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PREMO RFID Components

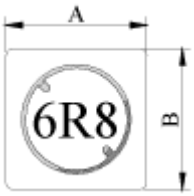
PSH3018 , PSH3027 , PSH4028 , PSH5018 , PSH5028 & PSH6022

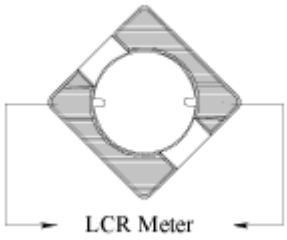
SMD Power Inductors Shielded

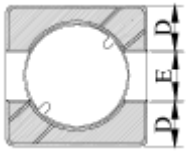
RoHS COMPLIANT 2002/95/EC

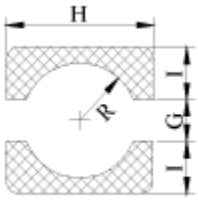
C/Severo Ochoa 33 – Parque Tecnológico de Andalucía. 29590 Campanillas .Málaga (Spain) **Phone** +34 951 231 320 Fax +34 951 231 321
E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

1. Configuration & Dimensions









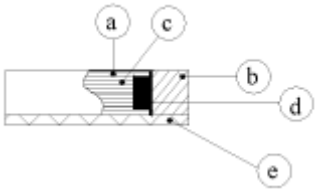
(PCB Pattern suggestion)

Series	Dimensions [mm]								
	A	B	C	D(typ.)	E(typ.)	G(ref.)	H(ref.)	I(ref.)	R(ref.)
PSH3018	3.80±0.30	3.80±0.30	1.65±0.15	1.30	1.20	1.10	4.30	1.60	1.30
PSH3027	3.80±0.30	3.80±0.30	2.80±0.20	1.30	1.20	1.10	4.30	1.60	1.40
PSH4028	4.80±0.20	4.80±0.20	2.80±0.20	1.60	1.60	1.50	5.30	2.00	1.80
PSH5018	5.80±0.30	5.80±0.30	1.80±0.20	1.90	2.00	1.90	6.30	2.20	2.20
PSH5028	5.80±0.30	5.80±0.30	2.80±0.20	1.90	2.00	1.90	6.30	2.20	2.20
PSH6022	6.80±0.20	6.80±0.20	2.30±0.20	2.30	2.20	2.10	7.30	2.60	2.70

2. Schematic Diagram

3. Materials

a.- Core : Ferrite DR core
b.- Core : Ferrite RI core
c.- Wire : Enamelled copper wire (class F)
d.- Adhesive : Epoxy resin
e.- Terminal : Ag / Ni / Sn
f.- Remark : Lead content 200ppm max. include ferrite



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E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

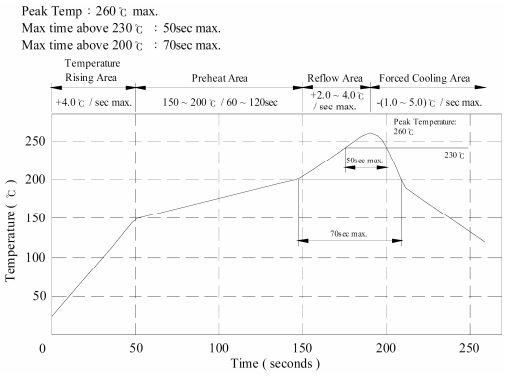
4. General Specification

a.- Temp. rise { 20°C typ. (PSH3027) / 30°C max. (PSH3018, PSH4028, PSH5028, PSH6022) / 40°C typ. (PSH5018)

b.- Storage temp. : -40°C ~ +125°C

c.- Operating temp. { -25°C ~ +105°C (PSH3018) / -40°C ~ +105°C (PSH3027...PSH6022)

d.- Resistance to solder heat : 260°C. 10 secs



5. Electrical Characteristics

PSH3018 (1.5µH – 100µH)

