



Industrial

Test

Comm

Broadcast

Single Output 5W to 25W AC-DC PCB-Mount Power Supplies



| Features | Benefits |
|--|---|
| • Protection Class II, No Ground Connection | • Easy, rapid on-board integration |
| • Small footprint without the need for external components | • Saves space, time and cost |
| • Long Electrolytic Capacitor Lifetime | • Higher reliability, longer product or system life |
| • No load power consumption less than 0.5W | • Better energy efficiency, better environmental footprint |
| • Improved efficiencies up to 88% | • Reduced power losses, easier on board thermal management |
| • Wide Temperature Range -40°C (start up) to +85°C | • Enables use in wide range of professional industrial applications |

| Specification | | KWS5A | KWS10A | KWS15A | KWS25A |
|---------------------------------|------|--|-------------|--------------|--------------|
| AC Input Voltage | VAC | 85 - 265 (1) | | | |
| Input Frequency | Hz | 47 - 440 | | | |
| Inrush Current (cold start) | A | 15 at 100VAC, 30 at 200VAC | | | |
| Power Factor | - | Meets EN61000-3-2 | | | |
| Input Current (100/200VAC) | A | 0.13 / 0.07 | 0.25 / 0.13 | 0.33 / 0.24 | 0.56 / 0.34 |
| Output Voltage Accuracy | % | ±5 | | | |
| No Load Power Consumption | W | <0.5 | | | |
| Temperature Coefficient | %/°C | <0.02 | | | |
| Overcurrent Protection | - | > 105% of rated current | | | |
| Overvoltage Protection | V | 5V: 5.75 - 7, 12V: 13.8 - 18.3, 15V: 17.25 - 22.4, 24V: 27.6 - 34 | | | |
| Hold Up Time (100 / 200V input) | ms | 15 / 30 | 10 / 20 | | |
| Leakage Current | mA | <0.25 at 265VAC, 60Hz | | | |
| Operating Temperature | °C | -40°C start-up; -10 to +85°C. See derating curve for details | | | |
| Storage Temperature | °C | -40 to +85°C | | | |
| Humidity (non condensing) | %RH | 30 - 90 Operating, 20 - 95 Storage | | | |
| Cooling | - | Convection Cooled | | | |
| Withstand Voltage | VAC | Input to Output 3kVAC | | | |
| Isolation Resistance | MΩ | >100MΩ at 25°C & 70%RH, Input to Output 500VDC | | | |
| Vibration (non operating) | - | 10 - 55Hz: 1.65mm p-p (Max 10G) sweep for 1 min X, Y, Z for 1 hour | | | |
| Shock | - | < 50G for 11 ±5ms on (X,Y,Z) each axis 3 times | | | |
| Immunity | - | IEC61000-4-2, -3, -4, -5, -6, -8, -11; IEC61000-6-2 | | | |
| Safety Agency Certifications | - | EN60950-1, UL/CSA60950-1, CE Mark LVD & RoHS2 | | | |
| Conducted & Radiated EMI | - | EN55011-A, EN55022-A, FCC Class A (Requires external X capacitor to meet -B) | | | |
| Weight (Typ) | g | 35 | 35 | 60 | 85 |
| Size (LxWxH) | mm | 38.1 x 25.4 x 21.5 | | 50.8x25.4x24 | 63.5x25.4x29 |
| Warranty | yrs | 3 | | | |

