Test Procedure for inductance and Q

The procedure for measuring of inductance and Q as outlined in MIL-C-15305 and reproduced hereon is recommended for all devices. Use of this procedure will eliminate many of the variables leading to correlation discrepancies between Ohmite Manufacturing and the user; and will yield consistent and reproducible measurements.

The following equipment is required:

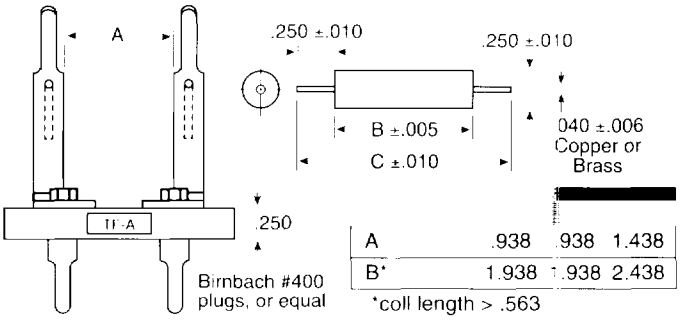
a. Hewlett Packard (Boonton) 260A Q Meter or equivalent.
b. Test fixture (A or B) per sketch.
c. Shorting bar per sketch
d. Frequency counter capable of monitoring Q meter frequency to at least ±0.1% accuracy.

1.0 Measurement of inductors up to 10 microhenries.
1.1 Insert appropriate test fixture in Q meter coil terminals with test fixture label facing cap. terminals.
1.2 Insert appropriate shorting bar in fixture resting against stops and centered.
1.3 Set Q meter at 400pf (Vernier @ zero).
1.4 Adjust frequency dial for resonance (approximately 30.5MHz).
1.5 Record frequency (at least 0.1% accuracy).
1.6 Calculate test fixture inductance and Q meter residual inductance using the following formula.

$L = \frac{1}{4\pi^2 f^2 C}$ - inductance of shorting bar.

(shorting bar for TFA is .008μH
L = approximately .06μH for TFA.

1.7 Remove shorting bar and adjust frequency dial to 'test' frequency.
1.8 Position coil under test against stops and resonate in accordance with Q meter manual.

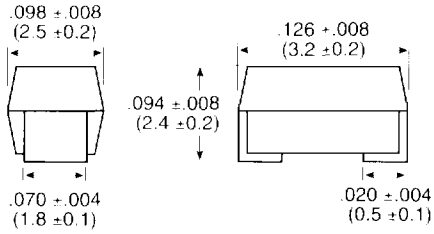


A	.938	.938	1.438
B*	1.938	1.938	2.438

*coil length > .563

1.9 Subtract test fixture and residual inductance from measured reading.
2.0 Q should be measured using procedure in Q meter manual except positioned in test fixture per 1.8 above.
2.1 Measurement of inductors above 10.0μH.
2.2 Equipment same as above
2.3 Measure inductance as above but do not subtract test fixture and residual inductance.
2.4 Q is measured per 2.0 above.

Surface mount inductors



PSM3-010K	10nH	10.0	10	10.0	20	40.0	50	50*	0.04	>800	1050
PSM3-012K	12nH	10.0	10	10.0	20	40.0	50	50*	0.04	>800	1050
PSM3-015K	15nH	10.0	10	10.0	20	40.0	50	50*	0.05	>800	950
PSM3-018 K	18nH	10.0	10	10.0	20	40.0	50	50*	0.05	>800	950
PSM3-022K	22nH	10.0	10	10.0	20	40.0	50	50*	0.06	>800	870
PSM3-027K	27nH	10.0	10	10.0	25	40.0	50	50*	0.07	>800	800
PSM3-033K	33nH	10.0	10	10.0	25	40.0	50	50*	0.08	>800	750
PSM3-039K	39nH	10.0	10	10.0	30	40.0	50	50*	0.09	>800	750
PSM3-047K	47nH	10.0	15	10.0	30	40.0	50	50*	0.09	>800	710
PSM3-056K	56nH	10.0	15	10.0	30	40.0	50	50*	0.10	>800	670
PSM3-068K	68nH	10.0	15	10.0	30	40.0	45	50*	0.10	>800	670
PSM3-082K	82nH	10.0	15	10.0	30	40.0	40	50*	0.12	>800	610
PSM3-100K	100nH	10.0	35	10.0	50	25.0	55	50*	0.07	800	800
PSM3-120K	120nH	10.0	35	10.0	50	25.0	55	50*	0.08	800	750
PSM3-150K	150nH	10.0	35	10.0	50	25.0	50	50*	0.08	750	750
PSM3-180K	180nH	10.0	35	10.0	50	25.0	50	50*	0.09	650	710
PSM3-200K	200nH	10.0	35	10.0	50	25.0	45	50*	0.10	550	670
PSM3-270K	270nH	10.0	35	10.0	50	25.0	40	50*	0.12	400	610
PSM3-330K	330nH	10.0	35	10.0	45	25.0	45	50*	0.14	400	570
PSM3-390K	390nH	10.0	35	10.0	45	25.0	45	40*	0.17	320	510
PSM3-470K	470nH	10.0	35	10.0	45	25.0	40	40*	0.20	250	470
PSM3-560K	560nH	10.0	30	10.0	45	25.0	40	35*	0.27	170	410
PSM3-680K	680nH	10.0	30	10.0	45	25.0	40	35*	0.30	150	390
PSM3-820K	820nH	10.0	30	10.0	45	25.0	35	35	0.33	120	370
PSM3-101K	1,000nH	10.0	30	10.0	45	25.0	50	35	0.35	100	360
PSM3-121K	1,200nH	4.0	30	4.0	30	7.9	40	25	0.40	90	330
PSM3-151K	1,500nH	4.0	30	4.0	35	7.9	40	25	0.45	80	310
PSM3-181K	1,800nH	4.0	30	4.0	35	7.9	35	25	0.70	70	250
PSM3-221K	2,200nH	4.0	30	4.0	35	7.9	33	25	0.80	60	240
PSM3-271K	2,700nH	4.0	30	4.0	35	7.9	30	25	0.95	55	220
PSM3-331K	3,300nH	4.0	35	4.0	35	7.9	30	25	1.00	50	210
PSM3-391K	3,900nH	4.0	35	4.0	35	7.9	35	25	1.50	47	175
PSM3-471K	4,700nH	4.0	35	4.0	35	7.9	25	25	1.90	45	150
PSM3-561K	5,600nH	4.0	35	4.0	35	7.9	25	25	2.10	40	145
PSM3-681K	6,800nH	4.0	40	4.0	35	7.9	19	25	2.20	35	140
PSM3-821K	8,200nH	4.0	40	4.0	35	7.9	15	25	2.60	25	130
PSM3-102K	10,000nH	4.0	40	4.0	35	7.9	-	-	2.80	25	120

