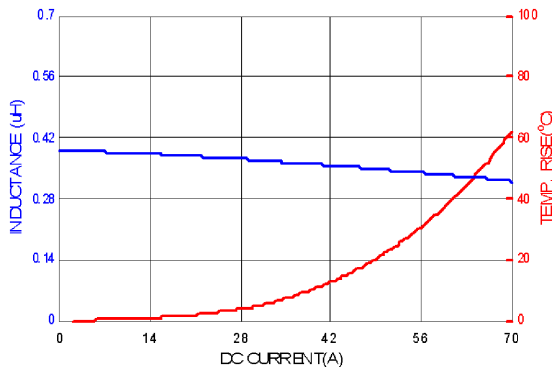
PIC1205HPR47MF

06.11.2015

SUPERWORLD ELECTRONICS (S) PTE LTD

PIC1205HPR50MF

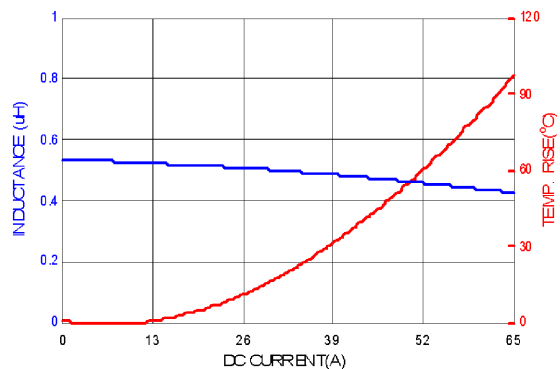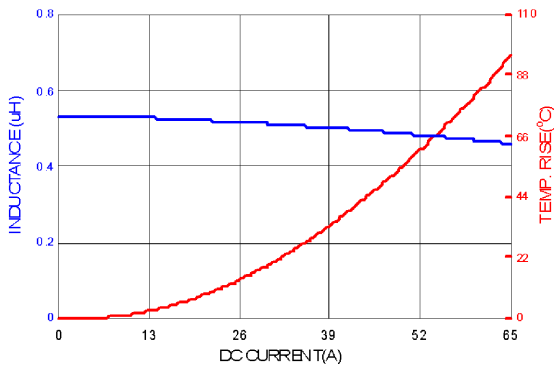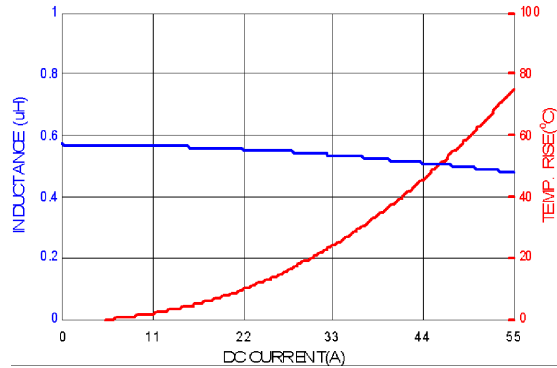### PIC1205HPR56MF

PIC1205HPR68MF
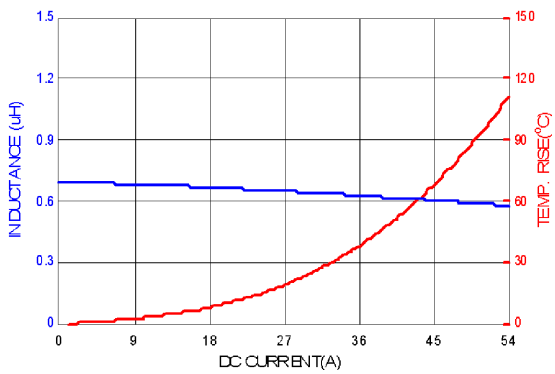
PIC1205HPR82MF
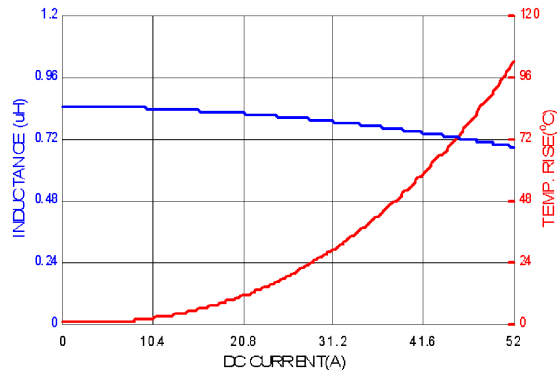
PIC1205HP1R0MF

