

Polypropylene Film & Foil Capacitor

NPPS

Non-inductive construction using Polypropylene film & Foil with flame retardant epoxy resin coating

■ Features

- High pulse duty
- Very low dissipation factor
- Negative capacitance change versus temperature
- Coated with flame-retardant(UL94 V-0) epoxy resin.
- RoHS directive compliant

■ Applications

- For high pulse and high frequency applications e.g.
- Switch mode power supplies
- Converter in drives and power electronics
- Deflection systems in monitors and TV-sets

■ Specifications

Reference Standard	IEC 60384-17
Climatic Category	40 / 105 / 21
Rated Temperature	105℃ +85℃~+105℃ decreasing factor 1.0% / °C for V_R (dc)
Operation Temperature Range	-40℃~105℃
Rated Voltage	630Vdc, 1000Vdc, 1250Vdc, 1600Vdc, 2000Vdc
Capacitance Range	0.00047μF~0.068 μF
Capacitance Tolerance	G : ±2% H : ±3% J : ±5% K : ±10% M : ±20% ※Standard : J : ±5%, Other Tolerance Grade : available on request.
Voltage Proof	$2U_R$ (dc) / 3sec
Dissipation Factor	≤0.1%(at 1kHz 20℃)
Rated Voltage	≥30,000MΩ C_R ≤0.33μF 500Vdc 60sec 20℃
	≥10,000Ω·F C_R >0.33μF 500Vdc 60sec 20℃

■ Part Number System

NPPS	630V	182	J	10	S	5	
Part-1	Part-2	Part-3	Part-4	Part-5	Part-6	Part-7	Part-8

Part-1 : Series Code(Series Name)- NPPS

Part-2 : Rated Voltage(DC : 630V~2000V)

Part-3 : Rated Capacitance Value(0.00047μF~0.068 μF / 471 ~683)

Part-4 : Capacitance Tolerance(G : ± 2% H : ± 3% J : ± 5% K : ±10% M : ± 20%)

Part-5 : Lead Spacing(10mm / 15mm / 22.5mm / 27.5mm)

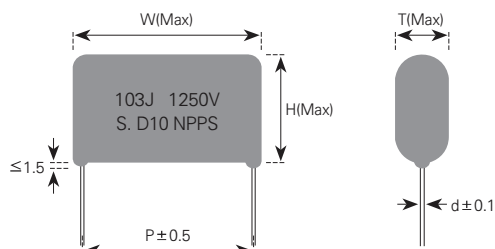
Part-6 : Forming-Type and Packing Code

Part-7 : Size Number(1 ~4 : Min-Type / 5 : Standard-Type / 6~9 : Large-Type)

Part-8 : Internal Use

CODE	STYLE
B	Bending Forming
C	Straight Cutting
D	D-Type Forming
L	B-Type long Forming
M	C-Type long Forming
S	Straight
X	B-Type Forming
Y	C-Type Forming
Z	Z-Type Forming
T	A-Type Tapping
U	B-Type Tapping
V	C-Type Tapping

■ Dimensions



630Vdc(400Vac)