DWG No.	Inductance (µH)	Test Freq. L (KHz)	RDC (mΩ)		Irms (mA) max.	Isat (mA) typ.
			max.	typ.		
PSH3018 – 1R5N	1.5±30%	100	47	35	1750	1550
PSH3018 – 2R5N	2.5±30%	100	58	45	1450	1250
PSH3018 – 3R6N	3.6±30%	100	85	65	1380	1100
PSH3018 – 4R7N	4.7±30%	100	105	85	1200	900
PSH3018 – 6R8N	6.8±30%	100	156	125	850	750
PSH3018 – 100N	10.0±30%	100	205	165	740	560
PSH3018 – 150N	15.0±30%	100	285	230	620	450
PSH3018 – 220N	22.0±30%	100	450	360	510	360
PSH3018 – 330N	33.0±30%	100	660	545	420	320
PSH3018 – 470N	47.0±30%	100	1000	800	390	250
PSH3018 – 680N	68.0±30%	100	1450	1200	320	220
PSH3018 – 101N	100.0±30%	100	2400	2050	250	180

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E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

PSH3027 (4.7µH – 220µH)

DWG No.	Inductance (µH)	Q ref.	Test Freq.		SRF (MHz) typ.	RDC (mΩ)		Irms (mA) typ.	Isat (mA) typ.
			L (KHz)	Q (MHz)		typ.	max.		
PSH3027 – 4R7N	4.7±30%	5	100	7.96	50	30	40	2000	750
PSH3027 – 100N	10.0±30%	8	100	2.52	30	60	78	1600	530
PSH3027 – 150N	15.0±30%	7	100	2.52	25	88	115	1300	400
PSH3027 – 220N	22.0±30%	6	100	2.52	22	120	156	1100	320
PSH3027 – 330N	33.0±30%	7	100	2.52	18	165	215	920	270
PSH3027 – 470N	47.0±30%	7	100	2.52	16	225	280	820	230
PSH3027 – 680N	68.0±30%	6	100	2.52	11	335	420	660	190
PSH3027 – 101N	100.0±30%	8	100	0.796	9	465	580	600	160
PSH3027 – 121N	120.0±30%	8	100	0.796	8	600	750	520	140
PSH3027 – 151N	150.0±30%	10	100	0.796	7	690	860	480	125
PSH3027 – 221N	220.0±30%	8	100	0.796	6	1050	1320	380	100

PSH4028 (1.2µH – 560µH)

DWG No.	Inductance (µH)	Test Freq. L (KHz)	RDC (mΩ) max.	Irms (mA) max.	Isat (mA) typ.
PSH4028 – 1R2N	1.2±30%	100	20.0	3100	2560
PSH4028 – 1R8N	1.8±30%	100	25.0	2700	2200
PSH4028 – 2R2N	2.2±30%	100	28.0	2500	2050
PSH4028 – 2R7N	2.7±30%	100	30.0	2350	1800
PSH4028 – 3R3N	3.3±30%	100	35.0	2150	1650
PSH4028 – 3R9N	3.9±30%	100	60.0	1720	1500
PSH4028 – 4R7N	4.7±30%	100	70.0	1550	1300
PSH4028 – 5R6N	5.6±30%	100	85.0	1380	1200
PSH4028 – 6R8N	6.8±30%	100	90.0	1300	1150
PSH4028 – 8R2N	8.2±30%	100	100.0	1250	1050
PSH4028 – 100N	10.0±30%	100	110.0	1190	1000
PSH4028 – 120N	12.0±30%	100	125.0	1120	850
PSH4028 – 150N	15.0±30%	100	150.0	1030	780
PSH4028 – 180N	18.0±30%	100	160.0	980	750
PSH4028 – 220N	22.0±30%	100	185.0	925	720
PSH4028 – 270N	27.0±30%	100	200.0	890	600
PSH4028 – 330N	33.0±30%	100	230.0	820	580
PSH4028 – 390N	39.0±30%	100	250.0	795	500
PSH4028 – 470N	47.0±30%	100	280.0	750	480