PIC1205HP1R2MF

RoHS Compliant

NOTE : Specifications subject to change without notice. Please check our website for latest information.
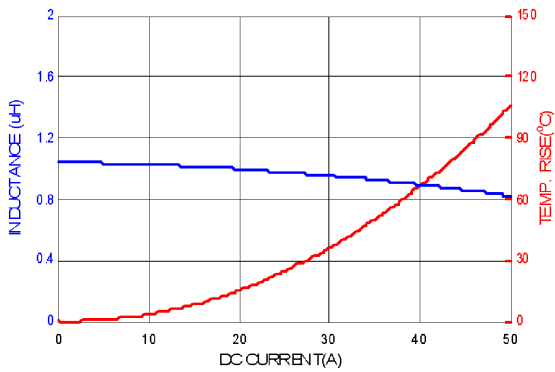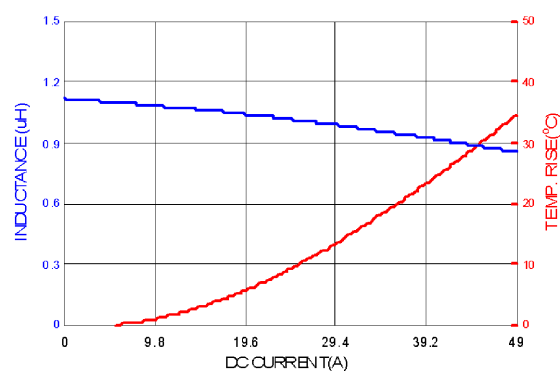
PIC1205HP1R5MF

PIC1205HP1R8MF

PIC1205HP2R2MF

PIC1205HP3R3MF

PIC1205HP4R7MF

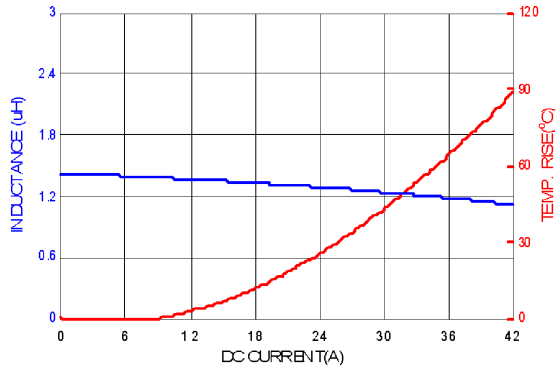PIC1205HP5R6MF

RoHS Compliant

NOTE : Specifications subject to change without notice. Please check our website for latest information.
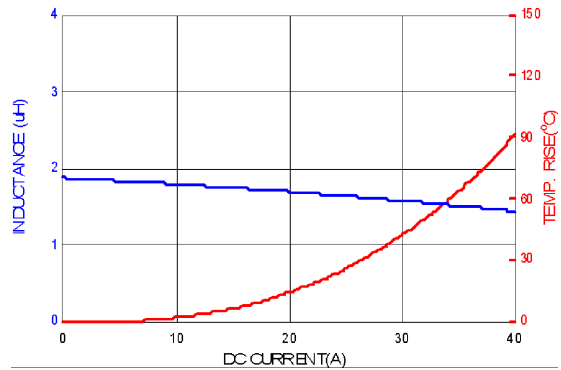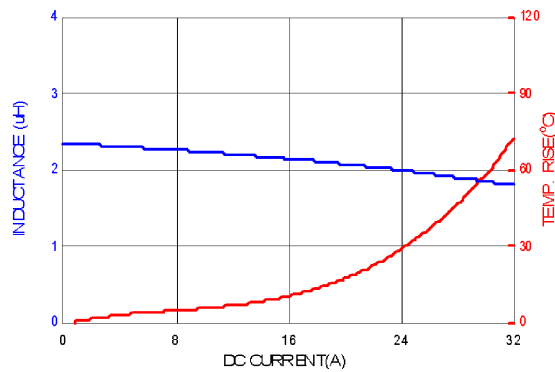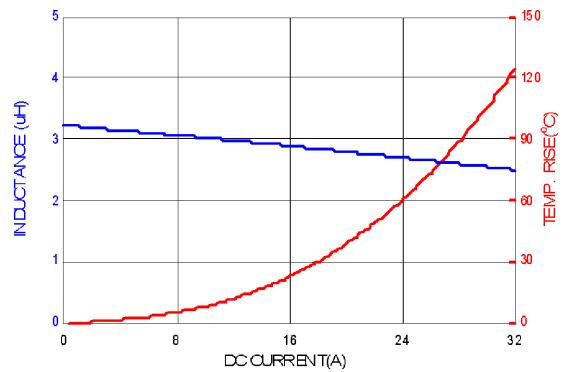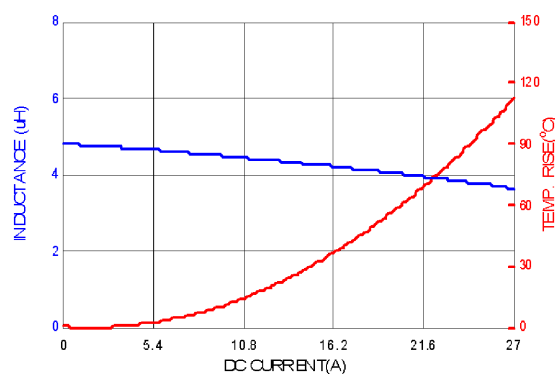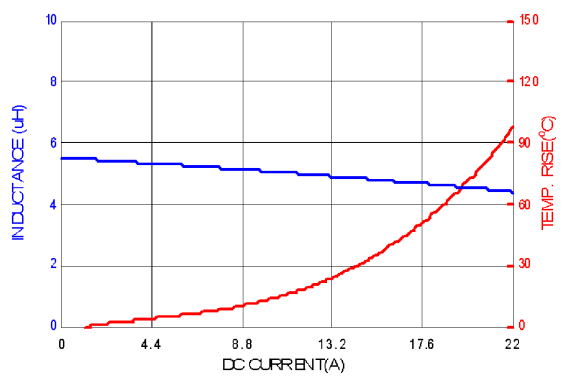
06.11.2015

