Data Sheet

Customer:	
Product:	**SMD Power Inductor—SDE..A Series**
Sizes.:	**0420 / 0530 / 0630 / 0650 / 1040 / 1050 / 1265 / 1770**
Issued Date:	**16-Apr-25**
Edition:	**REV.A1**

Pb RoHS Compliant

HONG KONG HELISTO INDUSTRIAL LIMITED
香港海利斯特实业有限公司

SHENZHEN HELISTO TECHNOLOGYCOLTD
深圳市海利斯特科技有限公司

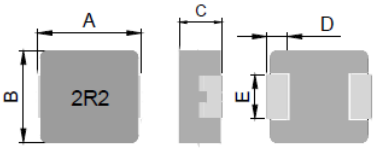
ADD:5/F., A Block, Hongdu Industrial Park, Fanshen Road, 45 Area, Baoan, Shenzhen, China
TEL:+86-755-29741555 29749555
FAX:+86-755-29742111
E-mail:donnyhai@helisto.com
www.Helisto.com

Produced by (QC)	Checked (QC)	Approved by (QC)	Prepared by (Sales)	Accepted by (Customer)
16-Apr-25	16-Apr-25	16-Apr-25	16-Apr-25	
Mandy Chang	*Ben Chang*	*Ben Chang*		

SMD Power Inductor



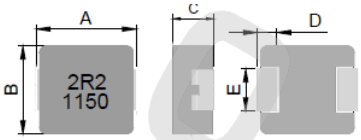
SDE0420



Features

- Carbonyl Powder
- Compact design
- High current, low DCR, high efficiency
- Very low acoustic noise and very low leakage flux noise
- High reliability -Reliability test complied to AEC-Q200
- 100% Lead(Pb) & Halogen-Free and RoHS compliant

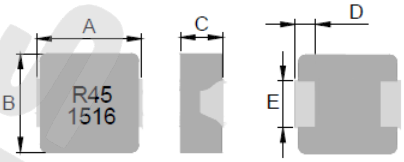
SDE0530 / 0630 / 0650 / 1040(2R2~470)
SDE1050(2R2~470)
SDE1265(1R8~470)



Applications

- Note PC Power System，incl. IMVP-6
- DC/DC Converter

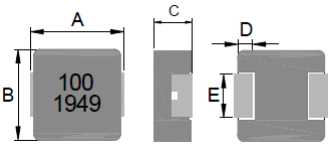
SDE1040(1R0~1R5) / 1050(1R0~1R5)
SDE1265(1R0~1R5)



Characteristics except 1770

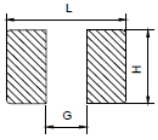
- Saturation Current (Isat) will cause L0 to drop approximately 30%
- Heat Rated Current (Irms) will cause the coil temperature rise approximately ΔT of 40℃
- All test data is referred to 25°C ambient
- The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application
- Operating temperature range: -40～125°C(Including self - temperature rise)

SDE1770



Characteristics for 1770

- Saturation Current (Isat 1) will cause L0 to drop approximately 20%
- Saturation Current (Isat 2) will cause L0 to drop approximately 30%
- Heat Rated Current (Irms) will cause the coil temperature rise approximately ΔT of 40℃
- All test data is referred to 25°C ambient
- The part temperature (ambient + temp rise) should not exceed 125 ℃ under worst case operating conditions. Circuit design, component, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application
- Operating temperature range: -40～125°C(Including self - temperature rise)



Note 1 (SDE0420 / 0530)
1.The above PCB layout reference only.
2.Recommened solder paste thickness at 0.12mm and above.

Note 2 (SDE0630 / 0650 / 1040 / 1050 / 1265)
1.The above PCB layout reference only.
2.Recommened solder paste thickness at 0.15mm and above.

Note 3 (SDE1770)
1.The above PCB layout reference only.
2.Recommened solder paste thickness at 0.17mm and above.