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C/Severo Ochoa 33 – Parque Tecnológico de Andalucía. 29590 Campanillas .Málaga (Spain) **Phone** +34 951 231 320 Fax +34 951 231 321
E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

PSH4028 (1.2µH – 560µH)

PSH4028 – 560N	56.0±30%	100	320.0	700	410
PSH4028 – 680N	68.0±30%	100	400.0	630	360
PSH4028 – 820N	82.0±30%	100	520.0	560	320
PSH4028 – 101N	100.0±30%	100	600.0	510	300
PSH4028 – 121N	120.0±30%	100	700.0	470	280
PSH4028 – 151N	150.0±30%	100	860.0	420	260
PSH4028 – 181N	180.0±30%	100	1000.0	390	230
PSH4028 – 221N	220.0±30%	100	1250.0	340	200
PSH4028 – 271N	270.0±30%	100	1500.0	320	180
PSH4028 – 331N	330.0±30%	100	1700.0	300	170
PSH4028 – 391N	390.0±30%	100	2200.0	260	160
PSH4028 – 471N	470.0±30%	100	2600.0	240	155
PSH4028 – 561N	560.0±30%	100	3000.0	220	150

PSH5018 (1.2µH – 220µH)

DWG No.	Inductance (µH)	Test Freq. L (KHz)	SRF (MHz) typ.	RDC (Ω) max.	Irms (A) typ.	Isat (A) typ.
PSH5018 – 1R2N	1.2±30%	100	100	0.030	3.00	3.50
PSH5018 – 1R8N	1.8±30%	100	90	0.035	2.60	3.00
PSH5018 – 2R5N	2.5±30%	100	80	0.040	2.40	2.70
PSH5018 – 3R0N	3.0±30%	100	70	0.045	2.20	2.40
PSH5018 – 3R9N	3.9±30%	100	60	0.055	2.00	2.10
PSH5018 – 5R0N	5.0±30%	100	58	0.060	1.65	1.80
PSH5018 – 6R2N	6.2±30%	100	55	0.080	1.45	1.60
PSH5018 – 7R5N	7.5±30%	100	50	0.090	1.35	1.50
PSH5018 – 9R0N	9.0±30%	100	40	0.110	1.25	1.35
PSH5018 – 100N	10.0±30%	100	40	0.130	1.10	1.25
PSH5018 – 120N	12.0±30%	100	38	0.160	1.00	1.15
PSH5018 – 150N	15.0±30%	100	36	0.190	0.95	1.10
PSH5018 – 180N	18.0±30%	100	32	0.210	0.90	1.00
PSH5018 – 220N	22.0±30%	100	28	0.280	0.80	0.90
PSH5018 – 270N	27.0±30%	100	26	0.320	0.75	0.80
PSH5018 – 330N	33.0±30%	100	22	0.350	0.65	0.70
PSH5018 – 390N	39.0±30%	100	18	0.500	0.55	0.65
PSH5018 – 470N	47.0±30%	100	18	0.550	0.52	0.60
PSH5018 – 560N	56.0±30%	100	16	0.600	0.48	0.55
PSH5018 – 680N	68.0±30%	100	14	0.850	0.40	0.50
PSH5018 – 820N	82.0±30%	100	13	0.950	0.38	0.45
PSH5018 – 101N	100.0±30%	100	12	1.100	0.35	0.42
PSH5018 – 121N	120.0±30%	100	10	1.420	0.30	0.40

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C/Severo Ochoa 33 – Parque Tecnológico de Andalucía. 29590 Campanillas .Málaga (Spain) **Phone** +34 951 231 320 Fax +34 951 231 321
E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

PSH5018 (1.2µH – 220µH)

PSH5018 – 151N	150.0±30%	100	9	1.650	0.28	0.35
PSH5018 – 181N	180.0±30%	100	8	2.300	0.25	0.32
PSH5018 – 221N	220.0±30%	100	7	2.500	0.23	0.30