SUPERWORLD ELECTRONICS (S) PTE LTD

PIC1205HP6R0MF

PIC1205HP6R8MF

PIC1205HP8R2MF

PIC1205HP100MF

PIC1205HP150MF
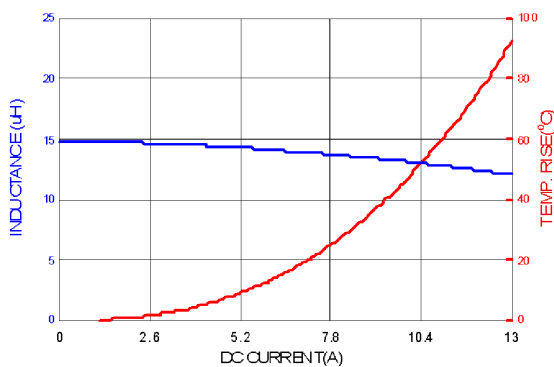
PIC1205HP180MF
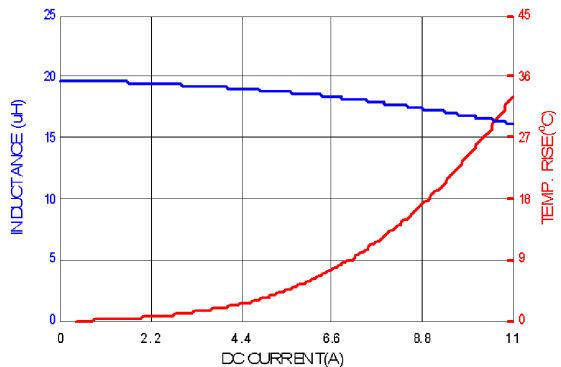
RoHS Compliant

06.11.2015

SUPERWORLD ELECTRONICS (S) PTE LTD
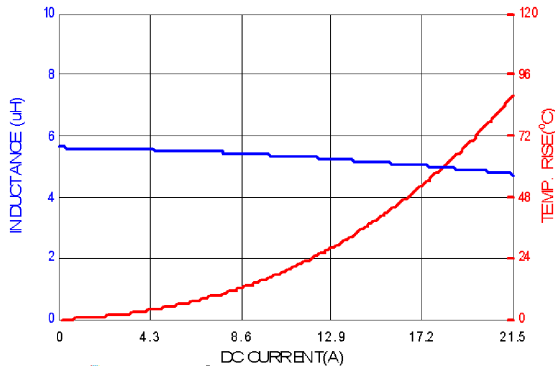
PIC1205HP220MF

