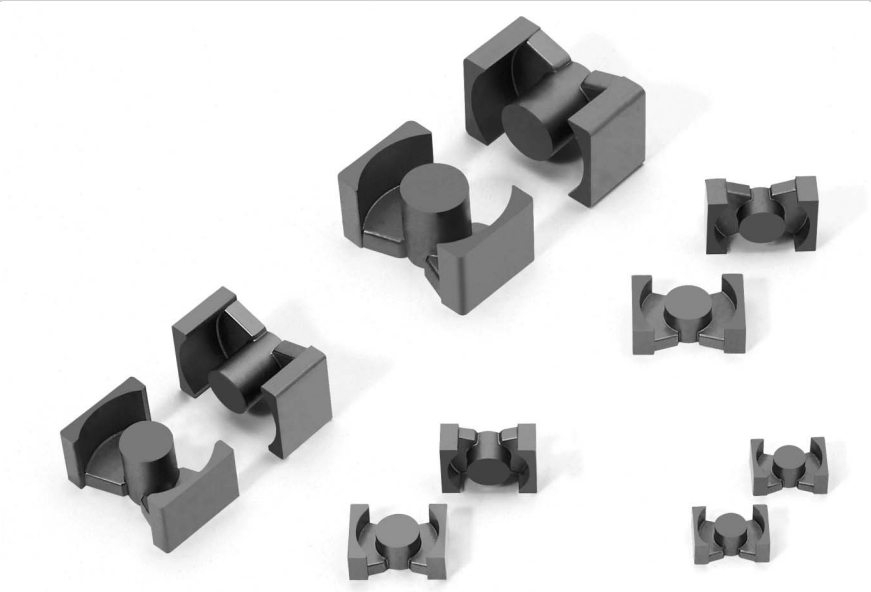
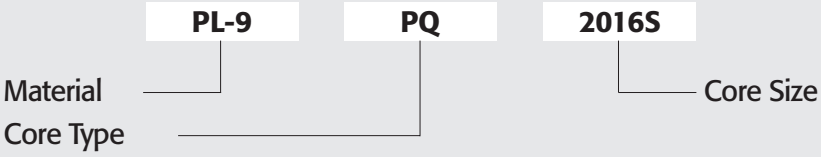


