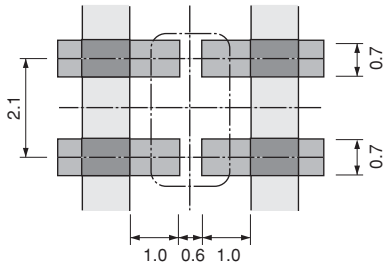
1. Standard Land Pattern Dimensions

Land Pattern + Solder Resist
Land Pattern
Solder Resist
(in mm)

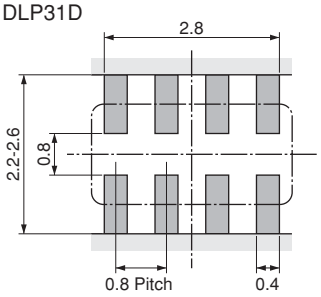
DLM11S
DLM11G
DLP0QS
DLP0NS
DLP11S
DLP11R
DLP11T
DLP1ND
DLP2AD
DLP31S
DLP31D
DLW21S
DLW21H
DLW31SN
DLW43S
DLW44S
DLW5A
DLW5B

●Reflow and Flow

DLP31S

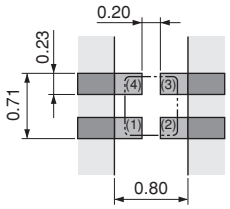


DLP31D

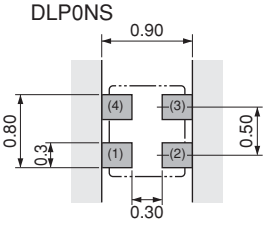


●Reflow Soldering

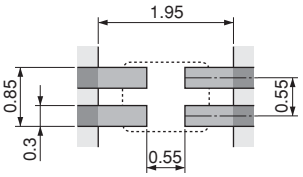
DLP0QS



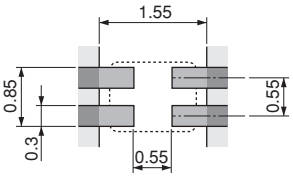
DLP0NS



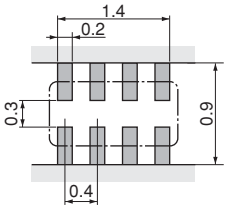
DLP11S/DLM11S



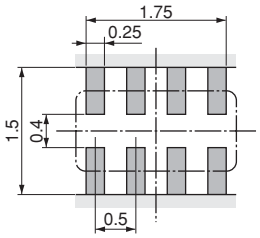
DLP11R/11T



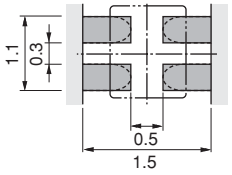
DLP1ND



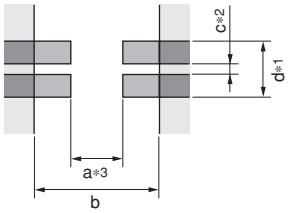
DLP2AD



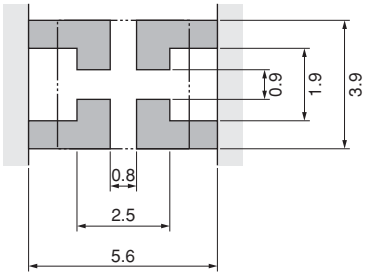
DLM11G



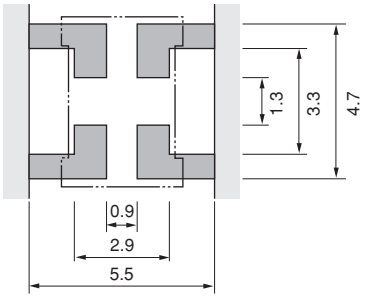
DLW21S/21H/31SN/43S



DLW44S



DLW5A/5B (Except for DLW5AT_MQ2)



Series	a	b	c	d
DLW21S/H	0.8	2.6	0.4	1.2
DLW31SN	1.6	3.7	0.4	1.6
DLW43SH110/220/510	3.0	5.9	1.6	3.4
DLW43SH101	3.2	5.9	1.6	3.4

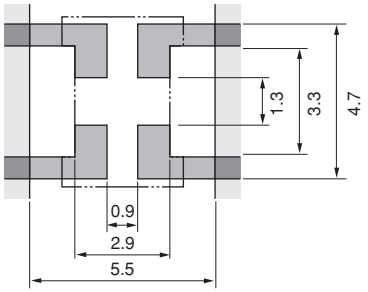
*1: If the pattern is made with wider than 1.2mm (DLW21) / 1.6mm (DLW31S) it may result in components turning around, because melting speed is different. In the worst case, short circuit between lines may occur.
*2: If the pattern is made with less than specified dimensions, in the worst case, short circuit between lines may occur due to spread of soldering paste or mount placing accuracy.
*3: If the pattern is made with wider than 0.8mm (DLW21) / 1.6mm (DLW31SN), the bending strength will be reduced.
Do not use gild pattern; excess soldering heat may dissolve metal of a copper wire.

