

# 2 in 1 Inductor & 3 in 1 Inductor (CLS series)



## ■ Features

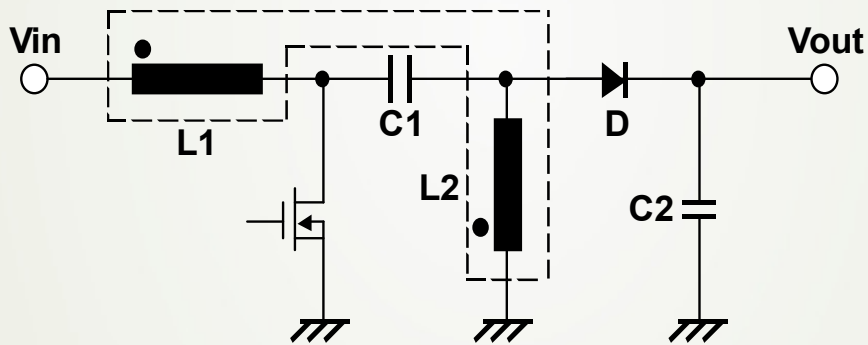
- ⊙ Low profile, surface mount Inductor.
- ⊙ High efficiency/Small size for Up-Down Converter.
- ⊙ Extended battery life cycle for Portable Equipment.
- ⊙ Storage temperature range:  $-40^{\circ}\text{C} \sim +105^{\circ}\text{C}$
- ⊙ Operating temperature range:  $-40^{\circ}\text{C} \sim +105^{\circ}\text{C}$  (including coil's self-heat).
- ⊙ RoHS Compliance.



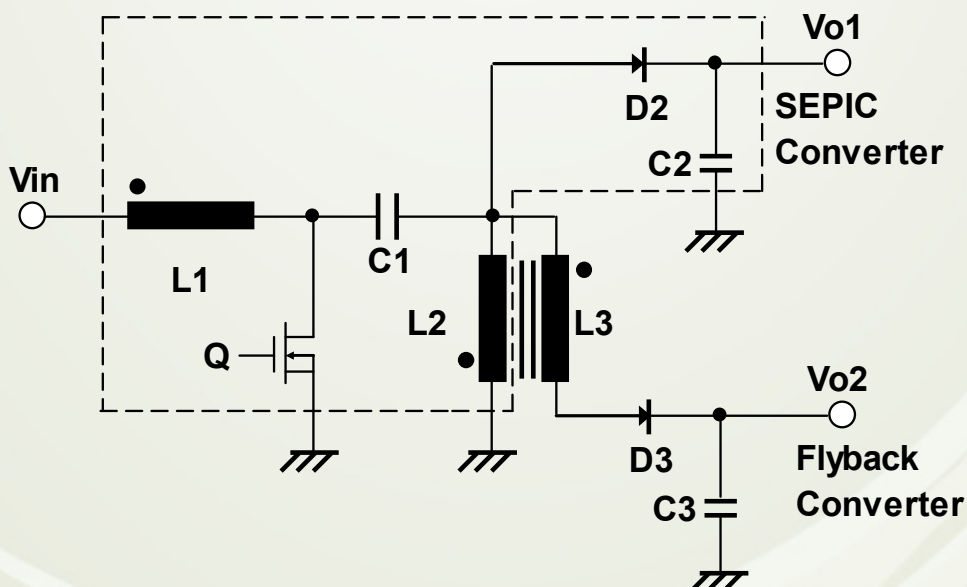
## ■ Applications

- ⊙ USB charger, Portable devices with Lithium battery etc.
- ⊙ 2 in 1 Coils for high efficiency up-down DC-DC converters. (SEPIC, Zeta, Cuk converter).
- ⊙ WLED Backlight Driver of LCD panel etc.,.

## ■ Typical SEPIC schematic



## ■ Typical SEPIC + Flyback schematic



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## Electrical Characteristics specification.

