SL Series 85° SMD Ecap

Features:

- Designed for surface mounting on high density PC board
- Supplied with carrier taping for automatic mounting machine
- Guarantees 2,000 hours at 85°C

Specifications

Item	Characteristics									
Operating Temperature Range	-40°C to +85°C									
Working Voltage Range	4 to 100 V									
Capacitance Range	0.1 to 1,500 µF									
Capacitance Tolerance	±20% (120 Hz, 20°C)									
Maximum Leakage Current	I ≤ 0.01 CV or 3 (µA) whichever is greater (after 2 mins.)									
Dissipation Factor at 120 Hz, 20°C tan δ (max.)	W V	4	6.3	10	16	25	35	50	63	100
	Ø3	0.4	0.3	-	0.19	0.16	0.14	0.14	-	-
	Ø4 to 6.3	0.35	0.26	0.2	0.16	0.14	0.12	0.12	0.12	0.1
	Ø8 to 10	-	0.3	0.24	0.2	0.16	0.14			
Low Temperature Characteristics (Impedance ratio at 120 Hz)	W V	4	6.3	10	16	25	35	50	93	100
	Z-25°C / Z+20°C	7	4	3	2	2	2	2	2	2
	Z-40°C / Z+20°C	15	8	8	4	4	3	3	3	3
Load Life (After application of the rated voltage for 2,000 hrs at 85°C)	Capacitance change	Within ±25% of initial value (4 W V < ±30%)								
	Tan δ	Less than 200% of initial specified value								
	Leakage current	Less than specified value								
Shelf Life (at 85°C)	After 1,000 hrs no load test, leakage current, capacitance change and tan δ are as same as load life value									
Soldering Heat Resistance	Place terminal side surface on 250°C hot plate for 30 s allow test samples to be cooled down to room temperature									
	Capacitance change	Within ±10% of initial value								
	Tan δ	Less than initial specified value								
	Leakage Current									

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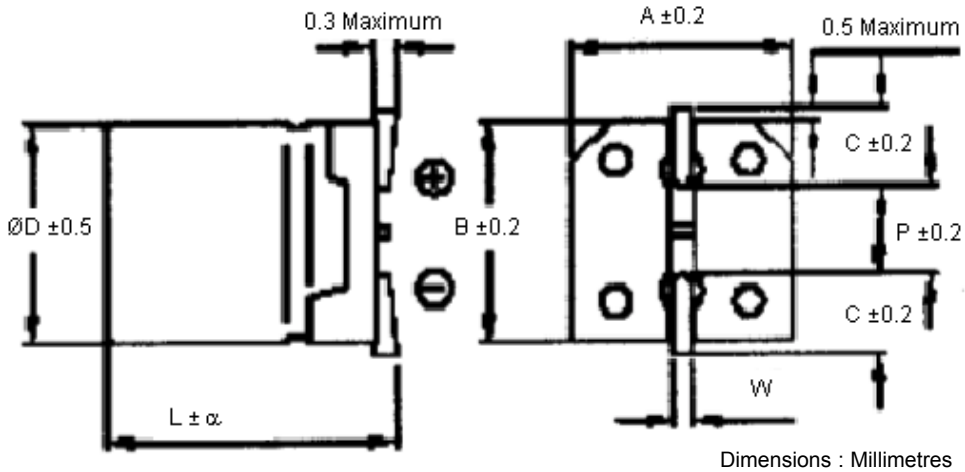
Diagram of Dimensions



Dimensions : Millimetres

ØD ±0.5 Maximum	L	α	A ±0.2	B ±0.2	C ±0.2	W	P ±0.2
3	5.4	0.3	3.3	3.3	1.5	0.45 to 0.75	0.6
4	5.2		4.3	4.3	1.8	0.5 to 0.8	1
	6						
5	5.2		5.3	5.3	2.1		1.4
6.3			6.6	6.6	2.4		2.2
	6						
	7.7						
8	10.5	0.5	8.3	8.3	2.9	0.7 to 1	3.2
10			10.3	10.3	3.2		4.6