PSH5028 (2.6µH – 680µH)

DWG No.	Inductance (µH)	Test Freq. L (KHz)	SRF (MHz) typ.	RDC (Ω) max.	Irms (A) max.	Isat (A) typ.
PSH5028 – 2R6N	2.6±30%	100	55.0	0.030	3.00	2.70
PSH5028 – 3R0N	3.0±30%	100	45.0	0.030	2.80	2.50
PSH5028 – 4R2N	4.2±30%	100	40.0	0.035	2.50	2.20
PSH5028 – 5R3N	5.3±30%	100	45.0	0.040	2.30	1.90
PSH5028 – 6R2N	6.2±30%	100	40.0	0.045	2.20	1.80
PSH5028 – 8R2N	8.2±30%	100	28.0	0.055	2.10	1.60
PSH5028 – 100N	10.0±30%	100	25.0	0.070	1.50	1.40
PSH5028 – 120N	12.0±30%	100	20.0	0.080	1.46	1.25
PSH5028 – 150N	15.0±30%	100	20.0	0.100	1.38	1.15
PSH5028 – 180N	18.0±30%	100	20.0	0.110	1.25	1.10
PSH5028 – 220N	22.0±30%	100	18.0	0.120	1.15	1.00
PSH5028 – 270N	27.0±30%	100	16.0	0.160	1.05	0.90
PSH5028 – 330N	33.0±30%	100	15.0	0.190	0.90	0.78
PSH5028 – 390N	39.0±30%	100	14.0	0.210	0.86	0.72
PSH5028 – 470N	47.0±30%	100	13.0	0.250	0.82	0.65
PSH5028 – 560N	56.0±30%	100	11.0	0.300	0.72	0.60
PSH5028 – 680N	68.0±30%	100	10.0	0.350	0.62	0.56
PSH5028 – 820N	82.0±30%	100	9.0	0.430	0.52	0.50
PSH5028 – 101N	100.0±30%	100	8.5	0.480	0.45	0.45
PSH5028 – 151N	150.0±30%	100	6.5	0.900	0.33	0.35
PSH5028 – 221N	220.0±30%	100	6.0	1.250	0.30	0.30
PSH5028 – 331N	330.0±30%	100	4.5	2.000	0.20	0.20
PSH5028 – 681N	680.0±30%	100	2.8	4.300	0.13	0.14

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PSH6022 (0.9µH – 1000µH)

DWG No.	Inductance (µH)	Test Freq. L (KHz)	RDC (mΩ) max.	Irms (mA) max.	Isat (mA) typ.
PSH6022 – R90N	0.9±30%	100	14.0	4800	4400
PSH6022 – 1R5N	1.5±30%	100	18.0	4300	3500
PSH6022 – 2R2N	2.2±30%	100	24.0	3400	2600
PSH6022 – 3R3N	3.3±30%	100	32.0	2800	2200
PSH6022 – 5R0N	5.0±30%	100	46.0	2150	2000
PSH6022 – 6R2N	6.2±30%	100	54.0	1900	1700
PSH6022 – 7R5N	7.5±30%	100	60.0	1700	1500
PSH6022 – 100N	10.0±30%	100	70.0	1600	1300
PSH6022 – 120N	12.0±30%	100	80.0	1430	1150
PSH6022 – 150N	15.0±30%	100	95.0	1310	1050
PSH6022 – 180N	18.0±30%	100	100.0	1280	1000
PSH6022 – 220N	22.0±30%	100	120.0	1220	950
PSH6022 – 270N	27.0±30%	100	150.0	1040	850
PSH6022 – 330N	33.0±30%	100	200.0	930	780
PSH6022 – 390N	39.0±30%	100	250.0	760	700
PSH6022 – 470N	47.0±30%	100	280.0	730	620
PSH6022 – 560N	56.0±30%	100	320.0	680	560
PSH6022 – 680N	68.0±30%	100	360.0	640	500
PSH6022 – 820N	82.0±30%	100	420.0	600	450
PSH6022 – 101N	100.0±30%	100	480.0	550	400
PSH6022 – 121N	120.0±30%	100	600.0	480	360
PSH6022 – 151N	150.0±30%	100	720.0	430	320
PSH6022 – 181N	180.0±30%	100	860.0	400	280
PSH6022 – 221N	220.0±30%	100	1100.0	360	250
PSH6022 – 271N	270.0±30%	100	1300.0	340	220
PSH6022 – 331N	330.0±30%	100	1500.0	290	200
PSH6022 – 391N	390.0±30%	100	1800.0	275	180
PSH6022 – 471N	470.0±30%	100	2200.0	240	170
PSH6022 – 561N	560.0±30%	100	2700.0	225	160
PSH6022 – 681N	680.0±30%	100	3500.0	190	150
PSH6022 – 821N	820.0±30%	100	4000.0	172	140
PSH6022 – 102N	1000.0±30%	100	5000.0	160	130

