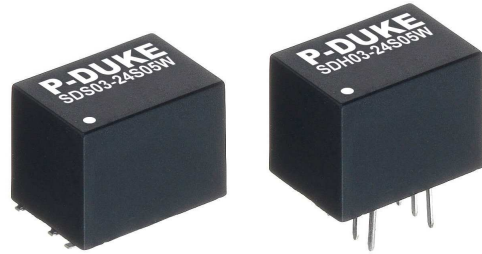


# SDS03W SDH03W SERIES

DC-DC CONVERTER

4:1 ULTRA WIDE INPUT RANGE  
UP TO 3 WATTS



## FEATURES

- ULTRA SMALL SMD AND DIP PACKAGE, 0.52 x 0.36x 0.40 INCH WITH REGULATED
- SMD PACKAGE QUALIFIED FOR LEADFREE REFLOW SOLDER PROCESS ACCORDING IPC J-STD-020D
- NO MINIMUM LOAD REQUIRED
- CONTINUOUS SHORT CIRCUIT PROTECTION
- 1600VDC INPUT TO OUTPUT ISOLATION AND 3000VDC FOR OPTION
- SAFETY MEETS UL60950-1, EN60950-1, & IEC60950-1
- CE MARKED
- COMPLIANT TO RoHS II & REACH

## APPLICATIONS

- WIRELESS NETWORK
- TELECOM/DATACOM
- INDUSTRY CONTROL SYSTEM
- MEASUREMENT EQUIPMENT
- SEMICONDUCTOR EQUIPMENT

3000VDC ISOLATION	1600VDC ISOLATION	REMOTE CONTROL	OCP	SCP
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## TECHNICAL SPECIFICATION

All specifications are typical at nominal input, full load and 25°C otherwise noted

Model Number	Input Range VDC	Output Voltage VDC	Output Current @Full Load mA	Input Current @ No Load mA	Efficiency %	Maximum Capacitor Load $\mu$ F
SDS(H)03-12S3P3W	4.5 ~ 18	3.3	700	35	76	4700
SDS(H)03-12S05W	4.5 ~ 18	5	600	40	80	2530
SDS(H)03-12S12W	4.5 ~ 18	12	250	40	83	1220
SDS(H)03-12S15W	4.5 ~ 18	15	200	40	84	1000
SDS(H)03-12S24W	4.5 ~ 18	24	125	40	82	470
SDS(H)03-12D05W	4.5 ~ 18	$\pm$ 5	$\pm$ 300	40	80	$\pm$ 1470
SDS(H)03-12D12W	4.5 ~ 18	$\pm$ 12	$\pm$ 125	40	82	$\pm$ 680
SDS(H)03-12D15W	4.5 ~ 18	$\pm$ 15	$\pm$ 100	40	82	$\pm$ 470
SDS(H)03-24S3P3W	9 ~ 36	3.3	700	20	77	4700
SDS(H)03-24S05W	9 ~ 36	5	600	20	80	2530
SDS(H)03-24S12W	9 ~ 36	12	250	25	83	1220
SDS(H)03-24S15W	9 ~ 36	15	200	25	83	1000
SDS(H)03-24S24W	9 ~ 36	24	125	25	82	470
SDS(H)03-24D05W	9 ~ 36	$\pm$ 5	$\pm$ 300	25	80	$\pm$ 1470
SDS(H)03-24D12W	9 ~ 36	$\pm$ 12	$\pm$ 125	25	82	$\pm$ 680
SDS(H)03-24D15W	9 ~ 36	$\pm$ 15	$\pm$ 100	25	82	$\pm$ 470
SDS(H)03-48S3P3W	18 ~ 75	3.3	700	12	77	4700
SDS(H)03-48S05W	18 ~ 75	5	600	12	80	2530
SDS(H)03-48S12W	18 ~ 75	12	250	13	83	1220
SDS(H)03-48S15W	18 ~ 75	15	200	14	83	1000
SDS(H)03-48S24W	18 ~ 75	24	125	14	82	470
SDS(H)03-48D05W	18 ~ 75	$\pm$ 5	$\pm$ 300	14	80	$\pm$ 1470
SDS(H)03-48D12W	18 ~ 75	$\pm$ 12	$\pm$ 125	14	82	$\pm$ 680
SDS(H)03-48D15W	18 ~ 75	$\pm$ 15	$\pm$ 100	14	82	$\pm$ 470