PQ CORES

PQ20~PQ50

Ordering Code System

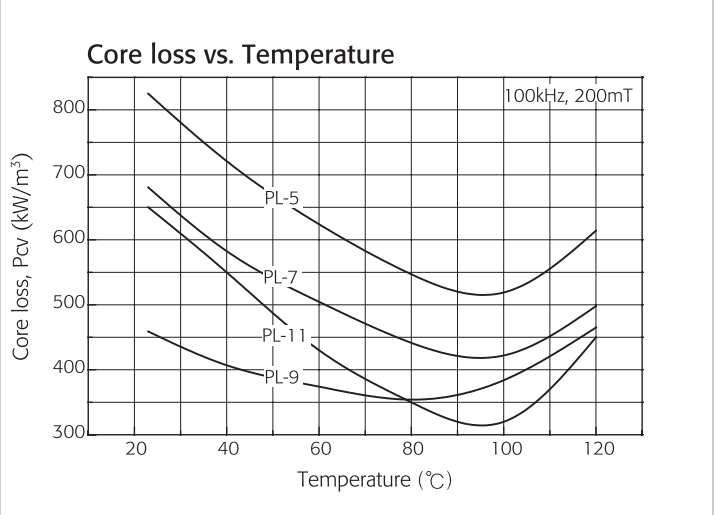


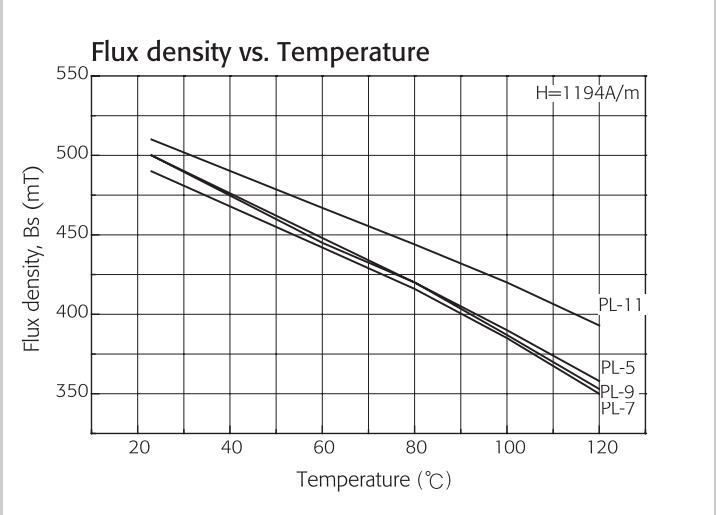
MATERIAL CHARACTERISTICS

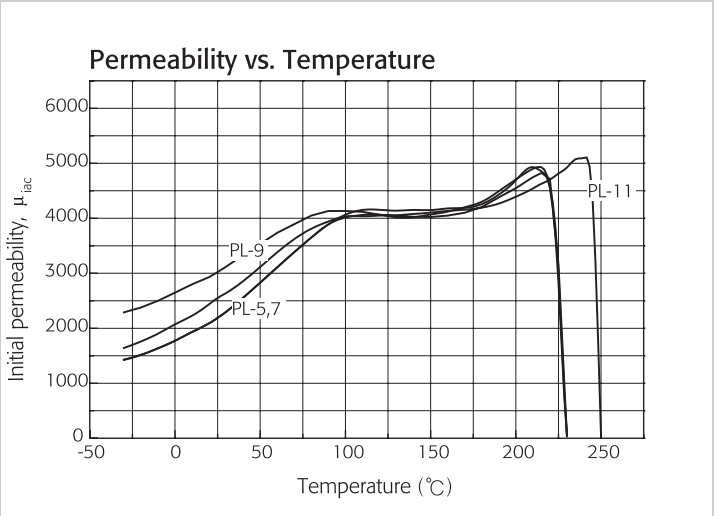
Power Materials

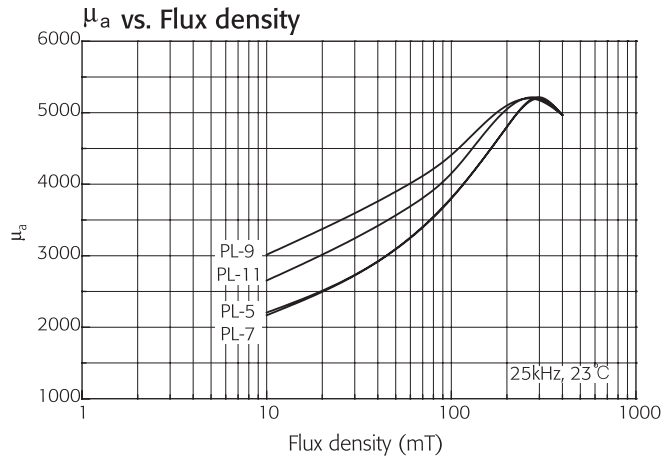
Materials				PL-5	PL-7	PL-9	PL-11
Initial permeability	μ_{iac}			2400±25%	2400±25%	3000±25%	2500±25%
Core loss (100kHz, 200mT)	Pcv	kW/m^3	23℃	800	650	450	650
			80℃	550	450	350	350
			100℃	500	410	390	320
Saturation flux density (1194A/m)	Bs	mT	23℃	500	490	500	510
			100℃	390	380	380	420
Remanence	Br	mT	23℃	180	150	150	130
Coercivity	Hc	A/m	23℃	15	12	10	10
Curie temperature	Tc	℃		＞220	＞220	＞220	＞220
Density	d	kg/m^3		4.85×10^3	4.85×10^3	4.85×10^3	4.85×10^3
Resistivity	ρ	Ω·m		6	5	7	5