Type	Dimensions WxLxH(mm)	Inductance Range Turns Ratio(1:1)	Inductance Turns Ratio(1:1)	DC Bias Current (10%Down)	Temperature rise current ( $\Delta t$ : 40°C)	D.C.R. (Ω) Max.(Typ.)
CLS3D23	4x4x2.5	1.0 μH~10 μH	3.3 μH	1.42A	1.47A	114m(91m)
			4.7 μH	0.97A	1.36A	159m(127m)
			10 μH	0.70A	0.94A	345m(276m)
CLS3D18	4x4x2.0	1.0 μH~10 μH	3.3 μH	1.01A	1.35A	141m(113m)
			5.0 μH	0.73A	1.17A	200m(160m)
			10 μH	0.51A	0.75A	404m(323m)
CLS4D28B	5x5x3.0	2.2 μH~47 μH	3.5 μH	1.34A	2.26A	74m(54m)
			6.8 μH	0.92A	1.66A	132m(102m)
			10 μH	0.80A	1.54A	190m(146m)
CLS4D23B	5x5x2.5	2.2 μH~22 μH	3.6 μH	1.16A	2.56A	80m(60m)
			7.3 μH	0.80A	1.64A	155m(121m)
			11 μH	0.68A	1.23A	220m(171m)
CLS4D18	5x5x2.0	1.0 μH~10 μH	3.3 μH	1.10A	2.30A	95m(72m)
			5.0 μH	0.96A	1.80A	145m(114m)
			10 μH	0.64A	1.20A	310m(240m)
CLS6D28	7x7x3.0	1.2 μH~120 μH	3.3 μH	2.40A	3.20A	35m(27m)
			6.8 μH	1.70A	2.00A	78m(60m)
			10 μH	1.44A	1.80A	100m(75m)
CLS6D23	7x7x2.5	1 μH~100 μH	3.0 μH	2.4A	1.6A	42m(34m)
			6.8 μH	1.56A	0.91A	97m(78m)
			10 μH	1.26A	0.80A	130m(104m)
CLS6D18	7x7x2.0	1.3 μH~22 μH	3.5 μH	1.72A	1.20A	71m(59m)
			6.8 μH	1.20A	0.81A	129m(107m)
			10 μH	0.98A	0.75A	155m(129m)
CLS8D28	9x9x3.0	1.0 μH~220 μH	3.3 μH	3.70A	4.80A	36m(29m)
			6.8 μH	2.50A	3.90A	55m(44m)
			10 μH	2.20A	3.10A	81m(65m)
CLS104	10.6x10.4x4.1	1.2 μH~21 μH	2.7 μH	5.80A	4.50A	26m(21m)
			6.8 μH	2.80A	3.20A	61m(49m)
			10 μH	2.30A	2.40A	98m(79m)
CLS125	16x13x6.0	1.2 μH~110 μH	3.0 μH	8.50A	8.80A	13.7m(11.5m)
			5.6 μH	6.40A	6.90A	21.8m(18m)
			15 μH	4.80A	4.30A	54m(45m)
CLS127	16x13x8.0	1.3 μH~110 μH	3.2 μH	12.0A	9.00A	14.2m(11.9m)
			5.8 μH	9.90A	7.00A	23.0m(19.3m)
			15 μH	5.60A	4.00A	60.0m(50.8m)
CLS6D28B	7x7x3.0	/	3.0 μH	3.00A	2.90A	-
			5.0 μH	2.30A	2.40A	-
			10 μH	1.50A	1.80A	-
CLS8D28B	9x9x3.0	/	3.0 μH	4.30A	3.50A	-
			5.0 μH	3.20A	3.20A	-
			10 μH	2.30A	1.70A	-

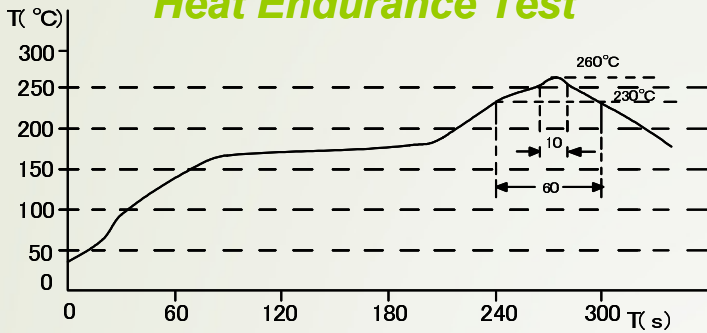
※ Visit <http://www.sumida.com> for more information

