

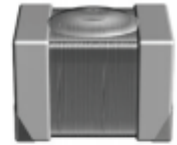
SIMID series, SIMID 0805-B

Series/Type: B82498B

SMT inductors

SMD

Size 0805 (EIA) and/or 2012 (IEC)
Rated inductance 2.7 ... 4700 nH
Rated current 90 ... 1000 mA



Construction

- Cubic coil with ceramic core
- Winding partially plastic-sealed
- Winding ends welded to terminals

Features

- High Q factor
- High resonance frequency
- Close inductance tolerance
- Suitable for lead-free reflow soldering as referenced in JEDEC J-STD 020D
- RoHS-compatible

Applications

Resonant circuits, impedance matching for

- Antenna amplifiers
- Multimedia
- Car access systems
- TPMS (Tire Pressure Monitoring System)
- Wireless communication systems
- GPS (Global Positioning System)

Terminals

- Base material Al₂O₃ ceramic or ferrite
- Thick-film coating of Ag/Pd/Pt

Marking

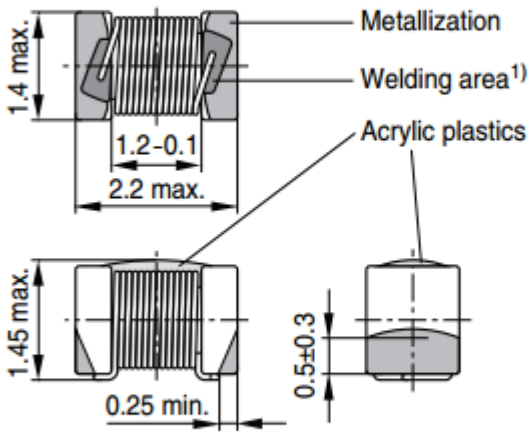
- No marking on component
- Minimum data on reel:
Manufacturer, ordering code, L value,
quantity, date of packing

Delivery mode and packing unit

- 8-mm blister tape, wound on 180-mm \varnothing reel
- Packing unit: 3000 pcs./reel

