

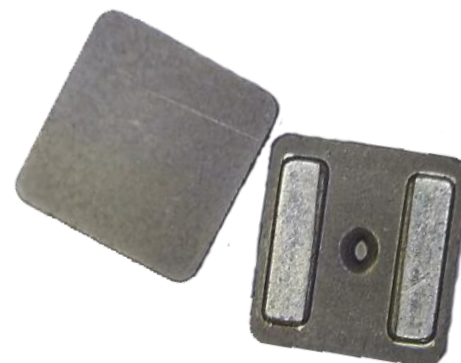
SPD-A SERIES

FEATURES

- * RoHS compliant
- * Super low resistance, ultra high current rating
- * High performance (Isat) realized by metal dust core

Applications

- * Laptops and PCs
- * Switches and servers
- * Base stations
- * DC/DC converters
- * New energy vehicles
- * 5G



ORDERING CODE

SPD - 0503 A - 100 M
 (1) (2) (3) (4) (5)

- (1) Type
- (2) Dimensions
- (3) Material code
- (4) Inductance
- (5) Inductance Tolerance
- (6) Tail code

J: ±5% K: ±10% L: ±15%
 M: ±20% Y: ±25% N: ±30%

CET

Shape and Dimensions

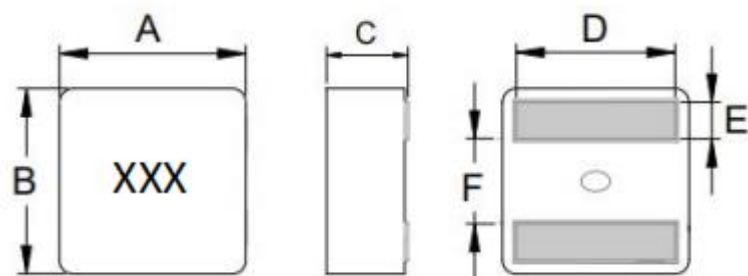


Fig.1

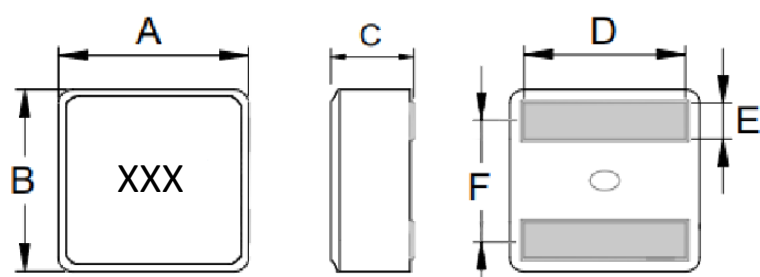
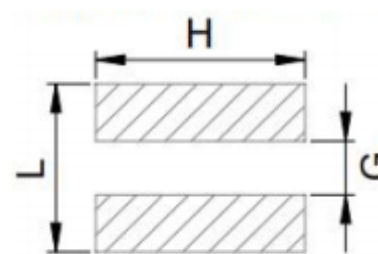


Fig.2

Recommended Pattern



SUNLEI TECHNOLOGY CORP.