Cap. (μF)	Dimensions(mm)			Pitch ~ d	PART NUMBER
	W (max.)	H (max.)	T (max.)		
0.0018	13.0	9.5	5.0	10.0-0.6	NPPS 630V 182J 10S 5 ____
0.0022	13.0	9.5	5.0	10.0-0.6	NPPS 630V 222J 10S 5 ____
0.0027	13.0	10.0	5.5	10.0-0.6	NPPS 630V 272J 10S 5 ____
0.0033	13.0	9.5	5.0	10.0-0.6	NPPS 630V 332J 10S 5 ____
0.0039	13.0	10.0	5.5	10.0-0.6	NPPS 630V 392J 10S 5 ____
0.0047	13.0	11.0	5.5	10.0-0.6	NPPS 630V 472J 10S 5 ____
0.0056	13.0	11.5	6.0	10.0-0.6	NPPS 630V 562J 10S 5 ____
0.0068	13.0	12.0	6.5	10.0-0.6	NPPS 630V 682J 10S 5 ____
0.0082	19.0	10.5	6.0	15.0-0.8	NPPS 630V 822J 15S 5 ____
0.01	19.0	10.5	6.0	15.0-0.8	NPPS 630V 103J 15S 5 ____
0.012	19.0	11.0	6.5	15.0-0.8	NPPS 630V 123J 15S 5 ____
0.015	19.0	10.5	6.0	15.0-0.8	NPPS 630V 153J 15S 5 ____
0.018	19.0	11.5	6.5	15.0-0.8	NPPS 630V 183J 15S 5 ____
0.022	19.0	12.0	7.0	15.0-0.8	NPPS 630V 223J 15S 5 ____
0.027	19.0	13.0	7.5	15.0-0.8	NPPS 630V 273J 15S 5 ____
0.033	19.0	13.5	8.5	15.0-0.8	NPPS 630V 333J 15S 5 ____
0.022	28.0	12.0	7.0	22.5-0.8	NPPS 630V 223J 22.5S 5 ____
0.027	28.0	12.0	7.0	22.5-0.8	NPPS 630V 273J 22.5S 5 ____
0.033	28.0	12.0	6.5	22.5-0.8	NPPS 630V 333J 22.5S 5 ____
0.039	28.0	12.5	7.0	22.5-0.8	NPPS 630V 393J 22.5S 5 ____
0.047	28.0	13.0	7.5	22.5-0.8	NPPS 630V 473J 22.5S 5 ____
0.056	28.0	13.5	8.0	22.5-0.8	NPPS 630V 563J 22.5S 5 ____
0.068	28.0	14.0	9.0	22.5-0.8	NPPS 630V 683J 22.5S 5 ____
0.022	31.0	12.0	7.0	27.5-0.8	NPPS 630V 223J 27.5S 5 ____
0.027	31.0	12.5	7.5	27.5-0.8	NPPS 630V 273J 27.5S 5 ____
0.033	31.0	12.5	7.0	27.5-0.8	NPPS 630V 333J 27.5S 5 ____

0.039	31.0	12.0	7.0	27.5-0.8	NPPS 630V 393J 27.5S 5 ____
0.047	31.0	12.5	7.5	27.5-0.8	NPPS 630V 473J 27.5S 5 ____
0.056	31.0	13.0	8.0	27.5-0.8	NPPS 630V 563J 27.5S 5 ____
0.068	31	14	8.5	27.5-0.8	NPPS 630V 683J 27.5S 5 ____

1000Vdc/1250Vdc(600Vac)

Cap. (μF)	Dimensions(mm)			Pitch ~ d	PART NUMBER
	W (max.)	H (max.)	T (max.)		
0.001	13.0	9.5	5.0	10.0-0.6	NPPS 1000V 102J 10S 5 ____
0.0012	13.0	9.5	5.0	10.0-0.6	NPPS 1000V 122J 10S 5 ____
0.0015	13.0	10.0	5.5	10.0-0.6	NPPS 1000V 152J 10S 5 ____
0.0018	13.0	9.5	5.0	10.0-0.6	NPPS 1000V 182J 10S 5 ____
0.0022	13.0	10.0	5.5	10.0-0.6	NPPS 1000V 222J 10S 5 ____
0.0027	13.0	10.5	6.0	10.0-0.6	NPPS 1000V 272J 10S 5 ____
0.0033	13.0	11.5	6.0	10.0-0.6	NPPS 1000V 332J 10S 5 ____
0.0039	13.0	11.5	6.5	10.0-0.6	NPPS 1000V 392J 10S 5 ____
0.0047	13.0	12.5	7.0	10.0-0.6	NPPS 1000V 472J 10S 5 ____
0.0047	19.0	9.5	5.0	15.0-0.8	NPPS 1000V 472J 15S 5 ____
0.0056	19.0	9.5	5.5	15.0-0.8	NPPS 1000V 562J 15S 5 ____
0.0068	19.0	10.0	5.5	15.0-0.8	NPPS 1000V 682J 15S 5 ____
0.0082	19.0	10.5	6.0	15.0-0.8	NPPS 1000V 822J 15S 5 ____
0.01	19.0	11.0	6.5	15.0-0.8	NPPS 1000V 103J 15S 5 ____
0.012	19.0	11.5	7.0	15.0-0.8	NPPS 1000V 123J 15S 5 ____
0.015	19.0	12.5	7.5	15.0-0.8	NPPS 1000V 153J 15S 5 ____
0.018	19.0	13.0	8.0	15.0-0.8	NPPS 1000V 183J 15S 5 ____
0.022	19.0	14.0	9.0	15.0-0.8	NPPS 1000V 223J 15S 5 ____
0.012	28.0	12.0	7.0	22.5-0.8	NPPS 1000V 123J 22.5S 5 ____
0.015	28.0	12.5	7.5	22.5-0.8	NPPS 1000V 153J 22.5S 5 ____
0.018	28.0	12.5	7.5	22.5-0.8	NPPS 1000V 183J 22.5S 5 ____
0.022	28.0	12.0	7.0	22.5-0.8	NPPS 1000V 223J 22.5S 5 ____
0.027	28	13	7.5	22.5-0.8	NPPS 1000V 273J 22.5S 5 ____
0.033	28.0	13.5	8.0	22.5-0.8	NPPS 1000V 333J 22.5S 5 ____
0.039	28.0	14.0	9.0	22.5-0.8	NPPS 1000V 393J 22.5S 5 ____
0.047	28.0	14.5	9.5	22.5-0.8	NPPS 1000V 473J 22.5S 5 ____
0.015	31.0	12.5	7.5	27.5-0.8	NPPS 1000V 153J 27.5S 5 ____
0.018	31.0	13.0	7.5	27.5-0.8	NPPS 1000V 183J 27.5S 5 ____
0.022	31.0	13.0	7.5	27.5-0.8	NPPS 1000V 223J 27.5S 5 ____
0.027	31.0	12.5	7.5	27.5-0.8	NPPS 1000V 273J 27.5S 5 ____