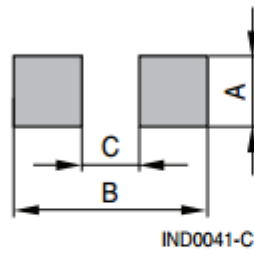
SMD

Dimensional drawing and layout recommendation



1) This area (30% of contact area) should not be used to assess solderability

IND0047-U-E

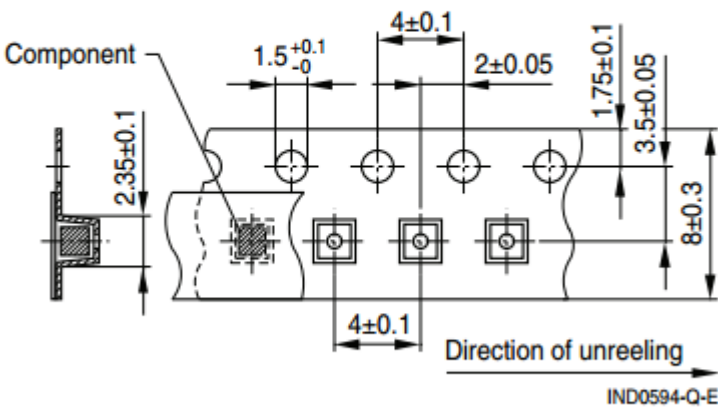


A	B	C
1.1 ±0.2	3.4 ±0.4	1.1 ±0.1

Dimensions in mm

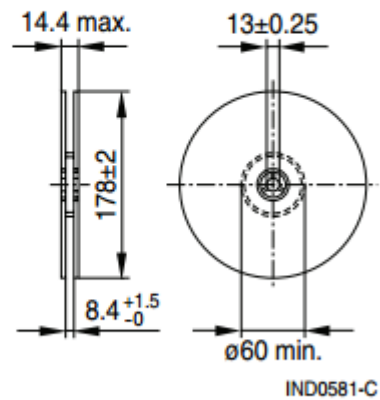
Taping and packing

Blister tape



Dimensions in mm

Reel



Technical data and measuring conditions

Rated inductance L_R	Measured with impedance analyzer Agilent E4991A at frequency f_L , 0.1 V, +20 °C
Q factor Q_{min} , Q_{typ}	Measured with impedance analyzer Agilent E4991A at frequency f_Q , +20 °C
Rated temperature T_R	+85 °C
Rated current I_R	Maximum permissible DC with inductance decrease $\Delta L/L_0 \leq 10\%$ and temperature increase of ≤ 20 K at rated temperature
Self-resonance frequency $f_{res,min}$	Measured with network analyzer Agilent E8362B, +20 °C
DC resistance R_{max}	Measured at +20 °C
Solderability (lead-free)	Sn95.5Ag3.8Cu0.7: +(245 ±5) °C, (5 ±0.3) s Wetting of soldering area $\geq 90\%$ (based on IEC 60068-2-58)
Resistance to soldering heat	+260 °C, 20 s (as referenced in JEDEC J-STD 020D)
Climatic category	55/125/56 (to IEC 60068-1)
Storage conditions	Mounted: -55 °C ... +125 °C Packaged: -25 °C ... +40 °C, $\leq 75\%$ RH
Weight	Approx. 8.5 mg

Characteristics and ordering codes

L_R	Tolerance	Q_{min}	Q_{typ} (at 800 MHz)	f_L ; f_Q	I_R	R_{max}	$f_{res,min}$	Ordering code
nH				MHz	mA	Ω	MHz	
Core material: ceramic								
2.7	$\pm 10\% \triangleq K$	20	50	250	1000	0.03	6000	B82498B3279M000
5.6	$\pm 20\% \triangleq M$	25	60	250	900	0.04	6000	B82498B3569M000
6.8		30	70	250	800	0.05	5500	B82498B3689K000
8.2		35	75	250	700	0.06	5000	B82498B3829M000
10		$\pm 5\% \triangleq J$	40	80	250	700	0.06	4500
12	40		85	250	700	0.06	4000	B82498B3120J000
15	40		85	250	670	0.07	3500	B82498B3150J000
18	45		90	250	670	0.07	3300	B82498B3180J000
22	45		85	250	600	0.09	2600	B82498B3220J000
27	50		90	250	600	0.09	2500	B82498B3270J000

Closer tolerances on request.

Characteristics and ordering codes

L_R	Tolerance	Q_{min}	Q_{typ} (at 800 MHz)	$f_L; f_Q$	I_R	R_{max}	$f_{res,min}$	Ordering code ¹⁾
nH				MHz	mA	Ω	MHz	

Core material: ceramic

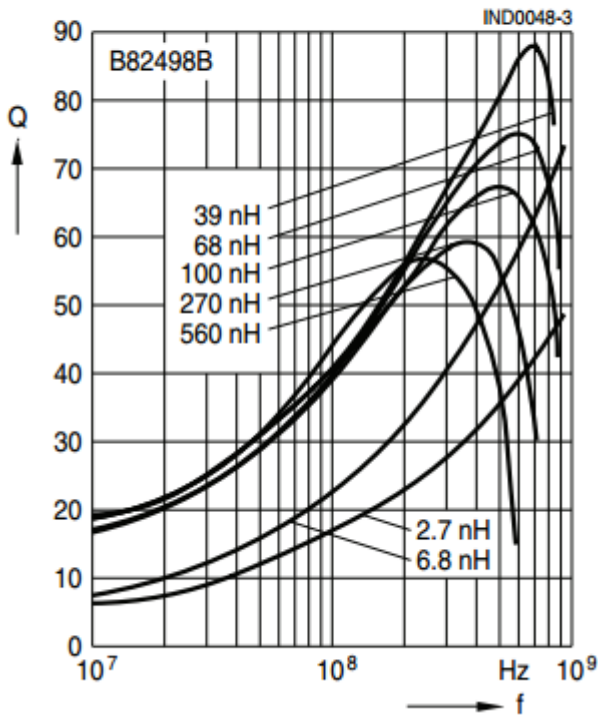
33	$\pm 5\% \triangle J$	45	80	250	520	0.12	2150	B82498B3330J000
39		50	90	250	560	0.10	2050	B82498B3390J000
47		45	85	200	500	0.13	1900	B82498B3470J000
56	$\pm 2\% \triangle G$	45	60	200	480	0.14	1700	B82498B3560+000
68	$\pm 5\% \triangle J$	45	60	200	410	0.19	1550	B82498B3680+000
82		40	60	150	390	0.21	1430	B82498B3820+000
100		40	50	150	350	0.26	1310	B82498B3101+000
120		40	45	150	270	0.44	1210	B82498B3121+000
150		35	40	100	270	0.44	1120	B82498B3151+000
180		35	30	100	260	0.47	1030	B82498B3181+000
220		35	—	100	240	0.55	950	B82498B3221+000
270		35	—	100	180	1.0	870	B82498B3271+000
330		35	—	100	180	1.0	800	B82498B3331+000
390		35	—	100	130	1.9	730	B82498B3391+000
470		35	—	100	115	2.4	660	B82498B3471+000
560		35	—	100	100	3.2	600	B82498B3561+000