Molding Power Choke

SPD-A SERIES

Dimensions in mm

TYPE	A	B	C	D	E	F	G	H	L	Shape
SPD0402	4.1±0.2	4.1±0.2	2.15max	3.4ref	0.88±0.3	1.6±0.3	1.4	3.8	3.4	Fig.1
SPD0403	4.1±0.25	4.1±0.25	3.1max	3.4ref	0.88±0.3	1.6±0.3	1.4	3.8	3.4	Fig.1
SPD0502	5.5±0.2	5.3±0.2	2.15max	4.3ref	1.1±0.3	2.3±0.3	2.0	4.7	4.5	Fig.1
SPD0503	5.5±0.2	5.3±0.2	3.1max	4.3ref	1.1±0.3	2.3±0.3	2.0	4.7	4.5	Fig.1
SPD0505	5.5±0.2	5.3±0.2	5.0max	4.3ref	1.1±0.3	2.3±0.3	2.0	4.7	4.5	Fig.1
SPD0603	6.6±0.2	6.4±0.2	3.1max	5.3ref	1.4±0.3	2.6±0.3	2.5	5.6	5.6	Fig.1
SPD0605	6.6±0.2	6.4±0.2	5.0max	5.3ref	1.4±0.3	2.6±0.3	2.5	5.6	5.6	Fig.1
SPD0606	6.6±0.2	6.4±0.2	6.0max	5.3ref	1.4±0.3	2.6±0.3	2.5	5.6	5.6	Fig.1
SPD0703	7.8±0.25	7.6±0.2	3.1max	6.5ref	1.75±0.3	3.15±0.3	2.8	7.2	7.4	Fig.1
SPD0707	7.8±0.25	7.6±0.25	7.0max	6.5ref	1.75±0.3	3.15±0.3	2.8	7.2	7.4	Fig.1
SPD1010	11.9±0.3	11.0±0.3	10.0max	9.0ref	2.4±0.2	6.6±0.3	3.7	11.0	10.5	Fig.2
SPD1508	16.5±0.3	15.5±0.3	8.0max	13.2ref	3.2±0.3	7.4±0.5	6.0	15.0	15	Fig.1
SPD1510	16.5±0.3	15.5±0.3	10.0max	13.2ref	3.2±0.3	7.4±0.5	6.0	15.0	15	Fig.1

NOTE:

1. DCR testing: As shown in the picture, grips open, four point contact



2. Irms testing was performed on 20mm wide × 6mm thick copper traces in still air. Temperature rise is highly dependent on many factors including pcb land pattern, trace size, and proximity to other components. Therefore temperature rise should be verified in application conditions

Molding Power Choke

SPD0402A SERIES Standard Specifications

Part No.	Inductance (μ H)	Test Freq.	DCR(m Ω) Max	Isat(A) Typ	Irms(A) Typ	Marking
SPD0402A-R10M-CT	0.10	100kHz,0.1V	2.42	33.0	18.0	R10
SPD0402A-R22M-CT	0.22	100kHz,0.1V	4.60	18.8	16.8	R22
SPD0402A-R36M-CT	0.36	100kHz,0.1V	6.30	15.0	14.5	R36
SPD0402A-R40M-CT	0.40	100kHz,0.1V	7.73	13.5	14.0	R40
SPD0402A-R47M-CT	0.47	100kHz,0.1V	8.58	13.0	12.5	R47
SPD0402A-R56M-CT	0.56	100kHz,0.1V	9.30	12.6	12.0	R56
SPD0402A-R60M-CT	0.60	100kHz,0.1V	9.52	12.3	11.7	R60
SPD0402A-R68M-CT	0.68	100kHz,0.1V	11.00	12.5	11.0	R68
SPD0402A-R72M-CT	0.72	100kHz,0.1V	11.60	10.6	10.5	R72
SPD0402A-1R0M-CT	1.00	100kHz,0.1V	14.60	8.8	9.6	1R0
SPD0402A-1R2M-CT	1.20	100kHz,0.1V	17.90	7.8	9.0	1R2
SPD0402A-1R5M-CT	1.50	100kHz,0.1V	23.50	7.4	7.6	1R5
SPD0402A-1R8M-CT	1.80	100kHz,0.1V	28.00	7.0	7.0	1R8
SPD0402A-2R2M-CT	2.20	100kHz,0.1V	38.7	6.0	5.6	2R2

SPD0403A SERIES Standard Specifications

Part No.	Inductance (μ H)	Test Freq.	DCR(m Ω) Max	Isat(A) Typ	Irms(A) Typ	Marking
SPD0403A-R75M-CT	0.75	100kHz,0.1V	10.8	9.0	10.0	R75
SPD0403A-1R0M-CT	1.00	100kHz,0.1V	12.76	10.0	10.0	1R0
SPD0403A-2R2M-CT	2.20	100kHz,0.1V	20.8	7.0	7.2	2R2
SPD0403A-3R3M-CT	3.30	100kHz,0.1V	28.6	5.5	6.6	3R3
SPD0403A-4R7M-CT	4.70	100kHz,0.1V	44.1	4.5	5.1	4R7
SPD0403A-6R8M-CT	6.80	100kHz,0.1V	74.1	3.6	3.9	6R8

NOTE: tolerance $M=\pm 20\%$ / $T=\pm 30\%$

1. Operating temperature range $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$ (Including self - temperature rise)
2. Saturation Current (Isat) will cause L0 to drop approximately 30%. (Internal control standards at 40% max)
3. Irms for a 40°C temperature rise from 25°C ambient.
4. Operating voltage: 0 – 55 V

SUNLEI TECHNOLOGY CORP.