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0.033	31.0	13.0	8.0	27.5-0.8	NPPS 1000V 333J 27.5S 5 _____
0.039	31.0	13.5	8.5	27.5-0.8	NPPS 1000V 393J 27.5S 5 _____
0.047	31.0	14.5	9.0	27.5-0.8	NPPS 1000V 473J 27.5S 5 _____

0.018	31	15.5	10.5	27.5-0.8	NPPS 1600V 183J 27.5S 5 _____
0.022	31	17.5	10.5	27.5-0.8	NPPS 1600V 223J 27.5S 5 _____

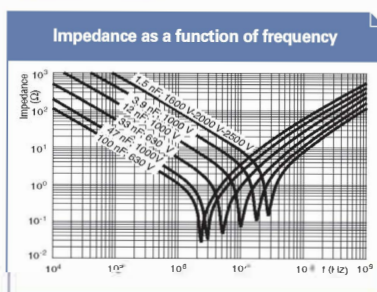
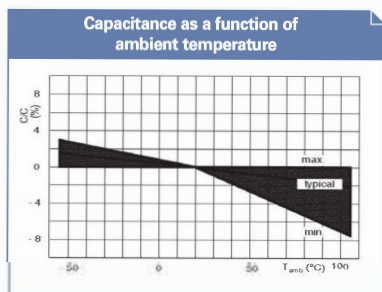
1600Vdc(650Vac)

Cap. (μF)	Dimensions(mm)			Pitch - d	PART NUMBER
	W (max.)	H (max.)	T (max.)		
0.001	19	10.5	6	15.0-0.8	NPPS 1600V 102J 15S 5 _____
0.0012	19	11	6.5	15.0-0.8	NPPS 1600V 122J 15S 5 _____
0.0015	19	10.5	6.5	15.0-0.8	NPPS 1600V 152J 15S 5 _____
0.0018	19	11	6.5	15.0-0.8	NPPS 1600V 182J 15S 5 _____
0.0022	19	10.5	6	15.0-0.8	NPPS 1600V 222J 15S 5 _____
0.0027	19	11	6.5	15.0-0.8	NPPS 1600V 272J 15S 5 _____
0.0033	19	11.5	7	15.0-0.8	NPPS 1600V 332J 15S 5 _____
0.0039	19	12	7.5	15.0-0.8	NPPS 1600V 392J 15S 5 _____
0.0047	19	13	7.5	15.0-0.8	NPPS 1600V 472J 15S 5 _____
0.0056	19	13.5	8.5	15.0-0.8	NPPS 1600V 562J 15S 5 _____
0.0068	19	14	9	15.0-0.8	NPPS 1600V 682J 15S 5 _____
0.0033	28	12.5	7.5	22.5-0.8	NPPS 1600V 332J 22.5S 5 _____
0.0039	28	13	8	22.5-0.8	NPPS 1600V 392J 22.5S 5 _____
0.0047	28	12.5	7.5	22.5-0.8	NPPS 1600V 472J 22.5S 5 _____
0.0056	28	13	8	22.5-0.8	NPPS 1600V 562J 22.5S 5 _____
0.0068	28	12.5	7	22.5-0.8	NPPS 1600V 682J 22.5S 5 _____
0.0082	28	13	7.5	22.5-0.8	NPPS 1600V 822J 22.5S 5 _____
0.01	28	13.5	8.5	22.5-0.8	NPPS 1600V 103J 22.5S 5 _____
0.012	28	14	9	22.5-0.8	NPPS 1600V 123J 22.5S 5 _____
0.015	28	15	10	22.5-0.8	NPPS 1600V 153J 22.5S 5 _____
0.018	28	16	10.5	22.5-0.8	NPPS 1600V 183J 22.5S 5 _____
0.022	28	17.5	11	22.5-0.8	NPPS 1600V 223J 22.5S 5 _____
0.0039	31	13	7.5	27.5-0.8	NPPS 1600V 392J 27.5S 5 _____
0.0047	31	13.5	8	27.5-0.8	NPPS 1600V 472J 27.5S 5 _____
0.0056	31	13	7.5	27.5-0.8	NPPS 1600V 562J 27.5S 5 _____
0.0068	31	13.5	8.5	27.5-0.8	NPPS 1600V 682J 27.5S 5 _____
0.0082	31	12.5	7.5	27.5-0.8	NPPS 1600V 822J 27.5S 5 _____
0.01	31	13.5	8	27.5-0.8	NPPS 1600V 103J 27.5S 5 _____
0.012	31	14	8.5	27.5-0.8	NPPS 1600V 123J 27.5S 5 _____
0.015	31	14.5	9.5	27.5-0.8	NPPS 1600V 153J 27.5S 5 _____
0.018	31	15.5	10.5	27.5-0.8	NPPS 1600V 183J 27.5S 5 _____
0.022	31	17.5	10.5	27.5-0.8	NPPS 1600V 223J 27.5S 5 _____