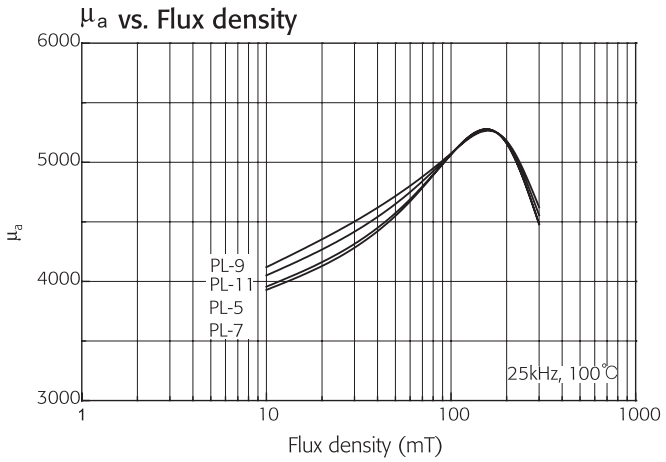
Note: 1) Typical values
2) The values were obtained with toroidal cores(30×8-20H) at room temperature unless indicated otherwise.

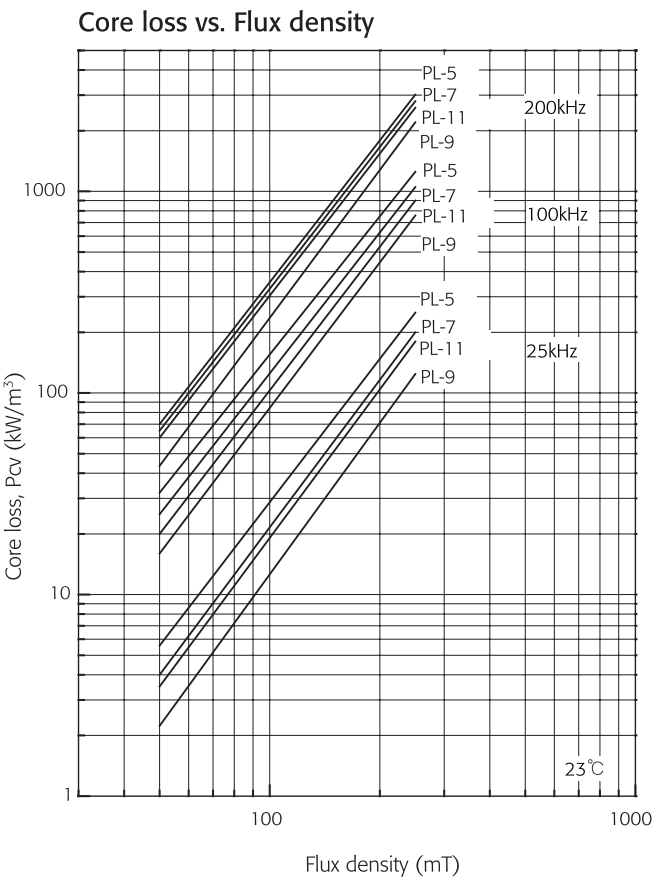


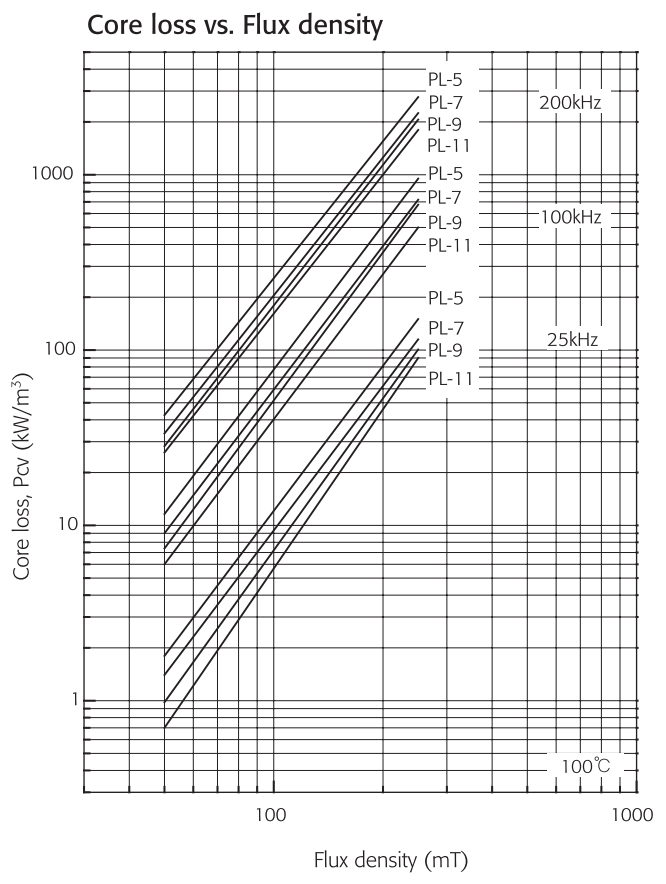





μa vs. Flux density
6000
5000
4000
3000
2000
1000
μa
PL-9
PL-11
PL-5
PL-7
25kHz, 23℃
1
10
100
1000
Flux density (mT)


μa vs. Flux density
6000
5000
4000
3000
μa
PL-9
PL-11
PL-5
PL-7