Molding Power Choke

SPD0502A series Standard Specifications

Part No.	Inductance (μ H)	Test Freq.	DCR(m Ω) Max	Isat(A) Typ	Irms(A) Typ	Marking
SPD0502A-R15M-CT	0.15	100kHz,0.1V	4.6	27.0	18.8	R15
SPD0502A-R16M-CT	0.16	100kHz,0.1V	4.6	27.0	18.8	R16
SPD0502A-R33M-CT	0.33	100kHz,0.1V	7.0	24.0	14.4	R33
SPD0502A-R47M-CT	0.47	100kHz,0.1V	8.1	20.0	14.1	R47
SPD0502A-R56M-CT	0.56	100kHz,0.1V	9.5	16.0	13.9	R56
SPD0502A-R68M-CT	0.68	100kHz,0.1V	10.2	14.0	13.4	R68
SPD0502A-R80M-CT	0.80	100kHz,0.1V	11.8	13.5	13.0	R80
SPD0502A-R82M-CT	0.82	100kHz,0.1V	12.7	13.0	12.0	R82
SPD0502A-1R0M-CT	1.0	100kHz,0.1V	13.8	12.8	10.5	1R0
SPD0502A-1R2M-CT	1.2	100kHz,0.1V	16.3	12.2	9.4	1R2
SPD0502A-1R5M-CT	1.5	100kHz,0.1V	18.7	11.7	8.8	1R5

SPD0503A series Standard Specifications

Part No.	Inductance (μ H)	Test Freq.	DCR(m Ω) Max	Isat(A) Typ	Irms(A) Typ	Marking
SPD0503A-R15M-CT	0.15	100kHz,0.1V	2.31	32.5	22.2	R15
SPD0503A-R16M-CT	0.16	100kHz,0.1V	2.33	32.0	22.2	R16
SPD0503A-R33M-CT	0.33	100kHz,0.1V	3.52	26.0	19.2	R33
SPD0503A-R47M-CT	0.47	100kHz,0.1V	4.13	24.0	18.4	R47
SPD0503A-R56M-CT	0.56	100kHz,0.1V	4.52	20.2	17.7	R56
SPD0503A-R60M-CT	0.60	100kHz,0.1V	4.52	20.0	17.7	R60
SPD0503A-R80M-CT	0.80	100kHz,0.1V	5.65	18.0	13.1	R80
SPD0503A-R82M-CT	0.82	100kHz,0.1V	5.78	17.6	12.9	R82
SPD0503A-1R0M-CT	1.00	100kHz,0.1V	7.60	14.3	12.2	1R0
SPD0503A-1R2M-CT	1.20	100kHz,0.1V	9.70	13.5	11.0	1R2
SPD0503A-1R5M-CT	1.50	100kHz,0.1V	11.20	12.5	10.5	1R5
SPD0503A-1R8M-CT	1.80	100kHz,0.1V	12.70	11.3	10.1	1R8
SPD0503A-2R2M-CT	2.20	100kHz,0.1V	14.50	9.0	9.7	2R2
SPD0503A-3R3M-CT	3.30	100kHz,0.1V	23.10	8.7	8.1	3R3
SPD0503A-4R7M-CT	4.70	100kHz,0.1V	36.30	7.0	5.9	4R7

NOTE: □-tolerance M=±20% / T=±30%

1. Operating temperature range -40°C ~ 125°C (Including self - temperature rise)
2. Saturation Current (Isat) will cause L0 to drop approximately 30%. (Internal control standards at 40% max)
3. Irms for a 40°C temperature rise from 25°C ambient.
4. Operating voltage: 0 - 55 V