Dimensions : Millimetres

Dimensions and Maximum Permissible Ripple Current mA (rms) at 120 Hz, 105°C

W V / µF	4		6.3		10		16		25		35		50		63		100	
0.1	-	-	-	-	-	-	-	-	-	-	-	-		1		1	-	-
0.22	-	-	-	-	-	-	-	-	-	-	-	-		2		2.3	-	-
0.33	-	-	-	-	-	-	-	-	-	-	-	-		2.8		3.5	-	-
0.47	-	-	-	-	-	-	-	-	-	-	-	-	*4 × 5.2	4	4 × 5.2	5	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-		5.4 (8)		10	4 × 5	10
2.2		-		-		-		-		-	*	(8)		13 (10)		15		20
3.3	-	-	-	-	-	-	-	-	-	-	*	(10)	4 × 5.2	17	5 × 5.2	20	6.3 × 6	28
4.7	-	-	-	-	-	-	-	-	*4 × 5.2	16 (12)	4 × 5.2	18	5 × 5.2	20		23		35
10	-	-	-	-	-	-	*4 × 5.2	25 (15)	5 × 5.2	27	5 × 5.2	29	6.3 × 5.2	33	6.3 × 5.2	34	6.3 × 7.7	90

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Dimensions and Maximum Permissible Ripple Current mA (rms) at 120 Hz, 105°C

W V / µF	4		6.3		10		16		25		35		50		63		100	
22	*	(19)	*4 × 5.2	31 (19)	5 × 5.2	33	5 × 5.2	37	6.3 × 5.2	42	6.3 × 5.2	46	6.3 × 6	45	6.3 × 7.7	70	8 × 10.5	120
33	4 × 5.2	25	5 × 5.2	37		41	6.3 × 5.2	49		52	6.3 × 6	60	6.3 × 7.7	85	8 × 10.5	160	10 × 10.5	190
47		33		45	6.3 × 5.2	52		58	6.3 × 6	68		70		90		170	-	-
56	5 × 5.2	42		54		58		74		82	6.3 × 7.7	80		110		200	-	-
68		45	6.3 × 5.2	62		72		80		94		110	8 × 10.5	170	10 × 10.5	230	-	-
100		55		70		75		88	6.3 × 7.7	130		120		200		280	-	-
150	6.3 × 5.2	74		78	6.3 × 6	88	6.3 × 7.7	135	8 × 10.5	200	8 × 10.5	220	10 × 10.5	240	-	-	-	-
220		82	8.3 × 5	95	6.3 × 7.7	150		150		250		270		320	-	-	-	-
330	6.3 × 6	102	6.3 × 7.7	150	8 × 10.5	250	8 × 10.5	280		310	10 × 10.5	340	-	-	-	-	-	-
470	6.3 × 7.7	150	8 × 10.5	270		300		330	10 × 10.5	430	-	-	-	-	-	-	-	-
680	-	-		320	10 × 10.5	380	10 × 10.5	390	-	-	-	-	-	-	-	-	-	-
1,000	-	-		330		450	-	-	-	-	-	-	-	-	-	-	-	-
1,500	-	-	10 × 10.5	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Ø3 is available

Part Number Table

Description	Part Number
Capacitor, Case B, 33µF, 4V	MCESL4V336M4X5.2
Capacitor, Case B, 47µF, 4V	MCESL4V476M4X5.2
Capacitor, Case D, 56µF, 4V	MCESL4V566M5X5.2
Capacitor, Case D, 68µF, 4V	MCESL4V686M5X5.2
Capacitor, Case D, 100µF, 4V	MCESL4V107M5X5.2
Capacitor, Case E, 150µF, 4V	MCESL4V157M6.3X5.2
Capacitor, Case E, 220µF, 4V	MCESL4V227M6.3X5.2
Capacitor, Case F, 330µF, 4V	MCESL4V337M6.3X7.7
Capacitor, Case G, 470µF, 4V	MCESL4V477M6.3X7.7
Capacitor, Case D, 33µF, 6.3V	MCESL6V3336M5X5.2
Capacitor, Case D, 47µF, 6.3V	MCESL6V3476M5X5.2
Capacitor, Case D, 56µF, 6.3V	MCESL6V3566M5X5.2
Capacitor, Case E, 68µF, 6.3V	MCESL6V3686M6.3X5.2
Capacitor, Case E, 150µF, 6.3V	MCESL6V3157M6.3X5.2
Capacitor, Case F, 220µF, 6.3V	MCESL6V3227M6.3X5.4