Core material: ferrite

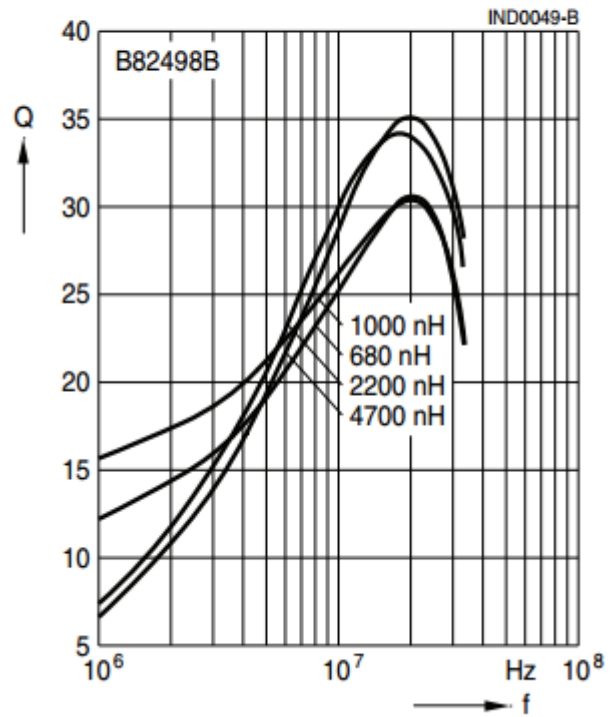
680	$\pm 2\% \triangle G$	20	—	25.2	250	0.50	450	B82498B1681+000
820	$\pm 5\% \triangle J$	20	—	25.2	240	0.55	400	B82498B1821+000
1000		20	—	7.96	250	0.50	350	B82498B1102+000
1200		20	—	7.96	220	0.65	300	B82498B1122+000
1500		20	—	7.96	200	0.75	250	B82498B1152+000
1800		20	—	7.96	190	0.85	250	B82498B1182+000
2200		20	—	7.96	130	1.7	200	B82498B1222+000
2700		20	—	7.96	120	2.0	200	B82498B1272+000
3300		20	—	7.96	100	3.3	200	B82498B1332+000
3900		20	—	7.96	95	3.6	150	B82498B1392+000
4700		20	—	7.96	90	3.8	150	B82498B1472+000

Closer tolerances on request.

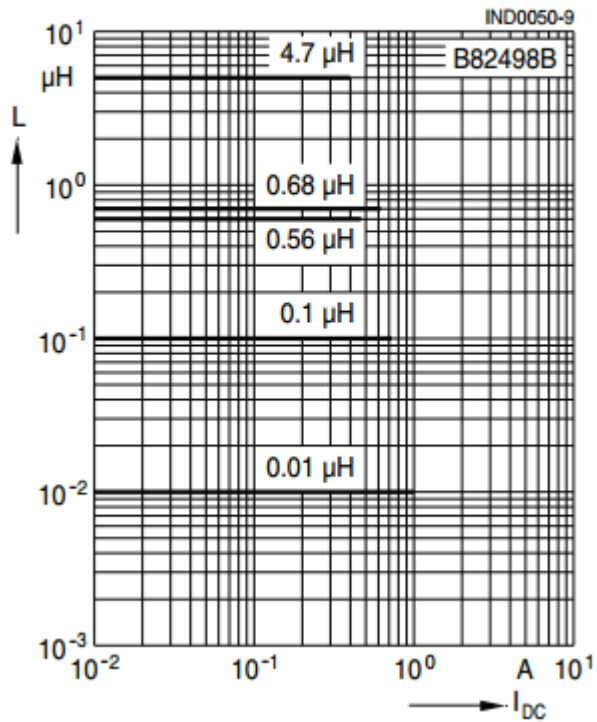
Q factor versus frequency f (ceramic core)
 measured with impedance analyzer
 Agilent E4991A, typical values at +20 °C



Q factor versus frequency f (ferrite core)
 measured with impedance analyzer
 Agilent E4991A, typical values at +20 °C



Inductance L versus DC load current I_{DC}
 measured with RF LCR meter
 Agilent 4285A, typical values at +20 °C



Current derating I_{op}/I_R versus ambient temperature T_A
 (rated temperature T_R = +85 °C)