25kHz, 100℃
1
10
100
1000
Flux density (mT)


Core loss vs. Flux density
PL-5
PL-7
PL-11
PL-9
200kHz
PL-5
PL-7
PL-11
PL-9
100kHz
PL-5
PL-7
PL-11
PL-9
25kHz
1000
100
10
1
Core loss, Pcv (kW/m³)
23℃
100
1000
Flux density (mT)

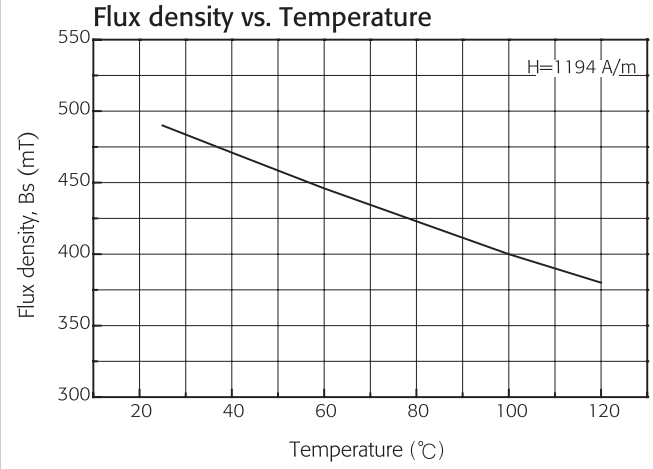

Core loss vs. Flux density
PL-5
PL-7
PL-9
PL-11
200kHz
PL-5
PL-7
PL-9
PL-11
100kHz
PL-5
PL-7
PL-9
PL-11
25kHz
1000
100
10
1
Core loss, Pcv (kW/m³)
100℃
100
1000
Flux density (mT)