[Inductance tested at 0.1V] [Irms base on temp. rise: 20°C (PSH3027), 30°C (PSH3018,PSH4028,PSH5028,PSH6022), 40°C (PSH5018)]
[Isat base on ΔL/L0A=35%]

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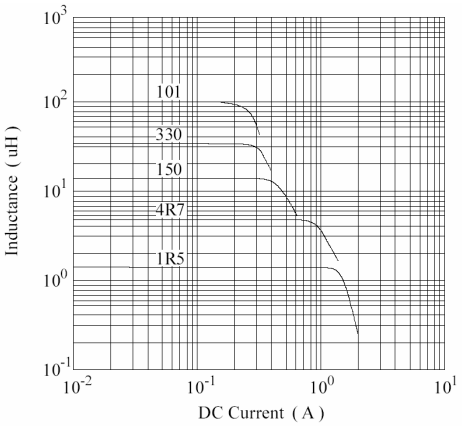
E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

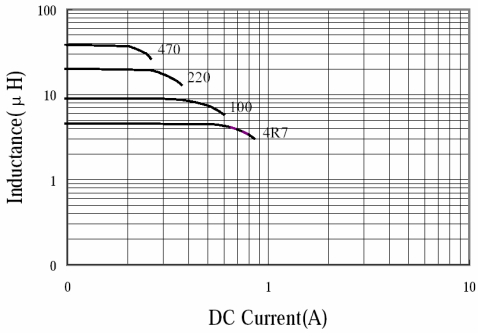
6. Curve

Inductance VS. DC Current Curve