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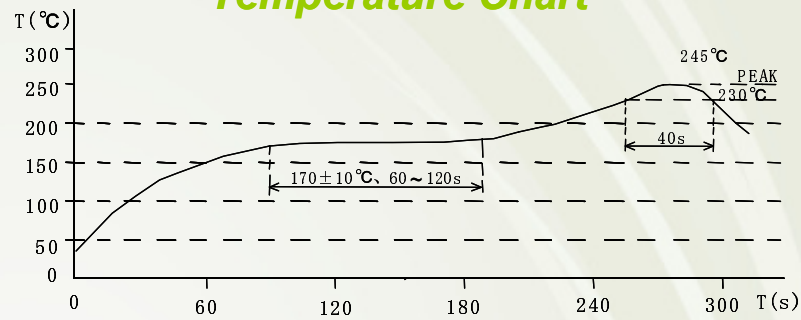


## Recommendation reflow condition

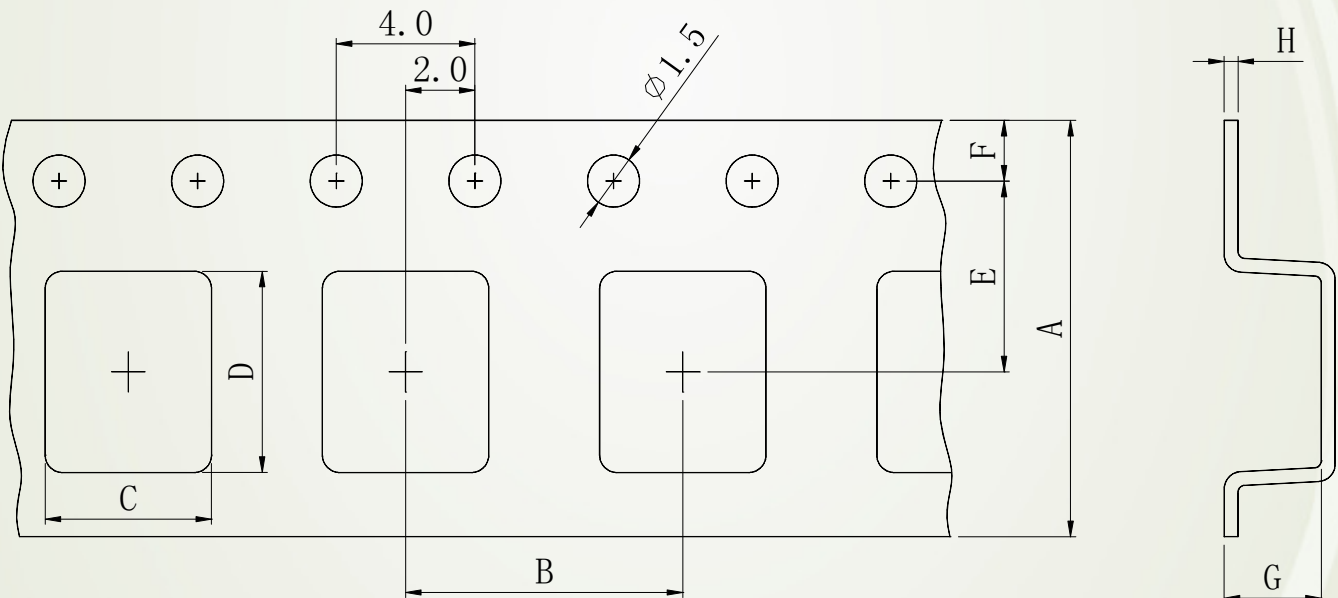
### Heat Endurance Test



### Temperature Chart



## Packaging with embossed tape and Reel



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