Inductance and rated current ranges

SDE0420HP	1.0～10μH	8.5～2.3A
SDE0530HP	1.0～10μH	12.0～4.0A
SDE0630H	1.0～22μH	22.0～3.5A
SDE0650H	1.0～22μH	20.0～5.5A
SDE1040H	1.0～47μH	36.0～4.5A
SDE1050H	1.0～47μH	30.0～6.5A
SDE1265HP	1.0～47μH	48.0～9.5A
SDE1770HP	1.0～47μH	60.0～9.5A

- Test equipment:

L: HP4284A LCR meter
DCR: Milli-ohm meter

SMD Power Inductor

■Dimensions

Unit: mm

Type	A	B	C	D	E	L	G	H
SDE0420HP	4.45±0.25	4.06±0.25	1.80±0.20	0.76±0.30	2.00±0.20	5.20	2.20	2.40
SDE0530HP	5.70±0.30	5.20±0.20	2.80±0.20	1.10±0.30	2.50±0.30	6.50	2.50	2.80
SDE0630H	7.30±0.30	6.60±0.30	2.80±0.20	1.80±0.30	3.00±0.30	8.40	2.50	3.50
SDE0650H	7.30±0.30	6.60±0.30	4.80±0.20	1.80±0.30	3.00±0.30	8.40	2.50	3.50
SDE1040H	11.00±0.50	10.00±0.30	3.80±0.20	2.30±0.30	3.00±0.30	13.60	5.40	3.50
SDE1050H	11.00±0.50	10.00±0.30	4.80±0.20	2.30±0.30	3.00±0.30	13.60	5.40	3.50
SDE1265HP	13.50±0.50	12.50±0.30	6.20±0.30	2.30±0.30	4.70±0.30	14.20	8.00	5.00
SDE1770HP	17.60±0.50	16.90±0.30	6.70±0.30	2.10±0.30	11.90±0.30	18.50	12.20	12.50

■Product Identification

SDE	0420HP	M	T	1R0	A
Product Type	Dimensions (BxC)	Inductor Tolerance	Packaging Style	Inductance	Function Code
	0420HP: 4.06×1.80 0530HP: 5.20×2.80 0630H: 6.60×2.80 0650H: 6.60×4.80 1040H: 10.00×3.80 1050H: 10.00×4.80 1265HP: 12.50×6.20 1770HP: 16.90×6.70	M: ±20%	T: Tape and Reel	1R0: 1.0μH 100: 10μH	A: Automotive Grade

■Electrical Characteristics

SDE0420HP Type

Part No.	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ)		Isat (A) Typ.	Irms (A) Typ.
				Typ.	Max.		
SDE0420HPMT1R0A	1.0	±20%	100KHz, 1V	22.00	27.0	8.5	5.0
SDE0420HPMT1R2A	1.2	±20%	100KHz, 1V	25.00	30.0	7.8	4.8
SDE0420HPMT1R5A	1.5	±20%	100KHz, 1V	34.80	42.0	7.0	4.5
SDE0420HPMT2R2A	2.2	±20%	100KHz, 1V	51.00	61.0	6.0	4.0
SDE0420HPMT3R3A	3.3	±20%	100KHz, 1V	69.00	76.0	4.0	3.5
SDE0420HPMT4R7A	4.7	±20%	100KHz, 1V	95.00	105.0	3.5	2.6
SDE0420HPMT5R6A	5.6	±20%	100KHz, 1V	112.00	125.0	3.0	2.2
SDE0420HPMT6R8A	6.8	±20%	100KHz, 1V	150.00	172.0	2.8	2.1
SDE0420HPMT8R2A	8.2	±20%	100KHz, 1V	158.00	180.0	2.5	2.0
SDE0420HPMT100A	10	±20%	100KHz, 1V	215.00	243.0	2.3	1.8

SDE0530HP Type

Part No.	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ)		Isat (A) Typ.	Irms (A) Typ.
				Typ.	Max.		
SDE0530HPMT1R0A	1.0	±20%	100KHz, 1V	12.6	13.7	12.0	8.8
SDE0530HPMT1R2A	1.2	±20%	100KHz, 1V	13.0	17.0	11.5	8.0
SDE0530HPMT1R5A	1.5	±20%	100KHz, 1V	16.0	20.7	11.0	7.2
SDE0530HPMT2R2A	2.2	±20%	100KHz, 1V	25.0	29.2	10.0	5.8
SDE0530HPMT3R3A	3.3	±20%	100KHz, 1V	32.0	38.0	8.5	5.0
SDE0530HPMT4R7A	4.7	±20%	100KHz, 1V	50.0	53.0	8.0	4.6
SDE0530HPMT5R6A	5.6	±20%	100KHz, 1V	55.0	63.0	7.0	4.3
SDE0530HPMT6R8A	6.8	±20%	100KHz, 1V	68.0	76.2	6.0	4.0
SDE0530HPMT100A	10	±20%	100KHz, 1V	112.0	130.0	4.0	2.8