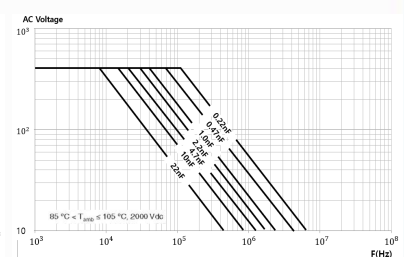
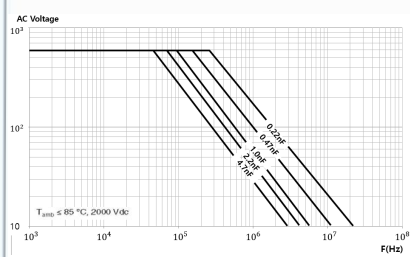
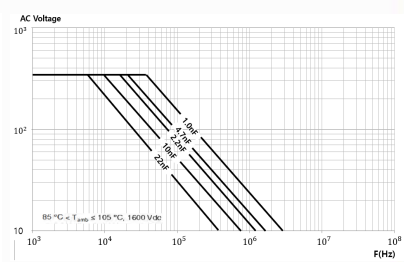
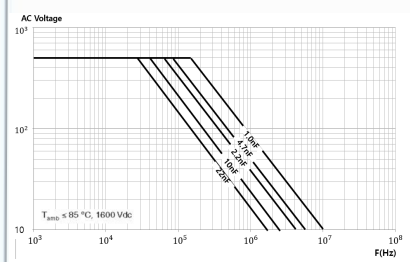
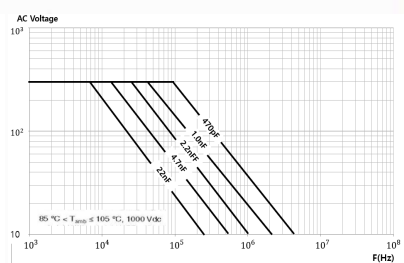
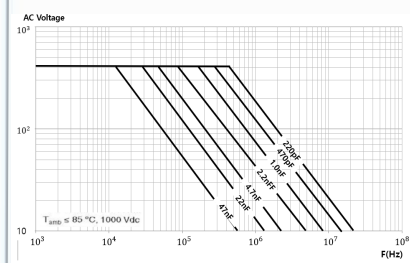
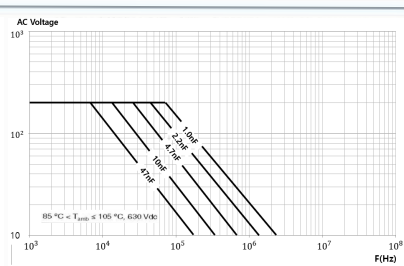
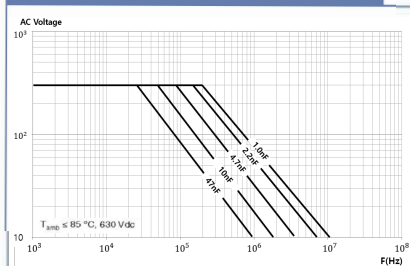
2000Vdc(700Vac)