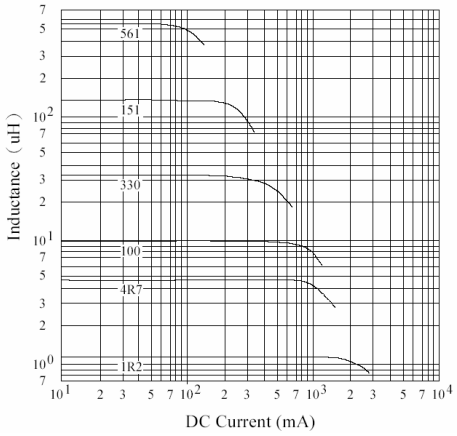
PSH3018



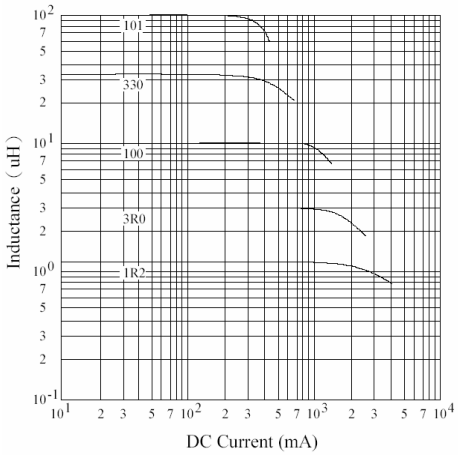
PSH3027



PSH4028



PSH5018



PSH5028

PSH6022

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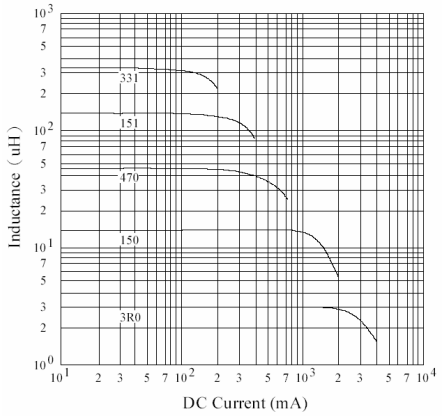
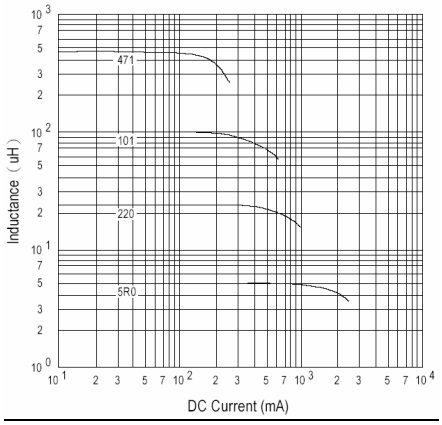
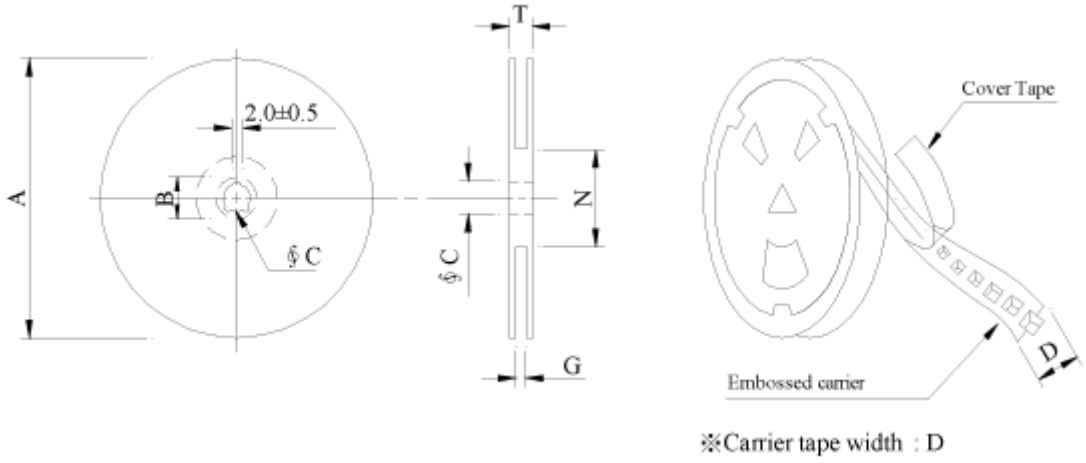
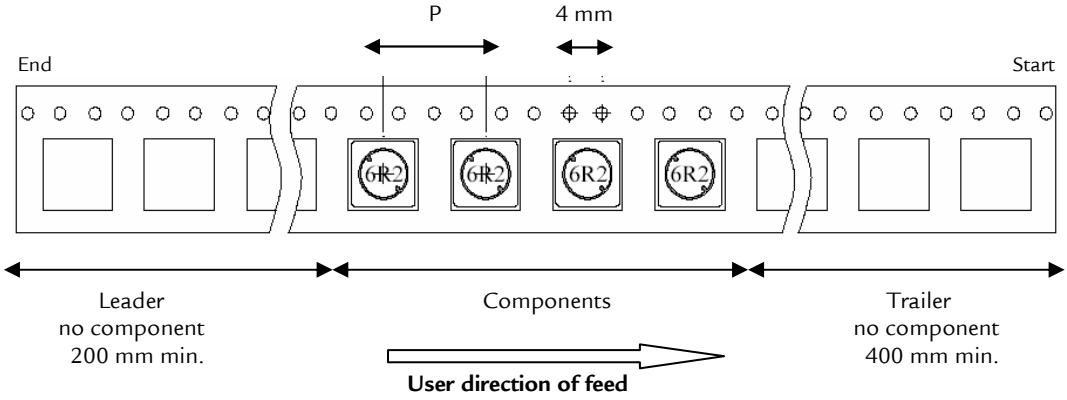