■Electrical Characteristics

SDE0630H Type

Part No.	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ)		Isat (A) Typ.	Irms (A) Typ.
				Typ.	Max.		
SDE0630HMT1R0A	1.0	±20%	100KHz, 1V	8.3	10.0	22.0	11.0
SDE0630HMT1R2A	1.2	±20%	100KHz, 1V	10.0	12.0	20.0	10.0
SDE0630HMT1R5A	1.5	±20%	100KHz, 1V	13.0	15.0	18.0	9.0
SDE0630HMT1R8A	1.8	±20%	100KHz, 1V	14.0	17.0	16.0	8.5
SDE0630HMT2R2A	2.2	±20%	100KHz, 1V	18.0	20.0	14.0	8.0
SDE0630HMT3R3A	3.3	±20%	100KHz, 1V	28.0	30.0	13.5	6.0
SDE0630HMT4R7A	4.7	±20%	100KHz, 1V	37.0	40.0	10.0	5.5
SDE0630HMT5R6A	5.6	±20%	100KHz, 1V	43.0	48.0	9.0	5.0
SDE0630HMT6R8A	6.8	±20%	100KHz, 1V	54.0	60.0	8.0	4.5
SDE0630HMT8R2A	8.2	±20%	100KHz, 1V	64.0	68.0	7.5	4.0
SDE0630HMT100A	10	±20%	100KHz, 1V	75.0	85.0	6.0	3.5
SDE0630HMT120A	12	±20%	100KHz, 1V	81.0	93.0	5.5	3.3
SDE0630HMT220A	22	±20%	100KHz, 1V	165.0	190.0	3.5	2.0

SDE0650H Type

Part No.	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ)		Isat (A) Typ.	Irms (A) Typ.
				Typ.	Max.		
SDE0650HMT1R0A	1.0	±20%	100KHz, 1V	6.1	6.5	20.0	15.0
SDE0650HMT1R2A	1.2	±20%	100KHz, 1V	6.7	7.5	18.0	14.0
SDE0650HMT1R5A	1.5	±20%	100KHz, 1V	8.6	9.0	16.5	12.0
SDE0650HMT1R8A	1.8	±20%	100KHz, 1V	9.5	11.0	15.0	12.0
SDE0650HMT2R2A	2.2	±20%	100KHz, 1V	11.2	12.0	14.0	10.0
SDE0650HMT3R3A	3.3	±20%	100KHz, 1V	19.0	20.9	12.0	8.0
SDE0650HMT4R7A	4.7	±20%	100KHz, 1V	28.0	30.8	10.0	6.5
SDE0650HMT5R6A	5.6	±20%	100KHz, 1V	43.5	49.0	9.0	6.0
SDE0650HMT6R8A	6.8	±20%	100KHz, 1V	46.0	51.5	8.5	5.5
SDE0650HMT8R2A	8.2	±20%	100KHz, 1V	56.0	63.0	8.0	5.0
SDE0650HMT100A	10	±20%	100KHz, 1V	60.0	69.0	7.5	4.0
SDE0650HMT150A	15	±20%	100KHz, 1V	81.0	92.0	6.0	3.5
SDE0650HMT220A	22	±20%	100KHz, 1V	140.0	170.0	5.5	2.5