NOTE : Specifications subject to change without notice. Please check our website for latest information.
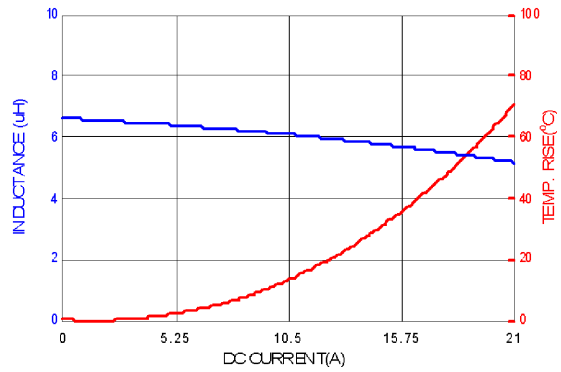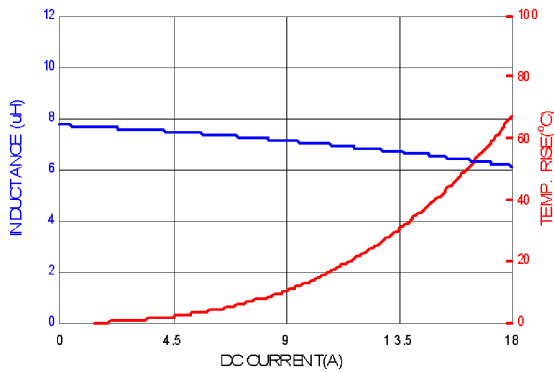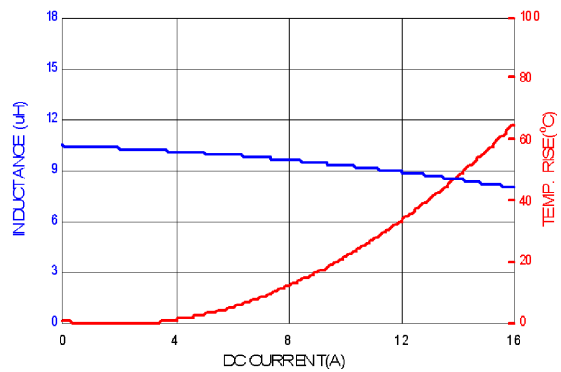
06.11.2015

SUPERWORLD ELECTRONICS (S) PTE LTD

8. SOLDERING

Mildly activated rosin fluxes are preferred. The minimum amount of solder can lead to damage from the stresses caused by the difference in coefficients of expansion between solder, chip and substrate. Our terminations are suitable for all re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

8-1.1 Solder Re-flow :

Recommended temperature profiles for re-flow soldering in Figure 1.

8-1.2 Soldering Iron (Figure 2) :

Products attachment with soldering iron is discouraged due to the inherent process control limitations.
In the event that a soldering iron must be employed the following precautions are recommended.
Note :
    a) Preheat circuit and products to 150°C.
    b) 355°C tip temperature (max)
    c) Never contact the ceramic with the iron tip
    d) 1.0mm tip diameter (max)
    e) Use a 20 watt soldering iron with tip diameter of 1.0mm
    f) Limit soldering time to 4~5 secs.

Figure 1. Re-flow Soldering: 3 times max.
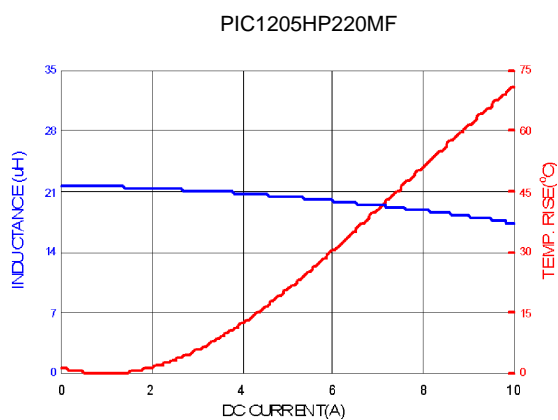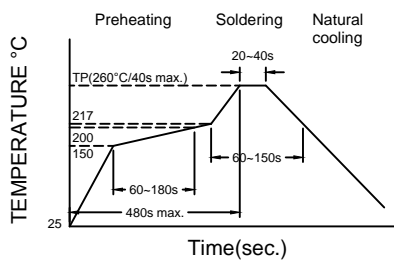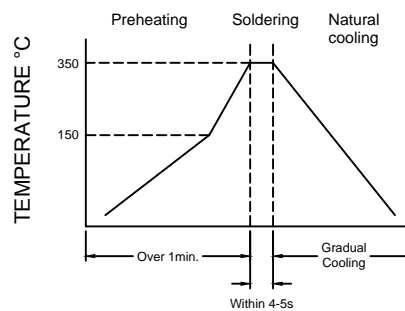
Figure 2. Hand Soldering: 1 times max.

NOTE : Specifications subject to change without notice. Please check our website for latest information.