## PART NUMBER STRUCTURE

<b>SDS03</b> -	<b>24</b>	<b>S</b>	<b>05</b>	<b>W</b>	<b>H</b>
Series Name	Input Voltage (VDC)	Output Quantity	Output Voltage (VDC)	Input Range	Isolation Option
SDS: SMD type SDH: DIP type	12: 4.5~18 24: 9~36 48: 18~75	S: Single	3P3: 3.3 05: 5 12: 12 15: 15 24: 24	4:1	$\square$ : 1600VDC Isolation H: 3000VDC Isolation
		D: Dual	05: $\pm$ 5 12: $\pm$ 12 15: $\pm$ 15		

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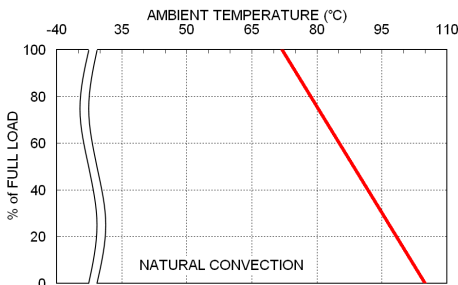
**EMC SPECIFICATIONS**

Parameter	Conditions		Level
EMI (1)	EN55022		Class A, Class B
ESD	EN61000-4-2	Air $\pm 8\text{kV}$ Contact $\pm 6\text{kV}$	Perf. Criteria A
Radiated immunity	EN61000-4-3	10 V/m	Perf. Criteria A
Fast transient (2)	EN61000-4-4	$\pm 2\text{kV}$	Perf. Criteria A
Surge (2)	EN61000-4-5	$\pm 1\text{kV}$	Perf. Criteria A
Conducted immunity	EN61000-4-6	10 Vr.m.s	Perf. Criteria A
Power frequency magnetic field	EN61000-4-8	100A/m continuous; 1000A/m 1 second	Perf. Criteria A

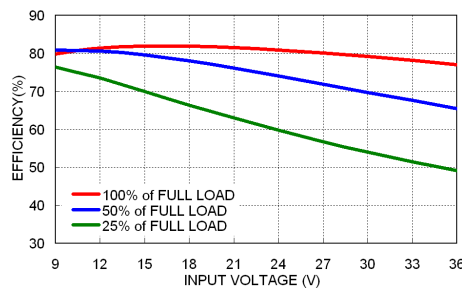
**Note:**

- The standard module meet EMI Class A or Class B and input reflected ripple current with external components. For further information, please contact with P-DUKE.
- An external input filter capacitor is required if the module has to meet EN61000-4-4, EN61000-4-5. The filter capacitor Power Mate suggest: Nippon chemi-con KY series, 220  $\mu\text{F}/100\text{V}$ .

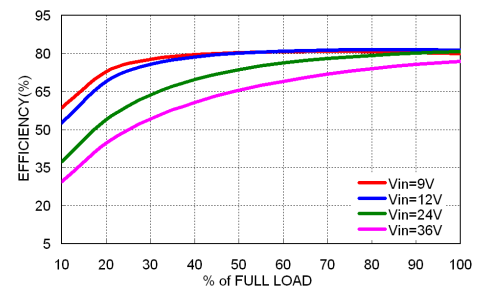
**CAUTION:** This power module is not internally fused. An input line fuse must always be used.

**CHARACTERISTIC CURVE**


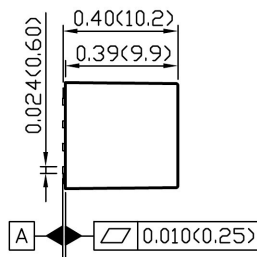
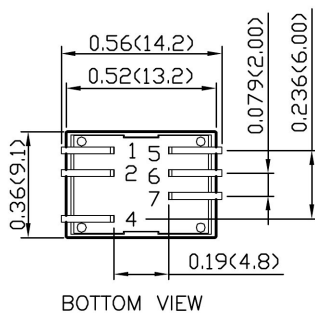
SDS(H)03-24S05W Derating Curve



SDS(H)03-24S05W Efficiency vs. Input Voltage



SDS(H)03-24S05W Efficiency vs. Output Current

**MECHANICAL DRAWING**
**SDS03W: SMD TYPE**

**PIN CONNECTION**

PIN	SINGLE	DUAL
1	+Vin	+Vin
2	-Vin	-Vin
4	Ctrl	Ctrl
5	NC	-Vout
6	-Vout	Common
7	+Vout	+Vout

- All dimensions in inch (mm)
- Tolerance :x.xx $\pm 0.02$  (x.x $\pm 0.5$ )  
x.xxx $\pm 0.01$  (x.xx $\pm 0.25$ )
- Pin pitch tolerance  $\pm 0.01$  (0.25)
- Pin dimension tolerance  $\pm 0.004$  (0.1)

**SDH03W: DIP TYPE**