Cap. (μF)	Dimensions(mm)			Pitch - d	PART NUMBER
	W (max.)	H (max.)	T (max.)		
0.00047	19	11	6.5	15.0-0.8	NPPS 2000V 471J 15S 5 _____
0.00056	19	11.5	7	15.0-0.8	NPPS 2000V 561J 15S 5 _____
0.00068	19	11.5	7.5	15.0-0.8	NPPS 2000V 681J 15S 5 _____
0.00082	19	12.5	7.5	15.0-0.8	NPPS 2000V 821J 15S 5 _____
0.001	19	11	6.5	15.0-0.8	NPPS 2000V 102J 15S 5 _____
0.0012	19	12	6.5	15.0-0.8	NPPS 2000V 122J 15S 5 _____
0.0015	19	11	6.5	15.0-0.8	NPPS 2000V 152J 15S 5 _____
0.0018	19	12	7	15.0-0.8	NPPS 2000V 182J 15S 5 _____
0.0022	19	12.5	7.5	15.0-0.8	NPPS 2000V 222J 15S 5 _____
0.0027	19	13.5	8	15.0-0.8	NPPS 2000V 272J 15S 5 _____
0.0033	19	14	9	15.0-0.8	NPPS 2000V 332J 15S 5 _____
0.0018	28	13	7.5	22.5-0.8	NPPS 2000V 182J 22.5S 5 _____
0.0022	28	13.5	8	22.5-0.8	NPPS 2000V 222J 22.5S 5 _____
0.0027	28	14	9	22.5-0.8	NPPS 2000V 272J 22.5S 5 _____
0.0033	28	12.5	7.5	22.5-0.8	NPPS 2000V 332J 22.5S 5 _____
0.0039	28	13	8	22.5-0.8	NPPS 2000V 392J 22.5S 5 _____
0.0047	28	12.5	7.5	22.5-0.8	NPPS 2000V 472J 22.5S 5 _____
0.0056	28	13	8	22.5-0.8	NPPS 2000V 562J 22.5S 5 _____
0.0068	28	14	8.5	22.5-0.8	NPPS 2000V 682J 22.5S 5 _____
0.0082	28	14.5	9.5	22.5-0.8	NPPS 2000V 822J 22.5S 5 _____
0.01	28	15	10	22.5-0.8	NPPS 2000V 103J 22.5S 5 _____
0.0027	31	14	8.5	27.5-0.8	NPPS 2000V 272J 27.5S 5 _____
0.0033	31	14.5	9	27.5-0.8	NPPS 2000V 332J 27.5S 5 _____
0.0039	31	13	7.5	27.5-0.8	NPPS 2000V 392J 27.5S 5 _____
0.0047	31	13.5	8	27.5-0.8	NPPS 2000V 472J 27.5S 5 _____
0.0056	31	13	7.5	27.5-0.8	NPPS 2000V 562J 27.5S 5 _____
0.0068	31	13.5	8.5	27.5-0.8	NPPS 2000V 682J 27.5S 5 _____
0.0082	31	14	9	27.5-0.8	NPPS 2000V 822J 27.5S 5 _____
0.01	31	15	9.5	27.5-0.8	NPPS 2000V 103J 27.5S 5 _____

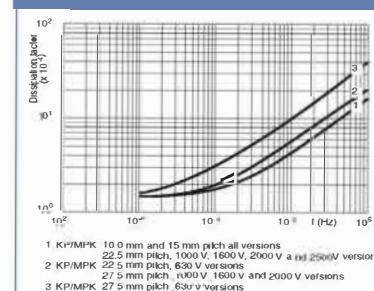
Electrical Characteristics (Typical Data)



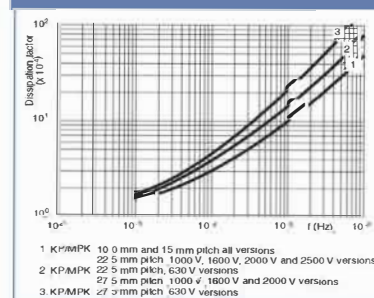
Max. RMS voltage as a function of frequency



Tangent of loss angle



Maximum curves



Insulation resistance as a function of ambient temperature