SDE1040H Type

Part No.	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ)		Isat (A) Typ.	Irms (A) Typ.
				Typ.	Max.		
SDE1040HMT1R0A	1.0	±20%	100KHz, 1V	3.00	3.30	36.00	18.00
SDE1040HMT1R2A	1.2	±20%	100KHz, 1V	3.30	3.80	33.00	17.00
SDE1040HMT1R5A	1.5	±20%	100KHz, 1V	4.00	4.60	33.00	16.00
SDE1040HMT2R2A	2.2	±20%	100KHz, 1V	6.50	7.00	27.00	12.00
SDE1040HMT3R3A	3.3	±20%	100KHz, 1V	10.80	11.80	20.00	11.00
SDE1040HMT4R7A	4.7	±20%	100KHz, 1V	15.00	15.50	17.00	10.00
SDE1040HMT5R6A	5.6	±20%	100KHz, 1V	17.00	19.30	14.00	9.00
SDE1040HMT6R8A	6.8	±20%	100KHz, 1V	17.50	23.30	13.50	8.50
SDE1040HMT8R2A	8.2	±20%	100KHz, 1V	20.00	22.50	12.50	8.00
SDE1040HMT100A	10	±20%	100KHz, 1V	27.00	30.00	12.00	7.50
SDE1040HMT150A	15	±20%	100KHz, 1V	40.00	45.00	10.00	6.25
SDE1040HMT220A	22	±20%	100KHz, 1V	64.00	74.00	7.00	5.00
SDE1040HMT330A	33	±20%	100KHz, 1V	92.00	112.00	5.00	3.50
SDE1040HMT470A	47	±20%	100KHz, 1V	145.00	167.00	4.50	3.00

■Electrical Characteristics

SDE1050H Type

Part No.	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ)		Isat (A) Typ.	Irms (A) Typ.
				Typ.	Max.		
SDE1050HMT1R0A	1.0	±20%	100KHz, 1V	2.8	3.5	30.0	22.0
SDE1050HMT1R2A	1.2	±20%	100KHz, 1V	2.9	3.5	28.0	20.0
SDE1050HMT1R5A	1.5	±20%	100KHz, 1V	3.5	4.1	27.0	19.0
SDE1050HMT2R2A	2.2	±20%	100KHz, 1V	5.4	6.0	24.0	16.0
SDE1050HMT3R3A	3.3	±20%	100KHz, 1V	9.0	10.4	22.0	14.0
SDE1050HMT8R2A	8.2	±20%	100KHz, 1V	18.5	24.0	14.5	9.0
SDE1050HMT100A	10	±20%	100KHz, 1V	25.0	29.0	13.5	8.0
SDE1050HMT150A	15	±20%	100KHz, 1V	37.0	45.0	9.5	5.5
SDE1050HMT220A	22	±20%	100KHz, 1V	50.0	60.0	9.0	5.0
SDE1050HMT330A	33	±20%	100KHz, 1V	80.0	92.0	7.5	4.3
SDE1050HMT470A	47	±20%	100KHz, 1V	125.0	145.0	6.5	3.8

SDE1265HP Type

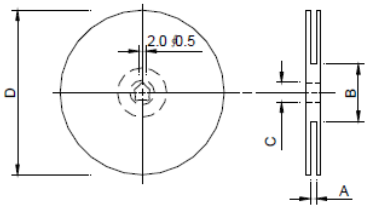
Part No.	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ)		Isat (A) Typ.	Irms (A) Typ.
				Typ.	Max.		
SDE1265HPMT1R0A	1.0	±20%	100KHz, 1V	1.7	2.3	48.0	30.0
SDE1265HPMT1R5A	1.5	±20%	100KHz, 1V	2.5	3.0	45.0	27.0
SDE1265HPMT1R8A	1.8	±20%	100KHz, 1V	3.6	4.0	40.0	24.0
SDE1265HPMT2R2A	2.2	±20%	100KHz, 1V	3.8	4.2	37.0	22.0
SDE1265HPMT3R3A	3.3	±20%	100KHz, 1V	5.7	6.8	30.0	18.0
SDE1265HPMT4R7A	4.7	±20%	100KHz, 1V	7.0	8.4	28.0	13.5
SDE1265HPMT5R6A	5.6	±20%	100KHz, 1V	8.5	10.0	23.0	12.5
SDE1265HPMT6R8A	6.8	±20%	100KHz, 1V	9.5	11.5	18.0	11.5
SDE1265HPMT8R2A	8.2	±20%	100KHz, 1V	12.0	15.5	16.0	10.5
SDE1265HPMT100A	10	±20%	100KHz, 1V	13.2	16.5	15.5	10.0
SDE1265HPMT120A	12	±20%	100KHz, 1V	16.0	20.0	14.0	9.5
SDE1265HPMT150A	15	±20%	100KHz, 1V	23.2	28.0	12.5	9.0
SDE1265HPMT220A	22	±20%	100KHz, 1V	32.5	37.0	12.0	9.0
SDE1265HPMT330A	33	±20%	100KHz, 1V	48.0	58.0	11.0	8.0
SDE1265HPMT470A	47	±20%	100KHz, 1V	76.0	90.0	9.5	6.5

