

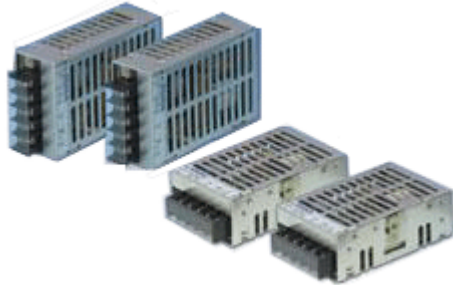


ETA-USA

HIGH QUALITY SWITCHING POWER SUPPLIES

DC/DC SWITCHING POWER SUPPLY
DC INPUT 12, 24, 48, 110
SINGLE OUTPUT
100 WATTS

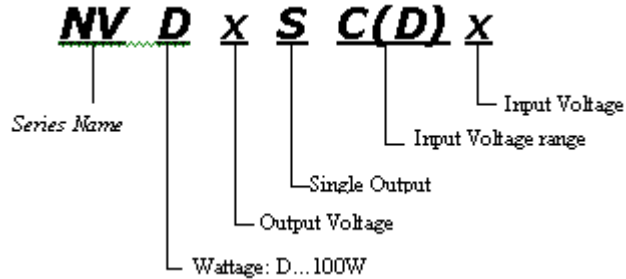
NVDxSCx / NVDxSD SERIES



65(W)x101(D)x34(H) mm(Not include output terminal)



General Description



Features

1. Light weight, compact size
2. High efficiency, high reliability
3. Input under voltage protection
5. Over current, over voltage, thermal protection
6. UL, cUL, CE

DC INPUT: 12V

Input Characteristics	Unit	Models				
		NVD3.3SC12	NVD05SC12	NVD12SC12	NVD15SC12	NVD24SC12
Input Voltage	Vdc	12				
Input Voltage Range	vdc	9.6-16				
Input Current at full-load	A	6.18	8.33	8.24	8.33	8.26
Efficiency (typical)	%	89	90	91	90	92
MTBF	H	495'000	495'000	560'000	576'000	549'000
Switching Frequency	kHz	125fix.				

DC INPUT: 24V

Input Characteristics	Unit	Models				
		NVD3.3SC24	NVD05SC24	NVD12SC34	NVD15SC24	NVD24SC24
Input Voltage	Vdc	24				
Input Voltage Range	vdc	19~32				
Input Current at full-load	A	3.3	4.53	4.89	4.75	5.4
Efficiency (typical)	%	90	92	92	92	92
MTBF	H	496'000	496'000	555'000	571'000	556'000
Switching Frequency	kHz	125fix.				

DC INPUT: 48V

Input Characteristics	Unit	Models				
		NVD3.3SC48	NVD05SC48	NVD12SC48	NVD15SC48	NVD24SC48
Input Voltage	Vdc	48				
Input Voltage Range	vdc	38V~63				
Input Current at full-load	A	1.65	2.24	2.39	2.33	2.64
Efficiency (typical)	%	91	93	94	94	94
MTBF	H	554'000	554'000	554'000	569'000	562'000
Switching Frequency	kHz	125fix.				





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HIGH QUALITY SWITCHING POWER SUPPLIES

DC INPUT: 110V

Input Characteristics	Unit	Models				
		NVD3.3SD	NVD05SD	NVD12SD	NVD15SD	NVD24SD
Input Voltage	Vdc	110				
Input Voltage Range	vdc	85~140				
Input Current at full-load	A	0.725	0.977	1.055	1.02	1.16
Efficiency (typical) *1	%	91	93	93	93	94
MTBF	H	480'000	480'000	550'000	550'000	550'000
Switching Frequency	kHz	91fix.	125fix.			

Output Characteristics	Unit	Models				
		NVD3.3Sx	NVD05Sx	NVD12Sx	NVD15Sx	NVD24Sx
Output Voltage	Vdc	3.3	5	12	15	24
Output Current	A	22.0	20.0	9.0	7.0	5.0
Output Current(for NVDxSC12)	A	20.0	18.0	7.5	6.0	3.8
Voltage Adjust Range	%	±10% of Rated Output Voltage				
Ripple and Noise(max.) *2	mV	150	150	220	250	350
Regulation						
a. Statistic Line Regulation	mV	26	40	96	120	190
b. Statistic Load Regulation	mV	30	45	108	135	216
c. Temperature Coefficient *3	%/°C	0.03 % / °C				
d. Drift *4	mV	32	40	75	90	135
e. Dynamic Load Regulation *5	mV	±150	±200	±360	±450	±720
f. Recovery Time *5	mS	20				
Rise up time	mS	200mS(500mS for NVDxSD Series)(maximum) at 25C and rated input/output				

*1 at DC 12, 24, 48, 110V and rated output

*2 measured by a bayonet probe at the output connector at a 0 to 100MHz bandwidth

*3 at -10 to +71C

*4 for 7hour period after 1hour warm-up at 25C and rated input/output

*5 when output current changed between 25% and 75% of rated output current rapidly at rated input