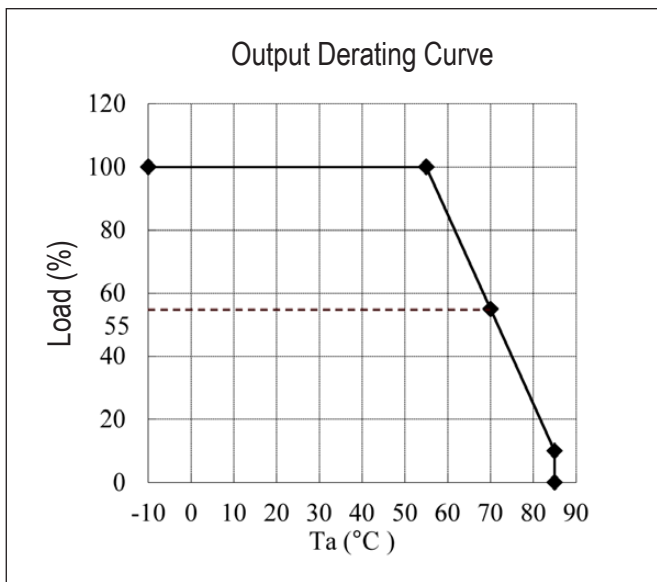
Note: (1) Derate to 80% load from 100 to 85VAC input (KWS5A 90% load from 90 to 85VAC)

Model Selector

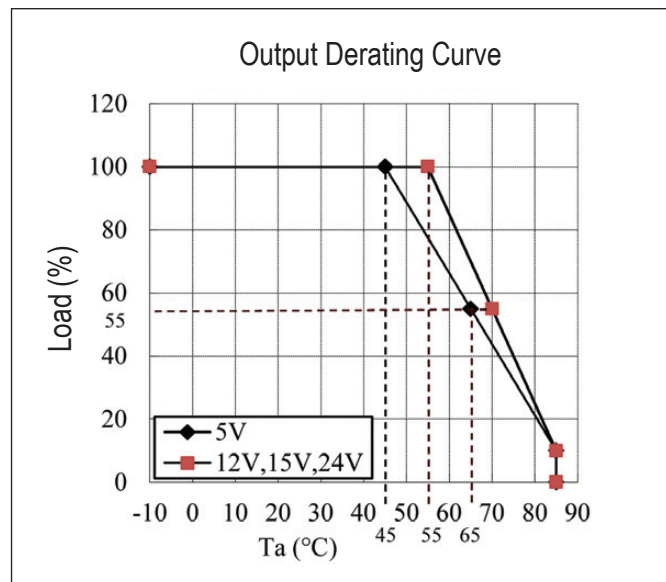
| Model | Voltage (V) | Max Current (A) | Max Power (W) | Load Reg (mV) | Line Reg (mV) | Ripple Noise (mV) | Efficiency (typ) % ⁽³⁾ |
|-----------|-------------|-----------------|---------------|---------------|---------------|-------------------|-----------------------------------|
| KWS5A-5 | 5 | 1.0 | 5.0 | 40 | 20 | 200 | 72 / 74 |
| KWS10A-5 | 5 | 2.0 | 10.0 | 40 | 20 | 200 | 76 / 77 |
| KWS15A-5 | 5 | 3.0 | 15.0 | 40 | 20 | 200 | 76 / 78 |
| KWS25A-5 | 5 | 5.0 | 25.0 | 40 | 20 | 200 | 80 / 82 |
| KWS5A-12 | 12 | 0.45 | 5.4 | 96 | 48 | 240 | 73 / 75 |
| KWS10A-12 | 12 | 0.9 | 10.8 | 96 | 48 | 240 | 80 / 81 |
| KWS15A-12 | 12 | 1.3 | 15.6 | 96 | 48 | 240 | 80 / 83 |
| KWS25A-12 | 12 | 2.2 | 26.4 | 96 | 48 | 240 | 84 / 86 |
| KWS5A-15 | 15 | 0.35 | 5.3 | 120 | 60 | 240 | 73 / 75 |
| KWS10A-15 | 15 | 0.7 | 10.5 | 120 | 60 | 240 | 81 / 82 |
| KWS15A-15 | 15 | 1.0 | 15.0 | 120 | 60 | 240 | 81 / 84 |
| KWS25A-15 | 15 | 1.7 | 25.5 | 120 | 60 | 240 | 85 / 87 |
| KWS5A-24 | 24 | 0.22 | 5.3 | 150 | 96 | 240 | 75 / 77 |
| KWS10A-24 | 24 | 0.5 | 12.0 | 150 | 96 | 240 | 82 / 84 |
| KWS15A-24 | 24 | 0.7 | 16.8 | 150 | 96 | 240 | 82 / 85 |
| KWS25A-24 | 24 | 1.1 | 26.4 | 150 | 96 | 240 | 86 / 88 |

