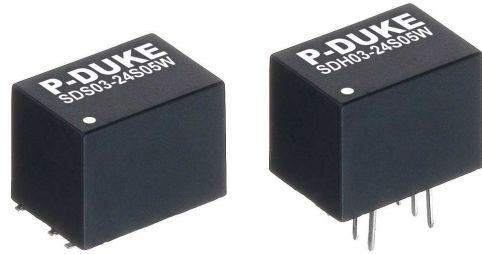


SDS03W SDH03W SERIES

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 |
|-------------------|-------------------|----------------|-----|-----|

TECHNICAL SPECIFICATION

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

| Model Number | Input Range | Output Voltage | Output Current @Full Load | Input Current @ No Load | Efficiency | Maximum Capacitor Load |
|------------------|-------------|----------------|---------------------------|-------------------------|------------|------------------------|
| | VDC | VDC | mA | mA | % | µF |
| 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 | ±5 | ±300 | 40 | 80 | ±1470 |
| SDS(H)03-12D12W | 4.5 ~ 18 | ±12 | ±125 | 40 | 82 | ±680 |
| SDS(H)03-12D15W | 4.5 ~ 18 | ±15 | ±100 | 40 | 82 | ±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 | ±5 | ±300 | 25 | 80 | ±1470 |
| SDS(H)03-24D12W | 9 ~ 36 | ±12 | ±125 | 25 | 82 | ±680 |
| SDS(H)03-24D15W | 9 ~ 36 | ±15 | ±100 | 25 | 82 | ±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 | ±5 | ±300 | 14 | 80 | ±1470 |
| SDS(H)03-48D12W | 18 ~ 75 | ±12 | ±125 | 14 | 82 | ±680 |
| SDS(H)03-48D15W | 18 ~ 75 | ±15 | ±100 | 14 | 82 | ±470 |

PART NUMBER STRUCTURE

| | | | | | |
|--------------------------------|-------------------------------------|-----------------|---|-------------|--|
| SDS03 - | 24 | S | 05 | W | H |
| 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 | □: 1600VDC Isolation H: 3000VDC Isolation |
| | | D: Dual | 05: ±5 12: ±12 15: ±15 | | |

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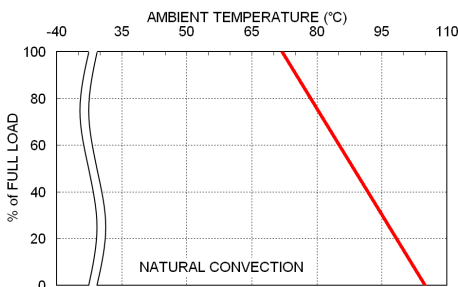
EMC SPECIFICATIONS

| 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 |

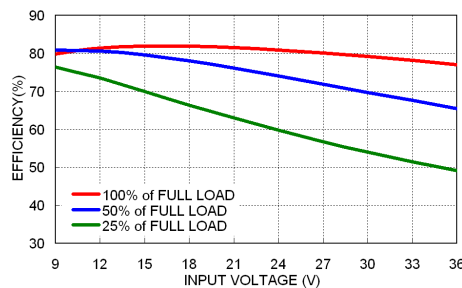
Note:

- 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 $\mu\text{F}/100\text{V}$.

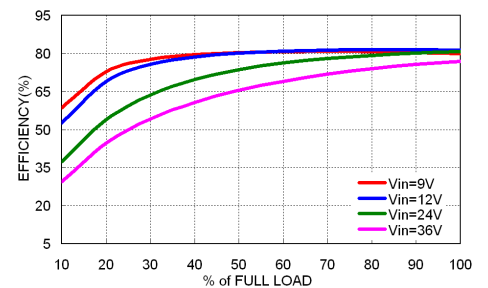
CAUTION: This power module is not internally fused. An input line fuse must always be used.

CHARACTERISTIC CURVE


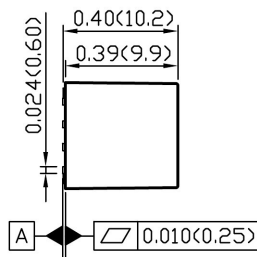
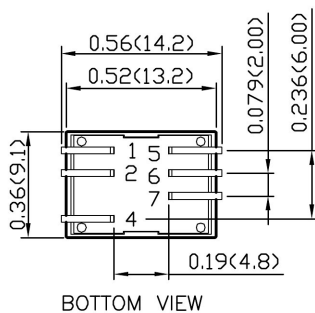
SDS(H)03-24S05W Derating Curve



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