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Molding Power Choke

SPD0505A series Standard Specifications

Part No.	Inductance (μ H)	Test Freq.	DCR(m Ω) Max	Isat(A) Typ	Irms(A) Typ	Marking
SPD0505A-5R6M-CT	5.60	100kHz,0.1V	24.2	7.2	7.2	5R6
SPD0505A-6R8M-CT	6.80	100kHz,0.1V	28.6	6.6	6.4	6R8
SPD0505A-8R2M-CT	8.20	100kHz,0.1V	32.5	6.1	6.1	8R2
SPD0505A-100M-CT	10.00	100kHz,0.1V	43.0	5.4	5.0	100

SPD0603A series Standard Specifications

Part No.	Inductance (μ H)	Test Freq.	DCR(m Ω) Max	Isat(A) Typ	Irms(A) Typ	D(mm) ± 0.3	Marking
SPD0603A-R18M-CT	0.18	100kHz,0.1V	1.75	39.00	32.0	5.30	R18
SPD0603A-R33M-CT	0.33	100kHz,0.1V	2.50	30.00	25.0	5.30	R33
SPD0603A-R56M-CT	0.56	100kHz,0.1V	3.31	29.00	22.0	5.30	R56
SPD0603A-R68M-CT	0.68	100kHz,0.1V	5.17	25.00	20.0	5.30	R68
SPD0603A-1R0M-CT	1.00	100kHz,0.1V	6.05	23.00	18.0	5.20	1R0
SPD0603A-1R2M-CT	1.20	100kHz,0.1V	7.40	22.00	16.0	5.15	1R2
SPD0603A-1R5M-CT	1.50	100kHz,0.1V	9.13	20.00	15.0	5.15	1R5
SPD0603A-1R8M-CT	1.80	100kHz,0.1V	10.20	18.20	14.0	5.10	1R8
SPD0603A-2R2M-CT	2.2	100kHz,0.1V	12.20	15.90	10.0	5.05	2R2
SPD0603A-3R3M-CT	3.3	100kHz,0.1V	20.80	12.20	8.0	5.00	3R3
SPD0603A-4R5M-CT	4.5	100kHz,0.1V	25.30	10.00	7.0	5.00	4R5
SPD0603A-4R7M-CT	4.7	100kHz,0.1V	26.00	9.00	6.0	5.00	4R7

NOTE: □-tolerance M= $\pm 20\%$ / T= $\pm 30\%$

1. Operating temperature range $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$ (Including self - temperature rise)
2. Saturation Current (Isat) will cause L0 to drop approximately 30%. (Internal control standards at 40% max)
3. Irms for a 40°C temperature rise from 25°C ambient.
4. Operating voltage: 0 – 55 V

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Molding Power Choke

SPD0605A series Standard Specifications

Part No.	Inductance (μ H)	Test Freq.	DCR(m Ω) Max	Isat(A) Typ	Irms(A) Typ	D(mm) \pm 0.3	Marking
SPD0605A-R82M-CT	0.82	100kHz,0.1V	4.18	20.00	21.0	5.30	R82
SPD0605A-1R0M-CT	1.00	100kHz,0.1V	4.52	18.00	20.0	5.30	1R0
SPD0605A-1R2M-CT	1.20	100kHz,0.1V	5.83	16.00	18.0	5.30	1R2
SPD0605A-1R5M-CT	1.50	100kHz,0.1V	6.30	14.50	17.0	5.30	1R5
SPD0605A-1R8M-CT	1.80	100kHz,0.1V	7.10	13.50	16.0	5.30	1R8
SPD0605A-2R2M-CT	2.20	100kHz,0.1V	8.50	12.00	13.0	5.20	2R2
SPD0605A-3R3M-CT	3.30	100kHz,0.1V	12.50	10.00	11.0	5.20	3R3
SPD0605A-4R3M-CT	4.30	100kHz,0.1V	16.20	8.50	9.0	5.20	4R3
SPD0605A-4R7M-CT	4.7	100kHz,0.1V	18.40	8.00	8.5	5.20	4R7
SPD0605A-5R6M-CT	5.6	100kHz,0.1V	22.00	8.30	7.0	5.20	5R6
SPD0605A-6R8M-CT	6.8	100kHz,0.1V	25.40	7.00	6.6	5.20	6R8
SPD0605A-8R2M-CT	8.2	100kHz,0.1V	31.50	6.80	6.2	5.20	8R2