Notes: (3) 100 / 200VAC input. Full load

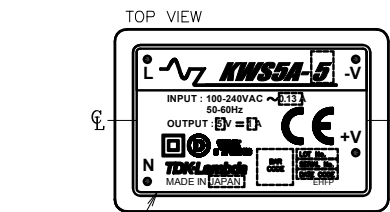
Output Derating Curve KWS5A



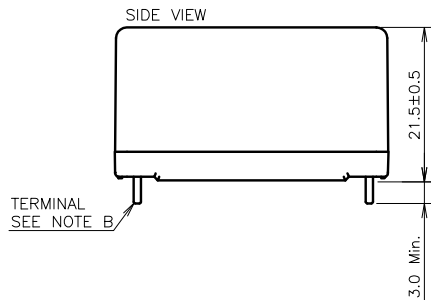
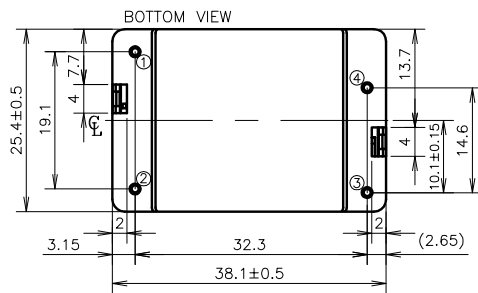
Output Derating Curve KWS-A Series (10, 15, 25W)



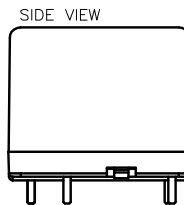
Outline Drawing KWS5A & KWS10A



NAME PLATE
SEE NOTE A



TERMINAL
SEE NOTE B



***TERMINAL ASSIGNMENTS**

- ①.....AC(N) INPUT
- ②.....AC(L) INPUT
- ③.....-V OUTPUT
- ④.....+V OUTPUT

***MATERIAL**

CASE : PLASTIC(UL94V-0)
PBT t=1.0mm

NOTES

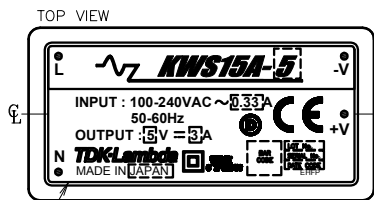
A: MODEL NAME, INPUT VOLTAGE RANGE, NOMINAL OUTPUT VOLTAGE, MAXIMUM OUTPUT CURRENT, COUNTRY OF MANUFACTURE AND MARKING ARE SHOWN HERE IN ACCORDANCE WITH THE SPECIFICATIONS.

B: INPUT AND OUTPUT TERMINALS : 4- ϕ 1 \pm 0.1

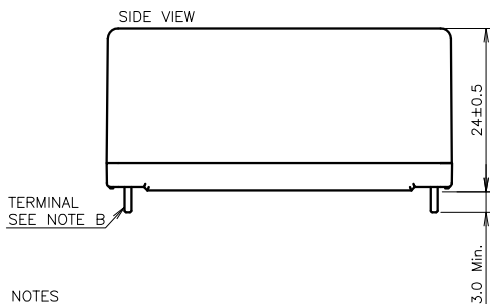
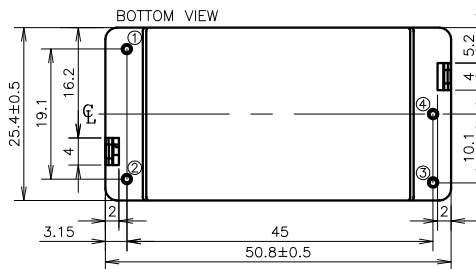
C: UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE : \pm 0.3

| | |
|-------------------|-------|
| (unit : mm) | |
| MODEL NAME | KWS5A |
| TDK-Lambda | |
| FC002-02-01 | |