Part Number Table

Description	Part Number
Capacitor, Case G, 330µF, 6.3V	MCESL6V3337M6.3X7.7
Capacitor, Case H, 470µF, 6.3V	MCESL6V3477M8X10.5
Capacitor, Case H, 680µF, 6.3V	MCESL6V3687M8X10.5
Capacitor, Case H, 1000µF, 6.3V	MCESL6V3108M8X10.5
Capacitor, Case J, 1500µF, 6.3V	MCESL6V3158M10X10.5
Capacitor, Case D, 22µF, 10V	MCESL10V226M5X5.2
Capacitor, Case D, 33µF, 10V	MCESL10V336M5X5.2
Capacitor, Case E, 47µF, 10V	MCESL10V476M6.3X5.2
Capacitor, Case E, 56µF, 10V	MCESL10V566M6.3X5.2
Capacitor, Case E, 68µF, 10V	MCESL10V686M6.3X5.2
Capacitor, Case E, 100µF, 10V	MCESL10V107M6.3X5.2
Capacitor, Case F, 150µF, 10V	MCESL10V157M6.3X5.4
Capacitor, Case H, 330µF, 10V	MCESL10V337M8X10.5
Capacitor, Case H, 470µF, 10V	MCESL10V477M8X10.5
Capacitor, Case J, 680µF, 10V	MCESL10V687M10X10.5
Capacitor, Case J, 1000µF, 10V	MCESL10V108M10X10.5
Capacitor, Case D, 22µF, 16V	MCESL16V226M5X5.2
Capacitor, Case E, 33µF, 16V	MCESL16V336M6.3X5.2
Capacitor, Case E, 56µF, 16V	MCESL16V566M6.3X5.2
Capacitor, Case E, 68µF, 16V	MCESL16V686M6.3X5.2
Capacitor, Case E, 100µF, 16V	MCESL16V107M6.3X5.2
Capacitor, Case G, 150µF, 16V	MCESL16V157M6.3X7.7
Capacitor, Case G, 220µF, 16V	MCESL16V227M6.3X7.7
Capacitor, Case H, 330µF, 16V	MCESL16V337M8X10.5
Capacitor, Case H, 470µF, 16V	MCESL16V477M8X10.5
Capacitor, Case J, 680µF, 16V	MCESL16V687M10X10.5
Capacitor, Case D, 10µF, 25V	MCESL25V106M5X5.2
Capacitor, Case E, 22µF, 25V	MCESL25V226M6.3X5.2
Capacitor, Case E, 33µF, 25V	MCESL25V336M5X5.2
Capacitor, Case F, 47µF, 25V	MCESL25V476M6.3X5.4
Capacitor, Case F, 56µF, 25V	MCESL25V566M6.3X5.4
Capacitor, Case F, 68µF, 25V	MCESL25V686M6.3X5.4
Capacitor, Case H, 150µF, 25V	MCESL25V157M8X10.5
Capacitor, Case H, 220µF, 25V	MCESL25V227M8X10.5
Capacitor, Case H, 330µF, 25V	MCESL25V337M8X10.5