*6 Latch timer type (For NVDxSD: Output turns to hiccup mode when output drops after over-load)

Function/Protection	
Over current Protection *6	Current Limitting
Over voltage Protection	Latch Type (output shutdown)
Input Voltage Protection	Output shutdown when input voltage remains under the input range for 3 seconds (typ.)
Thermal Protection	Output shutdown when input voltage remains under the input range for 3 seconds (typ.)
Remote Sense	not available
Remote On/Off	not available
Input fuse is installed in unit	
Common mode filter is installed at the input side of unit	
Environmental Specification	
Operating Temperature	-10 to 71°C
Derating	3.5%/C(50C to 71C)
Operating Humidity	20-80%/RH (non-condensing)
Storage Temperature	-20 to +85°C
Storage Humidity	20 to 90%/RH
Withstanding Voltage	Primary-Secondary AC2,000V at 10mA for 1minute/Primary-Frame Ground AC2,000V at 10mA for 1minute/Secondary-Frame Ground AC1,000V at 10mA for 1minute
Isolation Resistance	Primary-Secondary-Frame Ground 50M ohm(minimum) by DC500V insulation tester
Vibration	5-10Hz:10mm double amplitude,10-55Hz:19.6m/s ² ,20minutes' period for 30minutes each along X,Y,Z axes(non-operating)
Shock	196m/s ²
Cooling	Convection
Line Conduction Noise	Not specified
Environmental Agencies	
SAFETY	UL60950,C-UL(CSA60950),CE
Mechanical Specification	
Dimension [mm]	65(W)x101(D)x34(H) mm(Not include output terminal)
Weight (typical)	250g



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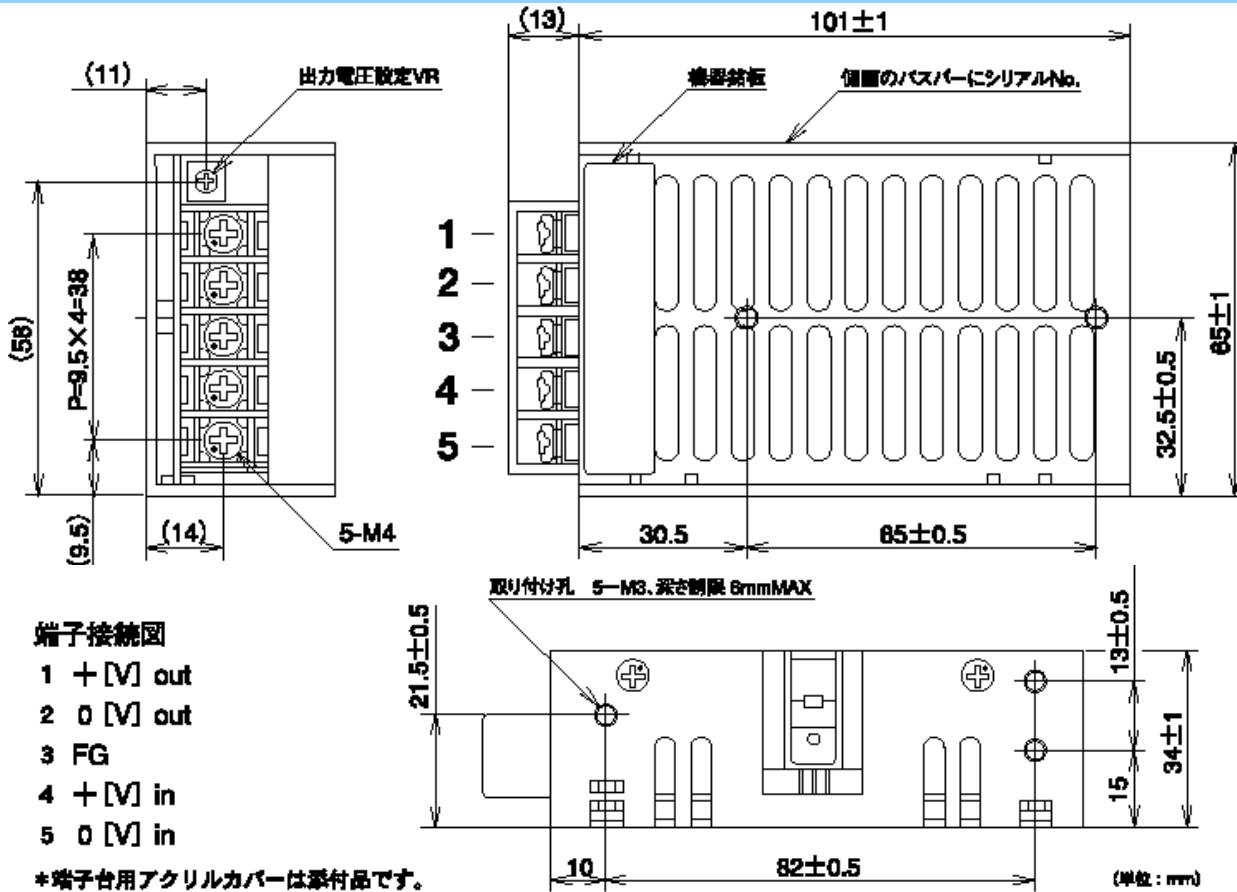
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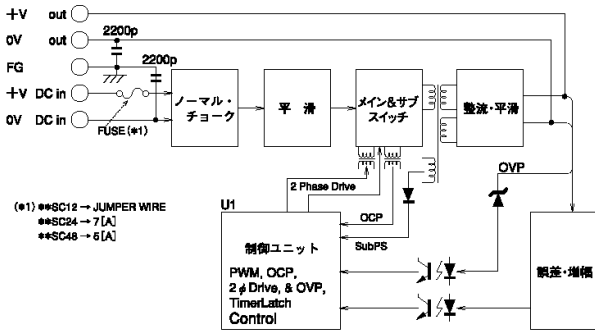
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DIMENSION DIAGRAM