7. Packaging Information



※Carrier tape width : D



(PSH3018, PSH3027, PSH4028 → P = 8mm) (PSH5018, PSH5028, PSH6022 → P = 12mm)

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E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

PSH3018, PSH3027 & PSH4028

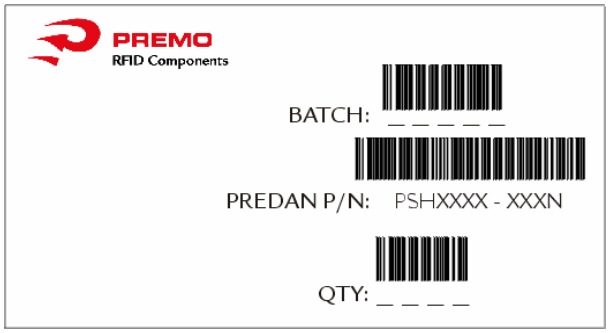
Style	Dimensions [mm]						
	A	B	C	D	G	N	T
07 – 12	178	21±0.8	13	12	14^{+0}	50^{-0}	16.5

PSH5018, PSH5028 & PSH6022

Style	Dimensions [mm]						
	A	B	C	D	G	N	T
07 – 16	178	21±0.8	13	16	18^{+0}	50^{-0}	20.5
13 – 16	330	21±0.8	13±0.5	16	18^{+0}	50^{-0}	22.4

Series	Inner : Reel			Outer : Carton		
	Q'TY(pcs)	G.W.(gw)	Style	Q'TY(pcs)	G.W.(Kg)	Size(cm)
PSH3018	1,000	150	07 – 12	40,000	8.50	42 x 41 x 24
PSH3027	500	140	07 – 12	20,000	8.00	42 x 41 x 24
PSH4028	500	220	07 - 12	20,000	6.50	40 x 40 x 24
PSH5018	500	275	07 – 16	15,000	9.50	42 x 41 x 24
	2,000	1,100	13 – 16	12,000	8.00	40 x 40 x 24
PSH5028	400	300	07 – 16	12,000	10.0	42 x 41 x 24
	1,500	1,100	13 – 16	9,000	8.00	40 x 40 x 24
PSH6022	500	230	07 – 16	15,000	8.20	42 x 41 x 24
	1,500	950	13 – 16	9,000	12.00	40 x 40 x 24

8. Labelling



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E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

9. Reliability Test

Test item	Specification	Test condition
Solderability	More than 90% of the terminal electrode shall be covered with fresh solder	Preheat : 150±25% for 60 seconds Solder : Sn96.5 / Ag3 / Cu0.5 or equivalent Solder temp. : 235±5°C Flux : Rosin Dip time : 4±1 seconds
Thermal shock test (Temp. cycle)	Inductance shall not change more than ±20%	Room temp. / 15 minutes → -25±2°C / 30 minutes Room temp. / 15 minutes → 85±2°C / 30 minutes Total : 50 cycles
Humidity Resistance test		Temperature : 40±2°C Humidity : 90 ~ 95% Applied current : Per specifications Time : 500 hours
High temp. Resistance test		Temperature : 105±2°C Applied current : Per specifications Time : 500 hours

10. Edition Control

Edition	Date	Change description	Made by

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E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

1st	31/08/06	Update Specification	Pablo Pozo

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