Land Pattern + Solder Resist
Land Pattern
Solder Resist
(in mm)

DLW5AT_MQ2

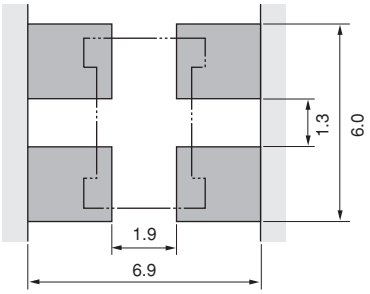
●Reflow Soldering Chip Mounting Side

DLW5AT_MQ2



●Flow Soldering Chip Mounting Side

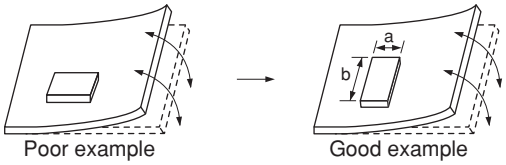
DLW5AT_MQ2



● PCB Warping

PCB should be designed so that products are not subjected to the mechanical stress caused by warping the board.

Products should be located in the sideways direction (Length: a<b) to the mechanical stress.



2. Solder Paste Printing and Adhesive Application

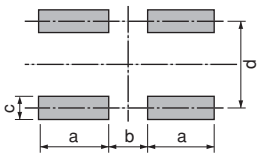
When reflow soldering the chip common mode choke coils, the printing must be conducted in accordance with the following cream solder printing conditions.
If too much solder is applied, the chip will be prone to damage by mechanical and thermal stress from the PCB and may crack.
Standard land dimensions should be used for resist and copper foil patterns.

When flow soldering the chip common mode choke coils, apply the adhesive in accordance with the following conditions.
If too much adhesive is applied, then it may overflow into the land or termination areas and yield poor solderability. In contrast, if insufficient adhesive is applied, or if the adhesive is not sufficiently hardened, then the chip may become detached during flow soldering process.

(in mm)

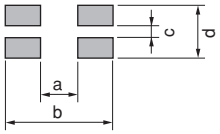
Series	Solder Paste Printing	Adhesive Application
DLP **DLW** **DLM**	●Guideline of solder paste thickness: 80-100µm: DLP0QS 100-150µm: DLW21S/21H/31S, DLP0NS/11S/11R/11T/1ND/2AD/DLM11S/11G 150µm: DLW43S 150-200µm: DLP31D/31S, DLW44S/5A/5B *Solderability is subject to reflow conditions and thermal conductivity. Please make sure that your product has been evaluated in view of your specifications with our product being mounted to your product.	■ DLP31S/DLP31D/DLW5AT_MQ2 Apply 0.3mg of bonding agent at each chip.

DLP0QS/0NS/11S/11R/11T/31S/DLM11S/11G



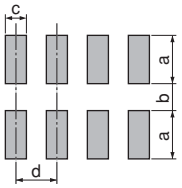
Series	a	b	c	d
DLP0QS	0.3	0.2	0.23	0.48
DLP0NS	0.3	0.3	0.3	0.5
DLM11S/DLP11S	0.7	0.55	0.3	0.55
DLP11R/T	0.5	0.55	0.3	0.55
DLP31S	1.0	0.6	0.7	2.1
DLM11G	0.5	0.5	0.4	0.7

DLW21S/21H/31S



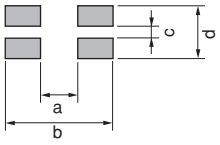
Series	a	b	c	d
DLW21S/H	0.8	2.6	0.5	1.2
DLW31S	1.6	3.7	0.4	1.6

DLP1ND/2AD/31D



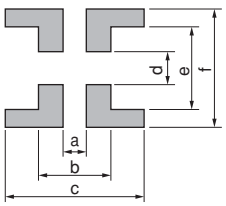
Series	a	b	c	d
DLP1ND	0.3	0.3	0.2	0.4
DLP2AD	0.55	0.4	0.25	0.5
DLP31D	1.0	0.8	0.4	0.8

DLW43S



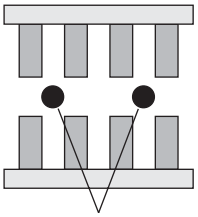
Series	a	b	c	d
DLW43S	3.0 (110/220/510) 3.2 (101)	5.9	1.6	3.4

DLW44S/5A/5B

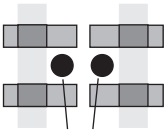


Series	a	b	c	d	e	f
DLW44S	0.8	2.5	5.6	0.9	1.9	3.9
DLW5A/5B	0.9	2.9	5.5	1.3	3.3	4.7

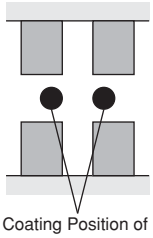
DLP31D



DLP31S



DLW5AT_MQ2



3. Standard Soldering Conditions

(1) Soldering Methods

Use flow and reflow soldering methods only.
Use standard soldering conditions when soldering chip common mode choke coils.
In cases where several different parts are soldered, each having different soldering conditions, use those conditions requiring the least heat and minimum time.