SDE1770HP Type

Part No.	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ)		Isat 1 (A) Typ.	Isat 2 (A) Typ.	Irms (A) Typ.
				Typ.	Max.			
SDE1770HPMT1R0A	1.0	±20%	100KHz, 1V	1.60	2.00	60.0	70.0	52.0
SDE1770HPMT1R5A	1.5	±20%	100KHz, 1V	2.00	2.50	52.0	65.0	47.0
SDE1770HPMT2R2A	2.2	±20%	100KHz, 1V	2.40	2.70	47.0	62.0	43.5
SDE1770HPMT3R3A	3.3	±20%	100KHz, 1V	3.50	3.90	45.0	54.0	28.0
SDE1770HPMT4R7A	4.7	±20%	100KHz, 1V	4.80	5.50	41.0	50.0	25.0
SDE1770HPMT5R6A	5.6	±20%	100KHz, 1V	5.80	7.05	40.0	45.0	21.0
SDE1770HPMT6R8A	6.8	±20%	100KHz, 1V	8.40	9.20	32.0	39.0	19.0
SDE1770HPMT8R2A	8.2	±20%	100KHz, 1V	9.60	10.80	25.0	31.0	18.0
SDE1770HPMT100A	10	±20%	100KHz, 1V	11.80	13.00	24.0	29.0	16.5
SDE1770HPMT150A	15	±20%	100KHz, 1V	17.80	20.50	23.0	27.0	12.5
SDE1770HPMT220A	22	±20%	100KHz, 1V	25.10	26.50	18.0	23.0	12.0
SDE1770HPMT330A	33	±20%	100KHz, 1V	38.00	44.00	15.0	20.0	10.7
SDE1770HPMT470A	47	±20%	100KHz, 1V	48.00	55.00	9.5	16.0	8.7

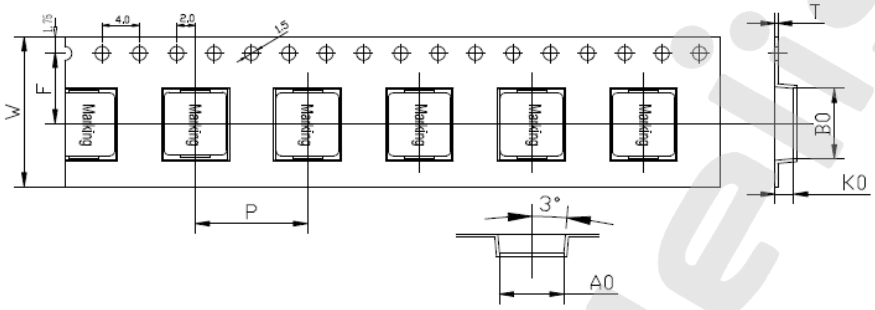
■Packaging

Packing Quantity & Reel Specifications

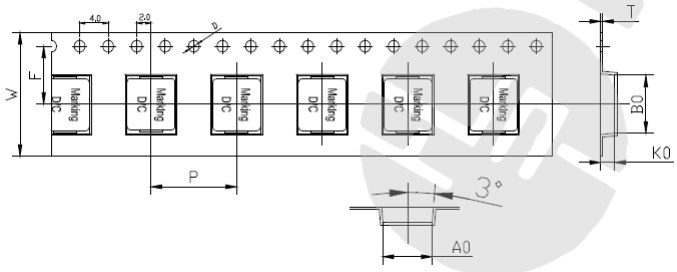


Type	Packaging Quantity	Tape Width	Reel Diameter	A (mm)	B (mm)	C (mm)	D (mm)
SDE0420	3000	12mm	13 inch	12.4+2/-0	100±2	13+0.5/-0.2	330
SDE0530	2000	12mm	13 inch	12.4+2/-0	100±2	13+0.5/-0.2	330
SDE0630	1000	16mm	13 inch	16.4+2/-0	100±2	13+0.5/-0.2	330
SDE0650	800	16mm	13 inch	16.4+2/-0	100±2	13+0.5/-0.2	330
SDE1040	500	24mm	13 inch	24.4+2/-0	100±2	13+0.5/-0.2	330
SDE1050	500	24mm	13 inch	24.4+2/-0	100±2	13+0.5/-0.2	330
SDE1265	500	24mm	13 inch	24.4+2/-0	100±2	13+0.5/-0.2	330
SDE1770	200	32mm	13 inch	32.4+2/-0	100±2	13+0.5/-0.2	330