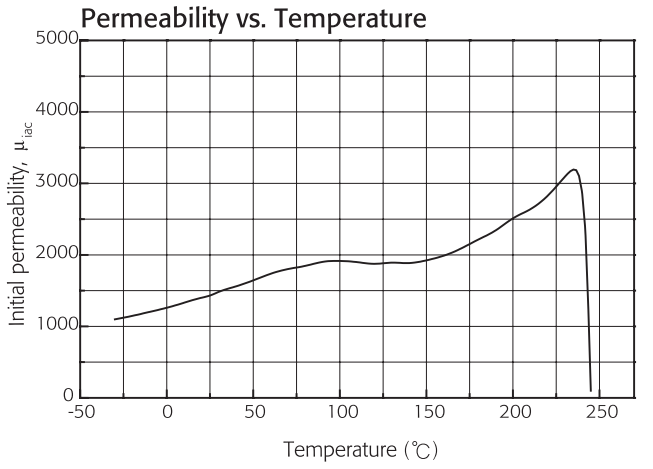
MATERIAL CHARACTERISTICS

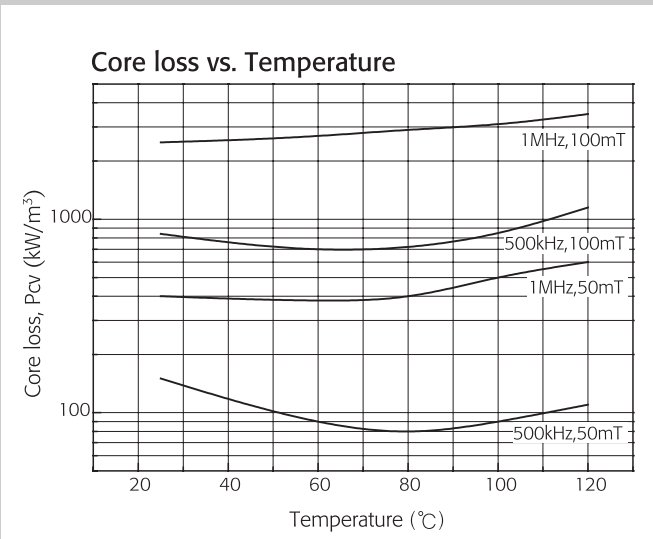
Power Material for High Frequency Applications

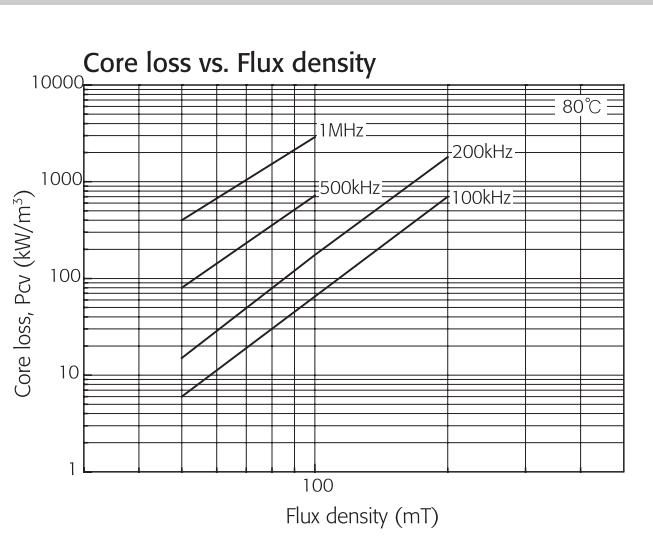
Material			PL-F1	
Initial permeability	μ_{iac}		1400±25%	
Core loss	Pcv	kW/m³	500kHz, 50mT, 80℃	80
			1MHz, 50mT, 60℃	380
Saturation flux density (1194A/m)	Bs	mT	23℃	490
			100℃	400
Remanence	Br	mT		100
Coercivity	Hc	A/m		12
Curie temperature	Tc	℃		> 240
Density	d	kg/m³		4.70×10^3
Resistivity	ρ	Ω·m		7

Note: 1) Typical values
2) The values were obtained with toroidal cores(30×8-20H) at room temperature unless indicated otherwise.