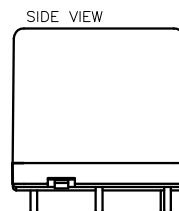
Outline Drawing KWS15A



NAME PLATE
SEE NOTE A



TERMINAL
SEE NOTE B



***TERMINAL ASSIGNMENTS**

- ①.....AC(N) INPUT
- ②.....AC(L) INPUT
- ③.....-V OUTPUT
- ④.....+V OUTPUT

***MATERIAL**

CASE : PLASTIC(UL94V-0)
PBT t=1.0mm

NOTES

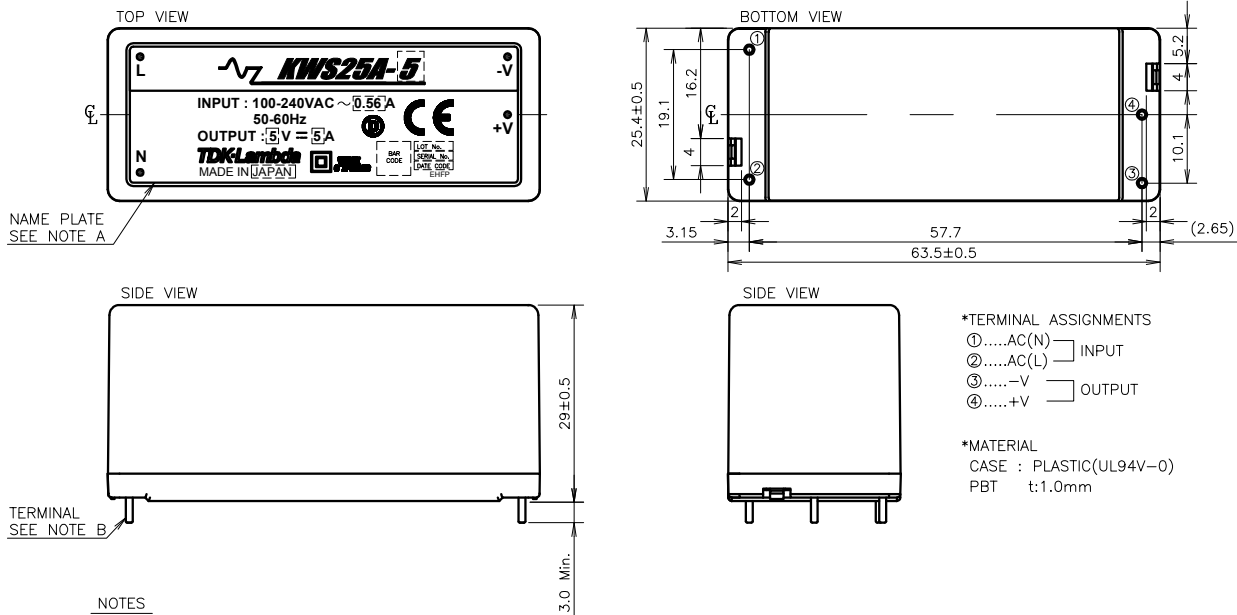
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B: INPUT AND OUTPUT TERMINALS : 4- ϕ 1 \pm 0.1

C: UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE : \pm 0.3

| | |
|-------------------|--------|
| (unit : mm) | |
| MODEL NAME | KWS15A |
| TDK-Lambda | |
| FC004-02-01 | |

Outline Drawing KWS25A



NOTES

- A: MODEL NAME, INPUT VOLTAGE RANGE, NOMINAL OUTPUT VOLTAGE, MAXIMUM OUTPUT CURRENT, COUNTRY OF MANUFACTURE AND MARKING ARE SHOWN HERE IN ACCORDANCE WITH THE SPECIFICATIONS.
- B: INPUT AND OUTPUT TERMINALS : 4- ϕ 1±0.1
- C: UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE : ±0.3

| (unit : mm) | |
|-------------------|--------|
| MODEL NAME | KWS25A |
| TDK-Lambda | |
| FC005-02-01 | |



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