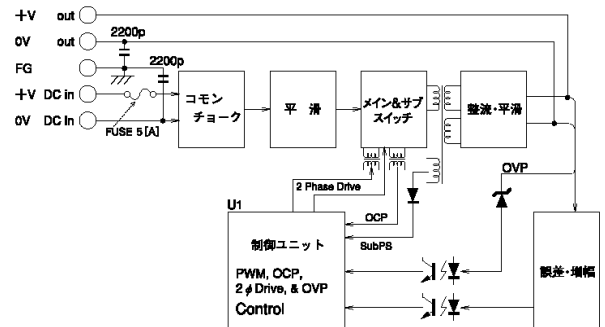


BLOCK DIAGRAM

A. NVDxSCx BLOCK DIAGRAM



B. NVDxSD BLOCK DIAGRAM



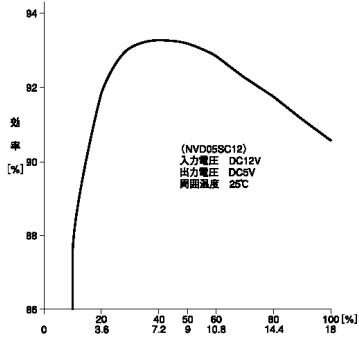


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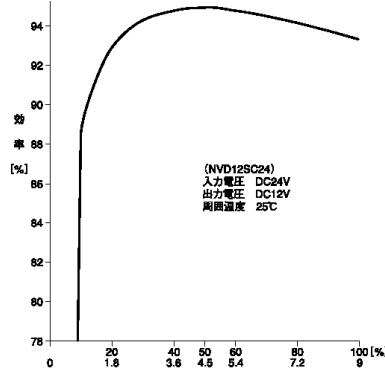
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EFFICIENCY CURVE

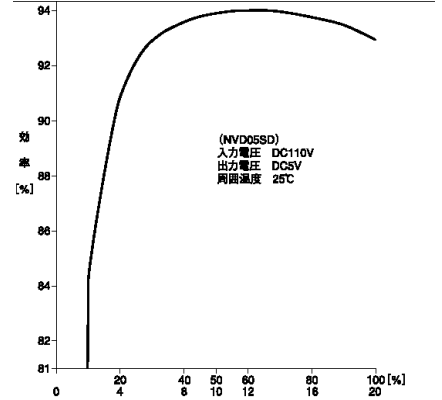
A. NVDxSC12



B. NVDxSC24

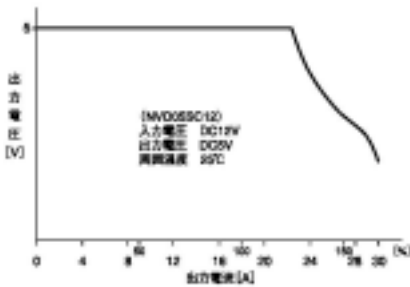


C. NVDxSD

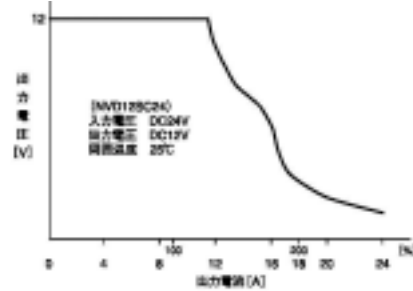


OCP CURVE

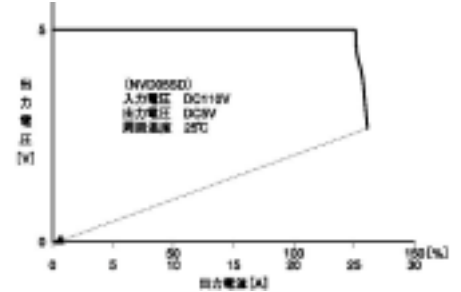
A. NVDxSC12



B. NVDxSC24



C. NVDxSD



DERATING CURVE