SPD0606A series Standard Specifications

Part No.	Inductance (μ H)	Test Freq.	DCR(m Ω) Max	Isat(A) Typ	Irms(A) Typ	Marking
SPD0606A-4R7M-CT	4.70	100kHz,0.1V	14.40	10.50	11.0	4R7
SPD0606A-5R6M-CT	5.60	100kHz,0.1V	15.90	9.90	10.0	5R6
SPD0606A-6R8M-CT	6.80	100kHz,0.1V	20.80	9.20	9.0	6R8
SPD0606A-8R2M-CT	8.20	100kHz,0.1V	26.40	8.40	8.0	8R2
SPD0606A-100M-CT	10.00	100kHz,0.1V	29.82	7.60	7.0	100
SPD0606A-150M-CT	15.00	100kHz,0.1V	43.75	5.80	6.0	150
SPD0606A-220M-CT	22.00	100kHz,0.1V	60.63	5.60	5.0	220

NOTE: □-tolerance M= \pm 20% / T= \pm 30%

- 1.Operating temperature range $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$ (Including self - temperature rise)
- 2.Saturation Current (Isat) will cause L0 to drop approximately 30%. (Internal control standards at 40% max)
- 3.Irms for a 40°C temprature rise from 25°C ambient.
- 4.Operating voltage: 0 – 55 V

SUNLEI TECHNOLOGY CORP.

Molding Power Choke

SPD0703A series Standard Specifications

Part No.	Inductance (μ H)	Test Freq.	DCR(m Ω) Max	Isat(A) Typ	Irms(A) Typ	D(mm) ± 0.3	Marking
SPD0703A-1R0M-CT	1.0	100kHz,0.1V	5.00	28.00	21.8	6.60	1R0
SPD0703A-1R5M-CT	1.5	100kHz,0.1V	8.25	23.50	15.3	6.60	1R5
SPD0703A-2R2M-CT	2.2	100kHz,0.1V	13.70	17.00	13.0	6.20	2R2
SPD0703A-2R7M-CT	2.7	100kHz,0.1V	15.40	13.50	11.4	6.20	2R7
SPD0703A-3R3M-CT	3.3	100kHz,0.1V	18.00	13.00	10.0	6.20	3R3
SPD0703A-4R7M-CT	4.7	100kHz,0.1V	26.70	12.20	9.0	6.20	4R7
SPD0703A-5R6M-CT	5.6	100kHz,0.1V	33.20	11.50	7.3	6.20	5R6
SPD0703A-6R8M-CT	6.8	100kHz,0.1V	42.50	11.00	6.8	6.20	6R8
SPD0703A-8R2M-CT	8.2	100kHz,0.1V	48.73	9.00	5.9	6.20	8R2

SPD0707A series Standard Specifications

Part No.	Inductance (μ H)	Test Freq.	DCR(m Ω) Max	Isat(A) Typ	Irms(A) Typ	D(mm) ± 0.3	Marking
SPD0707A-3R3M-CT	3.3	100kHz,0.1V	9.42	19.40	15.1	6.70	3R3
SPD0707A-4R7M-CT	4.7	100kHz,0.1V	14.26	15.20	13.6	6.70	4R7
SPD0707A-6R8M-CT	6.8	100kHz,0.1V	19.60	12.80	9.2	6.50	6R8

NOTE: □-tolerance M= $\pm 20\%$ / T= $\pm 30\%$

1. Operating temperature range $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$ (Including self - temperature rise)
2. Saturation Current (Isat) will cause L0 to drop approximately 30%. (Internal control standards at 40% max)
3. Irms for a 40°C temperature rise from 25°C ambient.
4. Operating voltage: 0 – 55 V

SUNLEI TECHNOLOGY CORP.

