



Siemens Matsushita Components

# EMC

# Components

RF Chokes **SMD**

High Current

B82442-H

Data Book Supplement

**SIMID 05 (Siemens-Miniature-Inductors)**  
**Rated inductance 1 to 10000  $\mu$ H**  
**Rated current 0,035 to 2,5 A**



### **Construction**

- Size as EIA standard: 2220
- Upright ferrite drum core
- Laser welded, encapsulation flame retardant
- Temperature index of copper wire enamel: 180°C

### **Features**

- Very high rated current
- High  $L$  values
- Suitable for reflow (IR and vapor phase) and wave soldering

### **Applications**

- Filtering of supply voltages, coupling, decoupling
- DC/DC converters
- Automotive electronics
- Telecommunication

### **Terminals**

- Tinned
- Base material CuSn6; 0,4  $\mu$ m Cu; 1–2  $\mu$ m Ag; 5–7  $\mu$ m Sn
- No leaching during wave soldering

### **Marking**

Marking on component:

Manufacturer, date code,  
 $L$  value and tolerance of  $L$  value (coded)

Minimum marking on reel:

Manufacturer, part number, ordering code,  
 $L$  value and tolerance of  $L$  value, quantity, date of packing

### **Delivery mode**

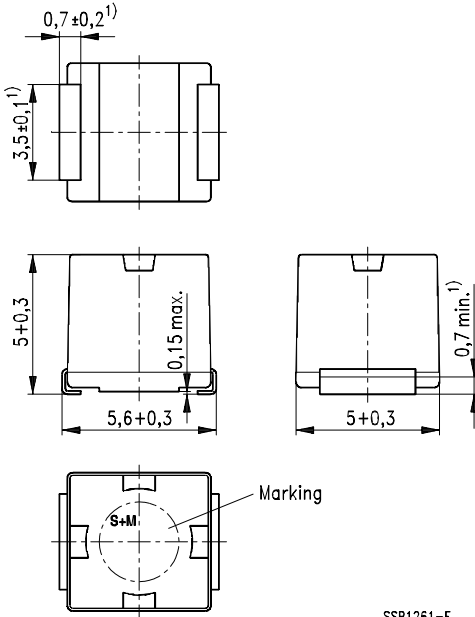
Blister tape 12 mm, reel packing dia. 330 mm.

For details on taping, packing and packing units refer to data book

"EMC Components", page 433.

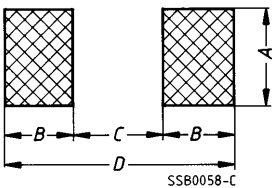
**Dimensional drawing**

Size as per EIA standard: 2220  
Approx. weight 400 mg



SSB1261-E

**PCB layout recommendation**



Dimensions (mm)	A	B	C	D
Wave/reflow soldering	4,5	2,0	4,0	8,0

1) Soldering area, tinned



**Technical data and ordering codes**

For further technical data see page 7.

$L_R$ $\mu\text{H}$	Tolerance	$Q_{\min}$	$f_L; f_Q$ MHz	$I_R$ A	$R_{\max}$ $\Omega$	$f_{\text{res, min}}$ MHz	Ordering code <sup>1)</sup>
1,0	$\pm 10\%$ $\cong K$	10	7,96	2,50	0,024	95	B82442-H1102-K
1,2		10	7,96	2,35	0,028	70	B82442-H1122-K
1,5		10	7,96	2,20	0,032	55	B82442-H1152-K
1,8		10	7,96	2,00	0,040	47	B82442-H1182-K
2,2		10	7,96	1,80	0,048	42	B82442-H1222-K
2,7		10	7,96	1,70	0,056	37	B82442-H1272-K
3,3		10	7,96	1,55	0,064	34	B82442-H1332-K
3,9		10	7,96	1,45	0,072	32	B82442-H1392-K
4,7		10	7,96	1,35	0,088	29	B82442-H1472-K
5,6		10	7,96	1,25	0,104	26	B82442-H1562-K
6,8		10	7,96	1,13	0,120	24	B82442-H1682-K
8,2		10	7,96	1,05	0,144	22	B82442-H1822-K
10		10	2,52	1,00	0,168	19	B82442-H1103-K
12		10	2,52	0,88	0,20	17	B82442-H1123-K
15		10	2,52	0,81	0,24	16	B82442-H1153-K
18	10	2,52	0,74	0,29	14	B82442-H1183-K	
22	10	2,52	0,67	0,35	13	B82442-H1223-K	
27	10	2,52	0,62	0,42	11,5	B82442-H1273-K	
33	$\pm 5\%$ $\cong J$	10	2,52	0,56	0,50	10,5	B82442-H1333+
39		10	2,52	0,52	0,58	9,5	B82442-H1393+
47		10	2,52	0,48	0,68	8,5	B82442-H1473+
56	$\pm 10\%$ $\cong K$	10	2,52	0,43	0,80	7,8	B82442-H1563+
68		10	2,52	0,40	0,96	7,0	B82442-H1683+
82		10	2,52	0,38	1,12	6,4	B82442-H1823+