Part Number Table

Description	Part Number
Capacitor, Case J, 470µF, 25V	MCESL25V477M10X10.5
Capacitor, Case D, 10µF, 35V	MCESL35V106M5X5.2
Capacitor, Case F, 33µF, 35V	MCESL35V336M6.3X5.4
Capacitor, Case F, 47µF, 35V	MCESL35V476M6.3X5.4
Capacitor, Case G, 56µF, 35V	MCESL35V566M6.3X7.7
Capacitor, Case G, 68µF, 35V	MCESL35V686M6.3X7.7
Capacitor, Case G, 100µF, 35V	MCESL35V107M6.3X7.7
Capacitor, Case H, 150µF, 35V	MCESL35V157M8X10.5
Capacitor, Case H, 220µF, 35V	MCESL35V227M8X10.5
Capacitor, Case J, 330µF, 35V	MCESL35V337M10X10.5
Capacitor, Case B, 2.2µF, 50V	MCESL50V225M4X5.2
Capacitor, Case B, 3.3µF, 50V	MCESL50V335M4X5.2
Capacitor, Case F, 22µF, 50V	MCESL50V226M6.3X5.4
Capacitor, Case G, 33µF, 50V	MCESL50V336M6.3X7.7
Capacitor, Case G, 56µF, 50V	MCESL50V566M6.3X7.7
Capacitor, Case H, 68µF, 50V	MCESL50V686M8X10.5
Capacitor, Case J, 150µF, 50V	MCESL50V157M10X10.5
Capacitor, Case J, 220µF, 50V	MCESL50V227M10X10.5
Capacitor, Case B, 1µF, 63V	MCESL63V105M4X5.2
Capacitor, Case B, 2.2µF, 63V	MCESL63V225M4X5.2
Capacitor, Case D, 3.3µF, 63V	MCESL63V335M5X5.2
Capacitor, Case D, 4.7µF, 63V	MCESL63V475M5X5.2
Capacitor, Case E, 10µF, 63V	MCESL63V106M6.3X5.2
Capacitor, Case G, 22µF, 63V	MCESL63V226M6.3X7.7
Capacitor, Case H, 33µF, 63V	MCESL63V336M8X10.5
Capacitor, Case H, 47µF, 63V	MCESL63V476M8X10.5
Capacitor, Case H, 56µF, 63V	MCESL63V566M8X10.5
Capacitor, Case J, 68µF, 63V	MCESL63V686M10X10.5
Capacitor, Case J, 100µF, 63V	MCESL63V107M10X10.5
Capacitor, Case C, 1µF, 100V	MCESL100V105M4X5.4
Capacitor, Case F, 2.2µF, 100V	MCESL100V225M6.3X5.4
Capacitor, Case F, 3.3µF, 100V	MCESL100V335M6.3X5.4
Capacitor, Case F, 4.7µF, 100V	MCESL100V475M6.3X5.4
Capacitor, Case G, 10µF, 100V	MCESL100V106M6.3X7.7
Capacitor, Case H, 22µF, 100V	MCESL100V226M8X10.5

Part Number Table

Description	Part Number
Capacitor, Case J, 33µF, 100V	MCESL100V336M10X10.5
Capacitor, Case E 100µF 6.3V	MCESL6V3107M6.3X5.2
Capacitor, Case G 220µF 10V	MCESL10V227M6.3X7.7
Capacitor, Case B 10µF 16V	MCESL16V106M4X5.2
Capacitor, Case E 47µF 16V	MCESL16V476M6.3X5.2
Capacitor, Case G 100µF 25V	MCESL25V107M6.3X7.7
Capacitor, Case B 4.7µF 35V	MCESL35V475M4X5.2
Capacitor, Case E 22µF 35V	MCESL35V226M6.3X5.2
Capacitor, Case B 1µF 50V	MCESL50V105M4X5.2
Capacitor, Case D 4.7µF 50V	MCESL50V475M5X5.2
Capacitor, Case E 10µF 50V	MCESL50V106M6.3X5.2
Capacitor, Case G 47µF 50V	MCESL50V476M6.3X7.7
Capacitor, Case H 100µF 50V	MCESL50V107M8X10.5
Capacitor, Case E, 100µF, 6.3V	MCESL6V3107M6.3X5.2
Capacitor, Case G, 220µF, 10V	MCESL10V227M6.3X7.7
Capacitor, Case B, 10µF, 16V	MCESL16V106M4X5.2
Capacitor, Case E, 47µF, 16V	MCESL16V476M6.3X5.2
Capacitor, Case G, 100µF, 25V	MCESL25V107M6.3X7.7
Capacitor, Case B, 4.7µF, 35V	MCESL35V475M4X5.2
Capacitor, Case E, 22µF, 35V	MCESL35V226M6.3X5.2
Capacitor, Case B, 1µF, 50V	MCESL50V105M4X5.2
Capacitor, Case D, 4.7µF, 50V	MCESL50V475M5X5.2
Capacitor, Case E, 10µF, 50V	MCESL50V106M6.3X5.2
Capacitor, Case G, 47µF, 50V	MCESL50V476M6.3X7.7
Capacitor, Case H, 100µF, 50V	MCESL50V107M8X10.5