06.11.2015

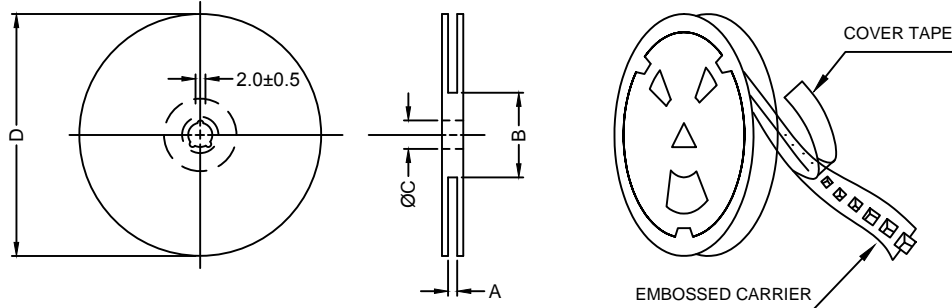SUPERWORLD ELECTRONICS (S) PTE LTD

PG. 8

9. PACKAGING INFORMATION :

9-1. Reel Dimension

COVER TAPE

EMBOSSED CARRIER

2.0±0.5

D

B

ØC

A

Type	A(mm)	B(mm)	C(mm)	D(mm)
13" x 24mm	24.4+2.0/-0	100±2	13.5±0.5	330

9-2. Tape Dimension

Series	Bo(mm)	Bz(mm)	Ao(mm)	Az(mm)	Ko(mm)	P(mm)	W(mm)	F(mm)	t(mm)
PIC1205	14.1±0.1	13.0±0.1	12.9±0.1	7.0±0.1	5.5±0.1	16.0±0.1	24±0.3	11.5±0.1	0.35±0.05

9-3. Packaging Quantity

Size	PIC1205
Chip / Reel	500
Inner Box	1000
Carton	4000

NOTE : Specifications subject to change without notice. Please check our website for latest information.

06.11.2015

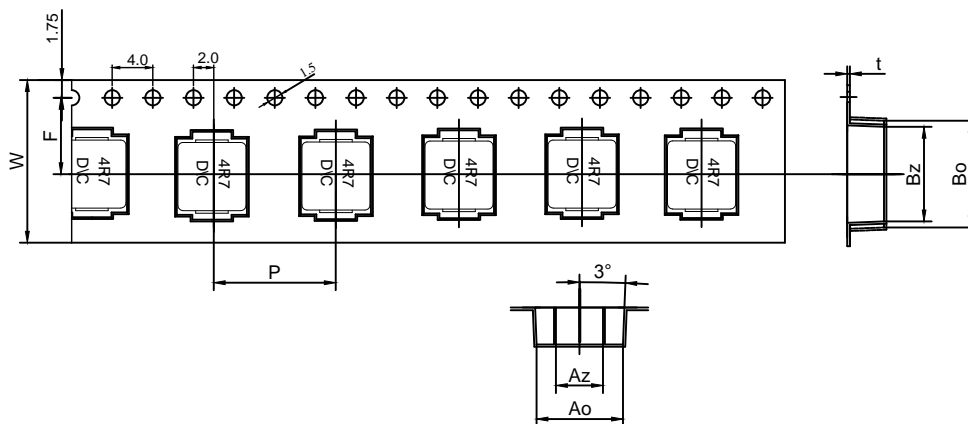## SUPERWORLD ELECTRONICS (S) PTE LTD

9-4. Tearing Off Force

F

165° to 180°

Top cover tape

Base tape
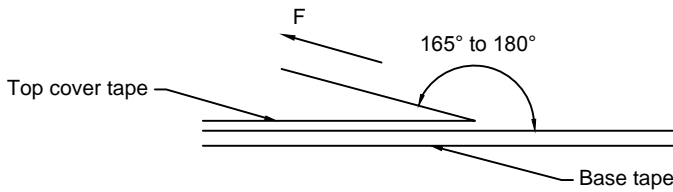
The force for tearing off cover tape is 10 to 130 grams
in the arrow direction under the following conditions.
(referenced ANSI/EIA-481-C-2003 of 4.11 standard)

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

Application Notice

1. Storage Conditions :
   To maintain the solderabililty of terminal electrodes :

   a) Recommended products should be used within 12 months from the time of delivery.
   b) The packaging material should be kept where no chlorine or sulfur exists in the air.

2. Transportation :
   a) Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
   b) Vacuum pick up is strongly recommended for individual components.
   c) Bulk handling should ensure that abrasion and mechanical shock are minimized.

RoHS Compliant

*NOTE : Specifications subject to change without notice. Please check our website for latest information.*

06.11.2015

SUPERWORLD ELECTRONICS (S) PTE LTD

PG.10