PSML32-010K	0.010μH	15	100	2500	0.13	450
PSML32-012K	0.012μH	17	100	2300	0.14	450
PSML32-015K	0.015μH	19	100	2100	0.16	450
PSML32-018K	0.018μH	21	100	1900	0.18	450
PSML32-022K	0.022μH	23	100	1700	0.20	450
PSML32-027K	0.027μH	23	100	1500	0.22	450
PSML32-033K	0.033μH	25	100	1400	0.24	450
PSML32-039K	0.039μH	25	100	1300	0.27	450
PSML32-047K	0.047μH	26	100	1200	0.30	450
PSML32-056K	0.056μH	26	100	1100	0.33	450
PSML32-068K	0.068μH	27	100	1000	0.36	450
PSML32-082K	0.082μH	27	100	900	0.40	450
PSML32-100K	0.100μH	28	100	700	0.44	450
PSML32-120K	0.120μH	30	25.2	500	0.22	450
PSML32-150K	0.150μH	30	25.2	450	0.25	450
PSML32-180K	0.180μH	30	25.2	400	0.28	450
PSML32-220K	0.220μH	30	25.2	350	0.32	450
PSML32-270K	0.270μH	30	25.2	320	0.36	450
PSML32-330K	0.330μH	30	25.2	300	0.40	450
PSML32-390K	0.390μH	30	25.2	250	0.45	450
PSML32-470K	0.470μH	30	25.2	220	0.50	450
PSML32-560K	0.560μH	30	25.2	180	0.55	450
PSML32-680K	0.680μH	30	25.2	160	0.60	450
PSML32-820K	0.820μH	30	25.2	140	0.67	450
PSML32-101K	1.000μH	30	7.96	120	0.70	400
PSML32-121K	1.200μH	30	7.96	100	0.75	390
PSML32-151K	1.500μH	30	7.96	85	0.85	370
PSML32-181K	1.800μH	30	7.96	80	0.90	350
PSML32-221K	2.200μH	30	7.96	75	1.00	320
PSML32-271K	2.700μH	30	7.96	70	1.10	290
PSML32-331K	3.300μH	30	7.96	60	1.20	260
PSML32-391K	3.900μH	30	7.96	55	1.30	250
PSML32-471K	4.700μH	30	7.96	50	1.50	220
PSML32-561K	5.600μH	30	7.96	47	1.60	200
PSML32-681K	6.800μH	30	7.96	43	1.80	180
PSML32-821K	8.200μH	30	7.96	40	2.00	170
PSML32-102K	10.00μH	30	2.52	36	2.10	150
PSML32-122K	12.00μH	30	2.52	33	2.50	140
PSML32-152K	15.00μH	30	2.52	30	2.80	130
PSML32-182K	18.00μH	30	2.52	27	3.30	120
PSML32-222K	22.00μH	30	2.52	25	3.70	110
PSML32-272K	27.00μH	30	2.52	20	5.00	80
PSML32-332K	33.00μH	30	2.52	17	6.00	70
PSML32-392K	39.00μH	30	2.52	16	6.40	65
PSML32-472K	47.00μH	30	2.52	15	7.00	60
PSML32-562K	56.00μH	30	2.52	13	8.00	55
PSML32-682K	68.00μH	30	2.52	12	9.00	50
PSML32-822K	82.00μH	30	2.52	11	10.00	45
PSML32-103K	100.00μH	20	0.796	10	10.00	40