Molding Power Choke

SPD1010A series Standard Specifications

Part No.	Inductance (μ H)	Test Freq.	DCR(m Ω) Max	Isat(A) Typ	Irms(A) Typ	Marking
SPD1010A-1R0M-CT	1.0	100kHz,0.1V	1.2	50.0	40.0	1R0
SPD1010A-2R2M-CT	2.2	100kHz,0.1V	2.8	34.0	32.0	2R2
SPD1010A-3R3M-CT	3.3	100kHz,0.1V	4.1	27.4	25.0	3R3
SPD1010A-4R7M-CT	4.7	100kHz,0.1V	5.7	25.4	24.0	4R7
SPD1010A-5R6M-CT	5.6	100kHz,0.1V	7.2	23.6	21.2	5R6
SPD1010A-6R8M-CT	6.8	100kHz,0.1V	8.9	21.8	18.5	6R8
SPD1010A-8R2M-CT	8.2	100kHz,0.1V	12.4	18.3	17.1	8R2
SPD1010A-100M-CT	10.0	100kHz,0.1V	13.8	17.5	15.5	100
SPD1010A-150M-CT	15.0	100kHz,0.1V	19.3	15.5	13.8	150

NOTE: tolerance M=±20% / T=±30%

1. Operating temperature range $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$ (Including self - temperature rise)
2. Saturation Current (Isat) will cause L0 to drop approximately 30%. (Internal control standards at 40% max)
3. Irms for a 40°C temperature rise from 25°C ambient.
4. Operating voltage: 0 – 55 V

SUNLEI TECHNOLOGY CORP.

Molding Power Choke

SPD1508A series Standard Specifications

Part No.	Inductance (μ H)	Test Freq.	DCR(m Ω) Max	Isat(A) Typ	Irms(A) Typ	Marking
SPD1508A-2R0M-CT	2.0	100kHz,0.1V	2.2	52.0	40.0	2R0
SPD1508A-2R2M-CT	2.2	100kHz,0.1V	2.5	49.0	37.0	2R2
SPD1508A-3R0M-CT	3.0	100kHz,0.1V	3.0	41.0	34.5	3R0
SPD1508A-4R2M-CT	4.2	100kHz,0.1V	4.7	33.0	27.0	4R2
SPD1508A-4R7M-CT	4.7	100kHz,0.1V	5.2	32.0	26.5	4R7
SPD1508A-5R3M-CT	5.3	100kHz,0.1V	5.3	31.0	26.0	5R3
SPD1508A-6R2M-CT	6.2	100kHz,0.1V	6.5	31.0	23.0	6R2
SPD1508A-7R2M-CT	7.2	100kHz,0.1V	7.2	29.0	21.0	7R2
SPD1508A-8R2M-CT	8.2	100kHz,0.1V	7.9	25.0	19.0	8R2

SPD1510A series Standard Specifications

Part No.	Inductance (μ H)	Test Freq.	DCR(m Ω) Max	Isat(A) Typ	Irms(A) Typ	Marking
SPD1510A-4R7M-CT	4.7	100kHz,0.1V	3.80	39.0	29.0	4R7
SPD1510A-5R6M-CT	5.6	100kHz,0.1V	4.20	37.0	28.0	5R6
SPD1510A-6R8M-CT	6.8	100kHz,0.1V	4.60	36.0	26.0	6R8
SPD1510A-8R2M-CT	8.2	100kHz,0.1V	7.20	30.0	24.0	8R2
SPD1510A-100M-CT	10.0	100kHz,0.1V	8.60	26.5	22.0	100
SPD1510A-150M-CT	15.0	100kHz,0.1V	11.50	23.0	18.0	150
SPD1510A-220M-CT	22.0	100kHz,0.1V	15.80	18.7	14.0	220
SPD1510A-330M-CT	33.0	100kHz,0.1V	20.00	16.7	12.0	330

NOTE: □-tolerance M=±20% / T=±30%

- 1.Operating temperature range -40℃~125℃(Including self - temperature rise)
- 2.Saturation Current (Isat) will cause L0 to drop approximately 30%.(Internal control standards at 40% max)
- 3.Irms for a 40℃ temprature rise from 25℃ ambient.
- 4.Operating voltage: 0 – 55 V

SUNLEI TECHNOLOGY CORP.