Tape Specifications

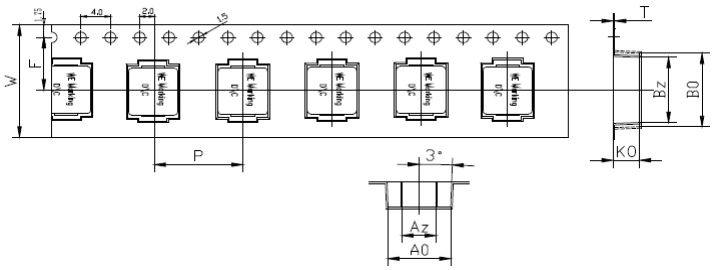


Type	B0 (mm)	A0 (mm)	K0 (mm)	P (mm)	W (mm)	F (mm)	T (mm)
SDE0420	5.0±0.1	4.4±0.1	2.3±0.1	8.0±0.1	12.0±0.3	5.5±0.1	0.35±0.05

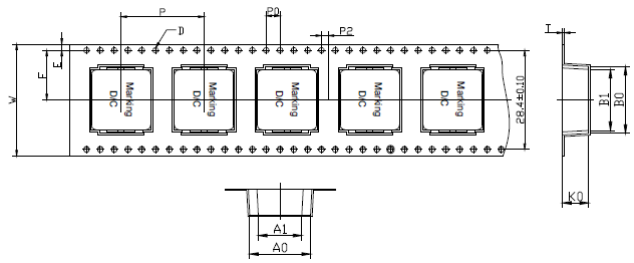


Type	B0 (mm)	A0 (mm)	K0 (mm)	P (mm)	W (mm)	F (mm)	T (mm)	D (mm)
SDE0530	6.2±0.1	5.5±0.1	3.3±0.1	8.0±0.1	12.0±0.3	5.5±0.1	0.35±0.05	1.5±0.1
SDE0630	7.7±0.1	7.0±0.1	3.3±0.1	12.0±0.1	16.0±0.3	7.5±0.1	0.35±0.05	1.5±0.1
SDE0650	7.7±0.1	7.0±0.1	5.3±0.1	12.0±0.1	16.0±0.3	7.5±0.1	0.35±0.05	1.5±0.1
SDE1040	11.6±0.1	10.4±0.1	4.5±0.1	16.0±0.1	24.0±0.3	11.5±0.1	0.35±0.05	1.5±0.1
SDE1050	11.6±0.1	10.4±0.1	5.3±0.1	16.0±0.1	24.0±0.3	11.5±0.1	0.35±0.05	1.5±0.1

SMD Power Inductor



Type	B0 (mm)	Bz (mm)	A0 (mm)	Az (mm)	K0 (mm)	P (mm)	W (mm)	F (mm)	T (mm)
SDE1265	14.2±0.1	13.0±0.1	13.0±0.1	7.0±0.1	7.0±0.1	16.0±0.1	24.0±0.3	11.5±0.1	0.35±0.05



Type	B0 (mm)	B1 (mm)	A0 (mm)	A1 (mm)	K0 (mm)	P (mm)	P0 (mm)	P2 (mm)	W (mm)	E (mm)	F (mm)	T (mm)	D (mm)
SDE1770	18.5±0.1	17.5±0.1	17.5±0.1	12.6±0.1	7.5±0.1	24.0±0.1	4.0±0.1	2.0±0.05	32.0±0.3	1.75±0.1	14.2±0.1	0.5±0.05	1.5±0.1

■Soldering and Mounting

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. Viking terminations are suitable for re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

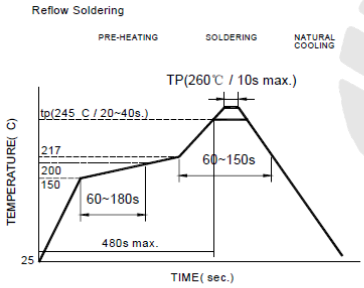
Solder re-flow:

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

Soldering Iron

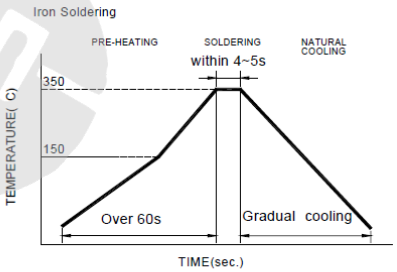
Products attachment with a soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended

- Preheat circuit and products to 150℃
- Never contact the ceramic with the iron tip
- Use a 20 watt soldering iron with tip diameter of 1.0mm
- 355℃ tip temperature (max)
- 1.0mm tip diameter (max)
- Limit soldering time to 4~5sec.