1) Replace the + by the code letter for the required inductance tolerance.



Technical data and ordering codes

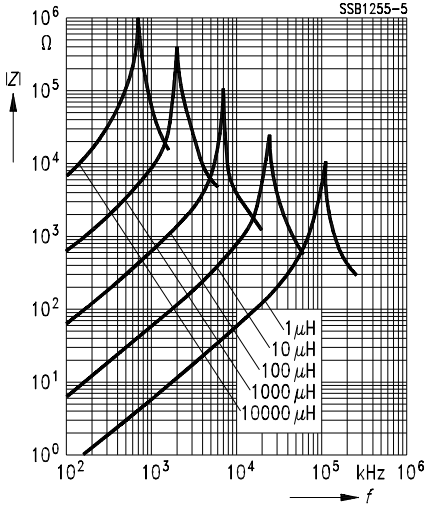
For further technical data see page 7.

$L_R$ $\mu\text{H}$	Tolerance	$Q_{\min}$	$f_L; f_Q$ MHz	$I_R$ A	$R_{\max}$ $\Omega$	$f_{\text{res, min}}$ MHz	Ordering code <sup>1)</sup>
100	± 5 % ≅ J	20	0,796	0,35	1,28	6,0	B82442-H1104+
120		20	0,796	0,32	1,52	5,4	B82442-H1124+
150		20	0,796	0,29	1,76	4,8	B82442-H1154+
180	± 10 % ≅ K	20	0,796	0,27	2,24	4,4	B82442-H1184+
220		20	0,796	0,24	2,72	3,9	B82442-H1224+
270		20	0,796	0,22	3,36	3,6	B82442-H1274+
330		20	0,796	0,20	3,92	3,2	B82442-H1334+
390		20	0,796	0,18	4,64	2,9	B82442-H1394+
470		20	0,796	0,17	5,60	2,6	B82442-H1474+
560		20	0,796	0,15	6,80	2,4	B82442-H1564+
680		20	0,796	0,14	8,00	2,2	B82442-H1684+
820		20	0,796	0,13	10,4	2,0	B82442-H1824+
1000		30	0,252	0,120	12,0	1,8	B82442-H1105+
1200		30	0,252	0,105	13,6	1,5	B82442-H1125+
1500		30	0,252	0,100	16,0	1,4	B82442-H1155+
1800		30	0,252	0,085	24,0	1,3	B82442-H1185+
2200		30	0,252	0,075	28,0	1,2	B82442-H1225+
2700		30	0,252	0,065	44,0	1,1	B82442-H1275+
3300		30	0,252	0,055	48,0	1,0	B82442-H1335+
3900		30	0,252	0,053	56,0	1,0	B82442-H1395+
4700		30	0,252	0,050	62,4	0,9	B82442-H1475+
5600		30	0,252	0,046	68,0	0,8	B82442-H1565+
6800		30	0,252	0,042	88,0	0,7	B82442-H1685+
8200		30	0,252	0,039	100	0,6	B82442-H1825+
10000		30	0,0796	0,035	120	0,5	B82442-H1106+