Molding Power Choke

Packaging Specifications

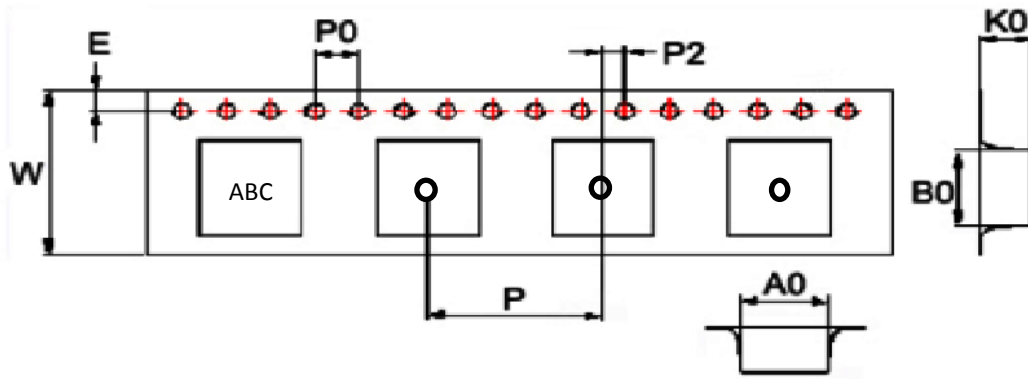


Fig.1

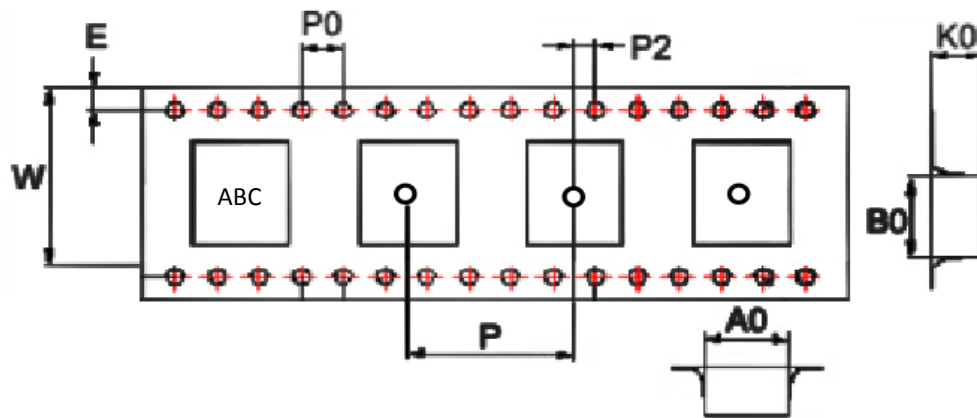


Fig.2

dimensions in mm

TYPE	Shape	Tape Dimensions								Quantity PCS/REEL
		W	P	A0	B0	K0	E	P0	P2	
0402	Fig.1	12	8	4.4	4.4	2.3	1.75	4	2	3000
0403	Fig.1	12	8	4.4	4.4	3.3	1.75	4	2	2000
0502	Fig.1	12	8	6	5.7	2.3	1.75	4	2	3000
0503	Fig.1	16	8	6.0	5.7	3.3	1.75	4	2	2000
0505	Fig.1	16	8	6.0	5.7	5.3	1.75	4	2	1500
0603	Fig.1	16	12	7	6.8	3.3	1.75	4	2	1000
0605	Fig.1	16	12	7	6.8	5.3	1.75	4	2	800
0606	Fig.1	16	12	7	6.8	6.3	1.75	4	2	750
0703	Fig.1	16	12	8.2	8	3.3	1.75	4	2	1500
0707	Fig.1	16	12	8.2	8	7.3	1.75	4	2	700
1010	Fig.1	24	16	12.4	11.5	10.3	1.75	4	2	300
1508	Fig.2	32	24	17	16	8.5	1.75	4	2	200
1510	Fig.2	32	24	17	16	10.5	1.75	4	2	150