Reflow times: 3 times max.

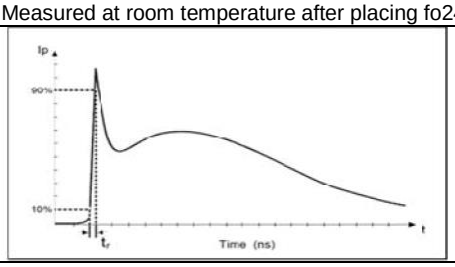
Fig.1

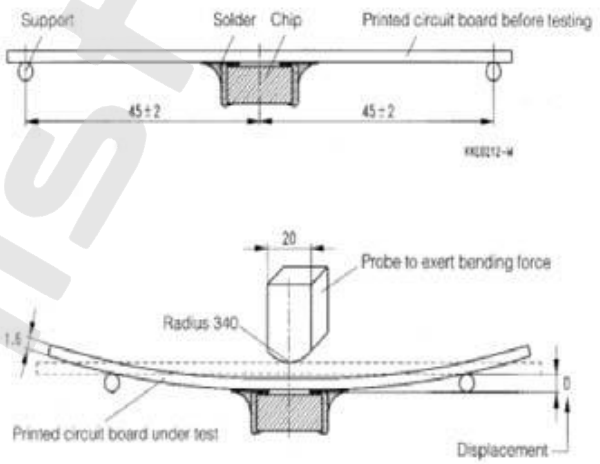
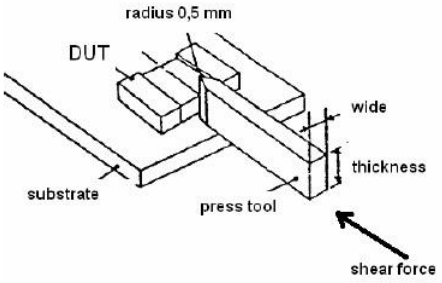


Iron Soldering times: 1 times max.