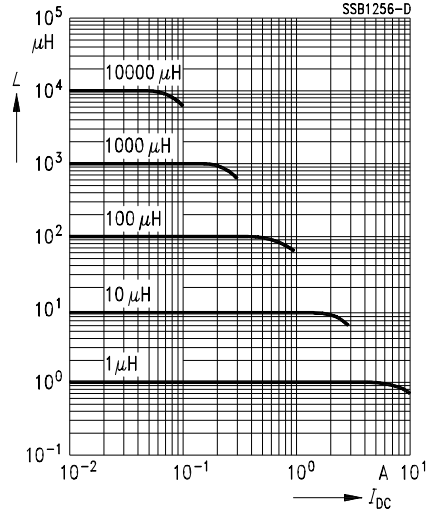
1) Replace the + by the code letter for the required inductance tolerance.



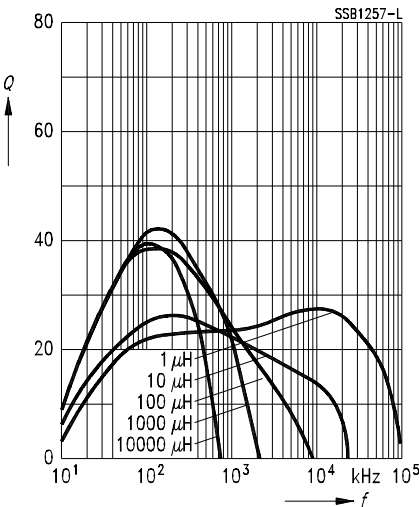
Impedance  $|Z|$   
 versus frequency  $f$   
 measured with impedance analyzer  
 HP 4194A/HP 4191A



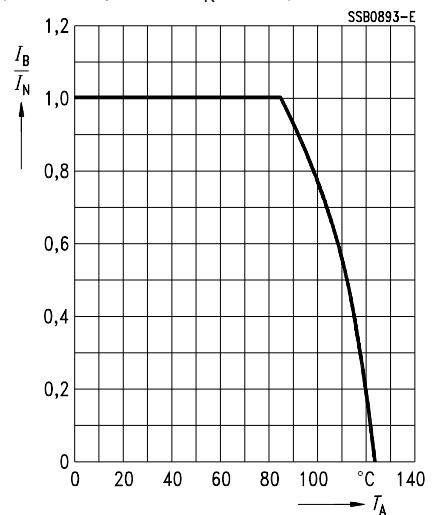
Inductance  $L$   
 versus dc load  $I_{DC}$   
 measured with LCR meter  
 HP 4275A



Q factor  
 versus frequency  $f$   
 measured with impedance analyzer  
 HP 4194A



Current derating  $I_{op}/I_R$   
 versus ambient  
 temperature  $T_A$   
 (Rated temperature  $T_R = 85^\circ\text{C}$ )





**General technical data**

Rated inductance $L_R$	Measured at frequency $f_L$ , with impedance analyzer HP 4194A
Q factor $Q_{\min}$	Measured at frequency $f_Q$ , with impedance analyzer HP 4194A
Rated current $I_N$	Maximum permissible dc with an inductance decrease of $\Delta L/L_0 \leq 10\%$ and/or temperature increase of $\leq 40\text{ K}$ at rated temperature $T_R = 85^\circ\text{C}$ (see derating curves)
Self resonance frequency $f_{\text{res, min}}$	Measured with network analyzer HP 8753D
DC resistance $R_{\max}$	Measured at $20^\circ\text{C}$ ambient temperature, Measuring current $< I_R$
Climatic category	In accordance with IEC 68-1 55/125/56 ( $-55^\circ\text{C}/+125^\circ\text{C}/56$ days damp heat test)
Solderability	$(215 \pm 3)^\circ\text{C}$ , $(3 \pm 0,3)$ s Wetting of soldering area: $\geq 90\%$
Resistance to soldering heat	In accordance with IEC 68-2-20, test Tb $260^\circ\text{C}$ , 10 s
Permissible PCB bending	2 mm (100 mm long standard PCB)

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