Solder: Use Sn-3.0Ag-0.5Cu solder. Use of Sn-Zn based solder will deteriorate performance of products.
If using DLP/DLM series with Sn-Zn based solder, please contact Murata in advance.

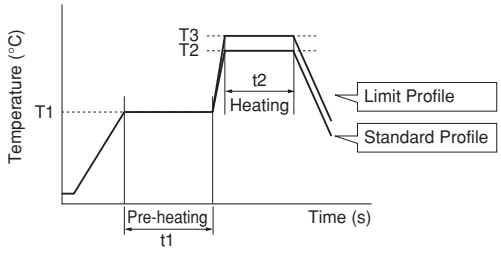
Flux:

- Use Rosin-based flux.
  In case of DLW21/31 series, use Rosin-based flux with converting chlorine content of 0.06 to 0.1wt%.
  In case of using RA type solder, products should be cleaned completely with no residual flux.
- Do not use strong acidic flux (with chlorine content exceeding 0.20wt%)
- Do not use water-soluble flux.

For additional mounting methods, please contact Murata.

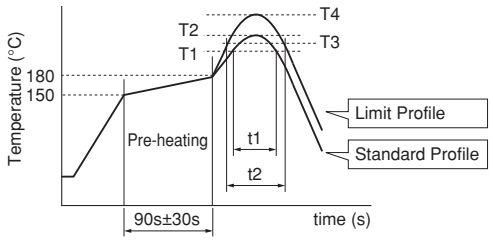
(2) Soldering Profile

●Flow Soldering Profile
(Sn-3.0Ag-0.5Cu Solder)



Series	Pre-heating		Standard Profile			Limit Profile		
			Heating		Cycle of Flow	Heating		Cycle of Flow
	Temp. (T1)	Time. (t1)	Temp. (T2)	Time. (t2)		Temp. (T3)	Time. (t2)	
DLW5AT_MQ2 DLP31D/31S	150°C	60s min.	250°C	4 to 6s	2 times max.	265±3°C	5s max.	2 times max.

●Reflow Soldering Profile
(Sn-3.0Ag-0.5Cu Solder)



Series	Standard Profile				Limit Profile			
	Heating		Peak Temperature (T2)	Cycle of Reflow	Heating		Peak Temperature (T4)	Cycle of Reflow
	Temp. (T1)	Time. (t1)			Temp. (T3)	Time. (t2)		
DLM/DLP DLW21/31	220°C min.	30 to 60s	245±3°C	2 times max.	230°C min.	60s max.	260°C/10s	2 times max.
DLW43S	220°C min.	30 to 60s	245±3°C	2 times max.	240°C min.	30s max.	260°C/10s	2 times max.
DLW44S/5A/5B	220°C min.	30 to 60s	250±3°C	2 times max.	230°C min.	60s max.	260°C/10s	2 times max.

(3) Reworking with Solder Iron

The following conditions must be strictly followed when using a soldering iron.

Pre-heating: 150°C 60s min.

Soldering iron power output / Tip diameter:

30W max. / ø3mm max.

Temperature of soldering iron tip / Soldering time / Times:

350°C max. / 3-4s / 2 times*1

*1 DLP0QS, DLP0NS, DLP11S, DLP11T, DLP1ND, DLP2AD: 380°C max. / 3-4s / 2 times
DLW43S: 350°C max. / 3s / 2 times

Do not allow the tip of the soldering iron to directly contact the chip.

For additional methods of reworking with a soldering iron, please contact Murata engineering.

4. Cleaning

Following conditions should be observed when cleaning chip EMI filter.

(1) Cleaning Temperature: 60°C max. (40°C max. for alcohol type cleaner)

(2) Ultrasonic

Output: 20W/liter max.

Duration: 5 minutes max.

Frequency: 28 to 40kHz

(3) Cleaning agent

The following list of cleaning agents have been tested on the individual components. Evaluation of final assembly should be completed prior to production.

Do not clean DLW (Except for DLW21H) series.

Before cleaning, please contact Murata engineering.

(a) Alcohol cleaning agent

Isopropyl alcohol (IPA)

(b) Aqueous cleaning agent

Pine Alpha ST-100S

(4) Ensure that flux residue is completely removed.

Component should be thoroughly dried after aqueous agent has been removed with deionized water.

单击下面可查看定价，库存，交付和生命周期等信息

>>Murata(村田)