Fig.2

■Environmental Characteristics

<table>
<tr><th>Item</th><th>Requirement</th><th>Test Method</th></tr>
<tr><td>High temperature exposure (storage)</td><td rowspan="4">Appearance：No damage.
Inductance：within±10% of initial value
RDC：within ±15% of initial value and shall not exceed the specification value</td><td>Preconditioning: Run through IR reflow for 2 times.
IPC/JEDEC J-STD-020D Classification Reflow Profiles
Temperature：125±2℃(Inductor)
Duration ：1000hrs Min.
Measurement at 24±4 hours after test conclusion</td></tr>
<tr><td>Temperature cycling</td><td>Preconditioning: Run through IR reflow for 2 times.
IPC/JEDEC J-STD-020D Classification Reflow Profiles
Condition for 1 cycle
Step1：-55±2℃ 30min Min.(Inductor)
Step2：125±2℃ transition time 1min MAX.
Step3：125±2℃ 30min Min.
Step4：Low temp. transition time 1min MAX.
Number of cycles： 1000
Measured at room temperature after placing for 24±2 hrs</td></tr>
<tr><td>Biased Humidity</td><td>Preconditioning: Run through IR reflow for 2 times.
IPC/JEDEC J-STD-020D Classification Reflow Profiles
Humidity ：85±3% R.H,
Temperature：85℃±2℃
Duration : 1000hrs Min.
Measured at room temperature after placing for24±2hrs</td></tr>
<tr><td>High Temperature Operational Life</td><td>Preconditioning: Run through IR reflow for 2 times.
IPC/JEDEC J-STD-020D Classification Reflow Profiles
Temperature：125±2℃(Inductor)
Duration ：1000hrs Min. with 100% rated current.
Measured at room temperature after placing for24±2hrs</td></tr>
<tr><td>External Visual</td><td>Appearance：No damage</td><td>Inspect device construction, marking and workmanship. Electrical Test not required.</td></tr>
<tr><td>Physical Dimension</td><td>According to the product specification size measurement</td><td>According to the product specification size measurement</td></tr>
<tr><td>Resistance to Solvents</td><td>Appearance：No damage</td><td>Add aqueous wash chemical - OKEM clean or equivalent</td></tr>
<tr><td>Mechanical Shock</td><td rowspan="3">Appearance：No damage.
Inductance：within±10% of initial value
RDC：within ±15% of initial value and shall not exceed the specification value</td><td><table><tr><th>Type</th><th>Peak value (g's)</th><th>Normal duration (D) (ms)</th><th>Wave form</th><th>Velocity change (Vi)ft/sec</th></tr><tr><td>SDM</td><td>100</td><td>6</td><td>Half-sine</td><td>12.3</td></tr><tr><td>Lead</td><td>100</td><td>6</td><td>Half-sine</td><td>12.3</td></tr></table>shocks in each direction along 3 perpendicular axes</td></tr>
<tr><td>Vibration</td><td>IPC/JEDEC J-STD-020D Classification Reflow Profiles
Oscillation Frequency: 10Hz～2KHz～10Hz for 20 minute
Equipment： Vibration checker
Total Amplitude: 5g
Testing Time : 12 hours(20 minutes, 12 cycles each of 3 orientations)。</td></tr>
<tr><td>Resistance to soldering Heat</td><td>Test condition:(MIL-STD-202 Condition)
Number of heat cycles:3<table><tr><td>Temperature(℃)</td><td>Time(s)</td><td>Temperature ramp/immersion and emersion rate</td></tr><tr><td>260±5(solder temp)</td><td>30±5</td><td>1℃/s-4℃/s; time above183℃,90s-120s</td></tr></table></td></tr>
<tr><td>Thermal shock</td><td>Appearance：No damage.
Inductance：within±10% of initial value
RDC：within ±15% of initial value and shall not exceed the specification value</td><td>Preconditioning: Run through IR reflow for 2 times.
IPC/JEDEC J-STD-020D Classification Reflow Profiles
Condition for 1 cycle
Step1：-55±2℃ 15±1min(Inductor)
Step2：125±2℃ within 20Sec.
Step3：125±2℃ 15±1min
Number of cycles： 300
Measured at room temperature after placing fo24±2hrs</td></tr>
<tr><td>ESD</td><td>Appearance：No damage</td><td>
</td></tr>
</table>

Solderability	More than 95% of the terminal electrode should be covered with solder	a. Method B, 4 hrs @155°C dry heat @235°C±5°C b. Method B @ 215°C±5°C category 3.(8hours ± 15 min) c. Method D category 3. (8hours ± 15 min)@ 260°C±°C Preheat: 150℃,60sec. Solder: Sn96.5% Ag3% Cu0. 5% Temperature: 245±5℃。 Flux for lead free: Rosin. 9.5%。 Dip time: 4±1sec. Depth: completely cover the termination
Electrical Characterization	Refer Specification for Approval	Summary to show Min, Max, Mean and Standard deviation
Flammability	Electrical Test not required	V-0 or V-1 are acceptable
Board Flex	Appearance：No damage	Preconditioning: Run through IR reflow for 2 times. IPC/JEDEC J-STD-020D Classification Reflow Profiles Place the 100mm X 40mm board into a fixture similar to the one shown in below Figure with the component facing down. The apparatus shall consist of mechanical means to apply a force which will bend the board (D) x = 2 mm minimum. The duration of the applied forces shall be 60 (+ 5) sec. The force is to be applied only once to the board 
Terminal Strength(SMD)	Appearance：No damage	Preconditioning: Run through IR reflow for 2 times. IPC/JEDEC J-STD-020D Classification Reflow Profiles With the component mounted on a PCB with the device to be tested, apply a 17.7 N (1.8 Kg) force to the side of a device being tested. This force shall be applied for 60 +1 seconds. Also the force shall be applied gradually as not to apply a shock to the component being tested 

Note : When there are questions concerning measurement result : measurement shall be made after 48 ± 2 hours of recovery under the standard condition

■Storage Temperature: Less than 40℃ ; Humidity: 60% RH

■Shelf life: 1 years max

REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version A1	Apr 16 ,2025		-Add Storage conditions and Shelf life.