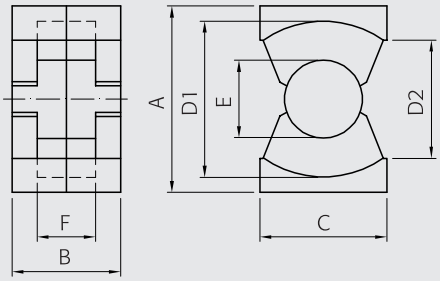








PQ CORES



PQ

Part No.		PQ2016S	PQ2020S	PQ2620S	PQ2625S
Type		PQ	PQ	PQ	PQ
Dimensions in mm	A	20.50 ±0.40	20.50 ±0.40	26.50 ±0.45	26.50 ±0.45
	B	16.20 ±0.20	20.20 ±0.20	20.15 ±0.25	24.75 ±0.25
	C	14.00 ±0.40	14.00 ±0.40	19.00 ±0.45	19.00 ±0.45
	D1	18.00 ±0.40	18.00 ±0.40	22.50 ±0.45	22.50 ±0.45
	D2	12.00 min.	12.00 min.	15.50 min.	15.50 min.
	E	8.80 ±0.20	8.80 ±0.20	12.00 ±0.20	12.00 ±0.20
	F	10.30 ±0.20	14.30 ±0.30	11.50 ±0.30	16.10 ±0.30
Core Set Parameters	$C1$ (mm^{-1})	0.605	0.738	0.391	0.472
	Le(mm)	37.4	45.4	46.3	55.5
	Ae(mm^2)	62.0	62.0	119.0	118.0
	Ve(mm^3)	2310	2790	5490	6530
	Ac(mm^2)	61.0	61.0	113.0	113.0
	Aw(mm^2)	47.4	65.8	60.4	84.5
	W(g/set)	13	15	31	36
Electrical Characteristics(1)(2)	AL value PL-7	3500	3000	5500	4500
	AL value PL-9	4400	3600	6800	5600
	AL value PL-11	3700	3100	5700	4700
	AL value PL-F1	2600	2300	4000	3350
	Core loss PL-7	1.16	1.40	2.40	3.30
	Core loss PL-9	0.95	1.15	2.25	2.70
	Core loss PL-11	0.95	1.15	2.25	2.70
	Core loss PL-F1	0.28	0.33	0.72	0.79

Note : 1) Core loss
- Unit : Watt max.
- Measuring conditions
  PL-7, PL-11 : 100 kHz, 200 mT, at 100℃
  PL-9 : 100 kHz, 200 mT, at 80℃
  PL-F1 : 500 kHz, 50mT, at 80℃

2) AL value
- Unit : nH/N^2
- Measuring conditions : 1 kHz, 0.1 V, 100Ts at 23℃
- Tolerance: ±25%

	PQ3019S	PQ3030S	PQ3220S	PQ3230S	PQ3535S	PQ4040S	PQ5050S
	PQ	PQ	PQ	PQ	PQ	PQ	PQ
A	30.00 ±0.50	30.00 ±0.50	32.00 ±0.50	32.00 ±0.50	35.10 ±0.60	40.50 ±0.90	50.00 ±0.70
B	19.00 ±0.20	30.00 ±0.20	20.55 ±0.25	30.35 ±0.25	34.75 ±0.25	39.75 ±0.25	49.95 ±0.25
C	20.50 ±0.30	20.50 ±0.30	22.00 ±0.50	22.00 ±0.50	26.00 ±0.50	28.00 ±0.60	32.00 ±0.60
D1	25.25 ±0.35	25.25 ±0.35	27.50 ±0.50	27.50 ±0.50	32.00 ±0.50	37.00 ±0.60	44.00 ±0.70
D2	18.50 min.	18.50 min.	19.00 min.	19.00 min.	23.50 min.	28.00 min.	31.50 min.
E	13.30 ±0.30	13.30 ±0.30	13.45 ±0.25	13.45 ±0.25	14.35 ±0.25	14.90 ±0.30	20.00 ±0.35
F	13.00 ±0.20	24.00 ±0.30	11.50 ±0.30	21.30 ±0.30	25.00 ±0.30	29.50 ±0.30	36.10 ±0.30

C1 (mm^{-1})	0.420	0.540	0.326	0.464	0.448	0.508	0.346
Le(mm)	49.8	70.9	55.5	74.6	87.9	101.9	113.0
Ae(mm^2)	117.9	131.4	170.0	161.0	196.0	201.0	328.0
Ve(mm^3)	5866	9316	9420	11970	17260	20450	37240
Ac(mm^2)	138.9	138.9	142.0	142.0	162.0	174.0	314.0
Aw(mm^2)	77.7	143.4	80.8	149.6	220.6	326.0	433.0
W(g/set)	32	51	42	55	73	95	195

AL value	PL-7	5000	3900	6700	4750	4500	4300	6400
	PL-9	6300	4900	8200	5830	5700	5200	7700
	PL-11	5200	4100	7000	5000	4700	4500	6700
	PL-F1	3800	3000	4850	3500	3700	3100	4580
Core loss	PL-7	3.05	4.70	4.70	6.00	8.70	10.30	18.70
	PL-9	2.80	4.30	3.90	4.90	7.10	8.40	15.30
	PL-11	2.80	4.30	3.90	4.90	7.10	8.40	15.30
	PL-F1	0.70	1.12	1.13	1.44	2.30	2.45	4.50