60 Watts
SDS Series



- Single, Dual, Triple & Quad Outputs
- Output Voltages from 3.3 V to 48 V
- Non–standard Outputs Available
- Industry Standard 3”x 5”Package
- Fits 1U Applications
- Open Frame & U Channel Versions
- 3 Year Warranty

Specification

Input

Input Voltage	• 90-264 VAC (120-370 VDC)
Input Frequency	• 47-63 Hz
Input Current	• 1.6 A max at 115 VAC 1.0 A max at 230 VAC
Inrush Current	• <15 A at 115 VAC, cold start at 25 °C <30 A at 230 VAC, cold start at 25 °C
Earth Leakage Current	• <0.30 mA at 115 VAC <0.75 mA at 240 VAC
Power Factor	• EN61000-3-2, Class A
Input Protection	• T2 A/250 VAC internal fuse in line

Output

Output Voltage	• See table
Output Voltage Trim	• ±10% on V1 only (see note 4)
Initial Set Accuracy	• Single output models: ±1% Multi-output models: ±5%
Minimum Load	• 10% required on V1 & V2 of multi-output models to maintain regulation, unit will start up with no load
Start Up Delay	• 2 s typical
Hold Up Time	• 12 ms min at 110 VAC, 100% load
Line Regulation	• 1% from low line to high line
Load Regulation	• 7% max all models 3% typical, see table 10% with no load on V1, for multi output models
Transient Response	• 4% max deviation, recovery to within 1% in 4 ms for a 50% load change
Ripple & Noise	• 1% pk-pk typical, 20 MHz bandwidth
Overvoltage Protection	• 112-132% of nominal output voltage on V1 only, recycle input to reset
Overload Protection	• 110-150% of nominal power, with auto recovery
Short Circuit Protection	• Trip & restart (hiccup mode), auto recovery
Temperature Coefficient	• ±0.04%/°C

General

Efficiency	• 80% typical, 230 VAC full load
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground 500 VDC Output to Ground
Switching Frequency	• 60 kHz typical
Power Density	• 3.5 W/In^3
Signals	• Green DC OK LED
MTBF	• 190 kHrs typical to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• 0 °C to +40 °C
Cooling	• Convection-cooled
Operating Humidity	• 5-95% RH, non-condensing
Storage Temperature	• -40 °C to +85 °C

EMC & Safety

Emissions	• EN55032, level B conducted and radiated
Harmonic Currents	• EN61000-3-2, Class A
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, level 2 contact, level 3 air, Perf Criteria A
Radiated Immunity	• EN61000-4-3, level 2, Perf Criteria A
EFT/Burst	• EN61000-4-4, level 2, Perf Criteria A
Surge	• EN61000-4-5, installation Class 3, Perf Criteria A
Conducted Immunity	• EN61000-4-6, level 2, Perf Criteria A
Magnetic Field	• EN61000-4-8, 1 A/m, Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms Perf Criteria A, B, B
Safety Approvals	• EN62368-1, UL62368-1, CSA62368-1 via cUL, CE & UKCA meets all applicable directives & legislation

Models and Ratings

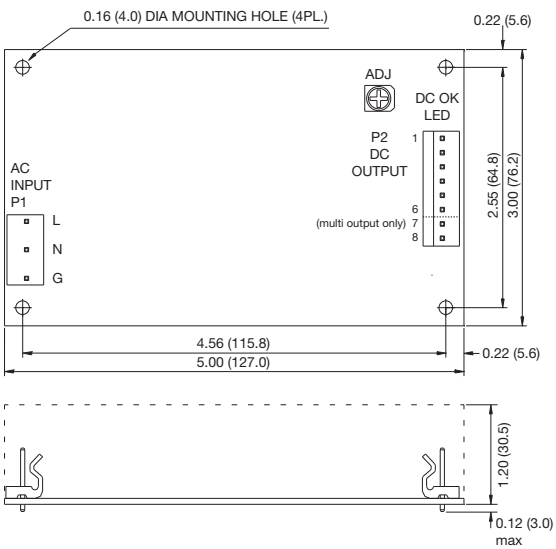
Output Power	Output Voltage	Output Current	Factory-Set Voltage Range[1]	Current Range	Total Regulation	Model Number[5,6]
50 W	3.3 V	15.1 A	3.0-5.0 VDC	16.6-10.0 A	5%	SDS60US03
55 W	5.0 V	11.0 A	5.0-6.0 VDC	11.0-9.1 A	5%	SDS60US05
60 W	7.0 V	8.6 A	6.0-8.0 VDC	10.0-7.5 A	4%	SDS60US07
63 W	9.0 V	7.0 A	8.0-11.0 VDC	7.8-5.7 A	3%	SDS60US09
63 W	12.0 V	5.2 A	11.0-13.0 VDC	5.7-4.8 A	3%	SDS60US12
63 W	15.0 V	4.2 A	13.0-16.0 VDC	4.8-3.9 A	3%	SDS60US15
63 W	19.0 V	3.3 A	16.0-21.0 VDC	3.9-3.0 A	3%	SDS60US19
63 W	24.0 V	2.6 A	21.0-27.0 VDC	3.0-2.3 A	2%	SDS60US24
63 W	30.0 V	2.1 A	27.0-33.0 VDC	2.3-1.9 A	2%	SDS60US30
63 W	36.0 V	1.7 A	33.0-40.0 VDC	1.9-1.5 A	2%	SDS60US36
63 W	48.0 V	1.3 A	40.0-50.0 VDC	1.5-1.2 A	2%	SDS60US48

Output Power	Output V1[2,3,4]	Output V2[2,3,4]	Output V3[3]	Output V4[3]	Model Number[5,6]
63.0 W	+5.0 V/7.0 A	+12.0 V/3.0 A			SDS60UD01
48.1 W	+3.3 V/7.0 A	+5.0 V/5.0 A			SDS60UD04
63.0 W	+3.3 V/6.0 A	+12.0 V/3.0 A	-12.0 V/0.8 A		SDS60UT00
63.0 W	+3.3 V/6.0 A	+12.0 V/3.0 A	-5.0 V/0.8 A		SDS60UT01
63.0 W	+3.3 V/6.0 A	+12.0 V/3.0 A	+5.0 V/0.8 A		SDS60UT02
53.5 W	+3.3 V/5.0 A	+5.0 V/5.0 A	+12.0 V/1.0 A		SDS60UT03
53.5 W	+3.3 V/5.0 A	+5.0 V/5.0 A	-12.0 V/1.0 A		SDS60UT04
63.0 W	+5.0 V/6.0 A	+12.0 V/3.0 A	-12.0 V/0.8 A		SDS60UT05
63.0 W	+5.0 V/6.0 A	+12.0 V/3.0 A	-5.0 V/0.8 A		SDS60UT06
63.0 W	+5.0 V/6.0 A	+15.0 V/3.0 A	-15.0 V/0.8 A		SDS60UT07
63.0 W	+5.0 V/6.0 A	+24.0 V/2.0 A	-24.0 V/0.5 A		SDS60UT08
63.0 W	+5.0 V/6.0 A	+24.0 V/2.0 A	-12.0 V/0.8 A		SDS60UT09
63.0 W	+5.0 V/6.0 A	+24.0 V/2.0 A	+12.0 V/0.8 A		SDS60UT10
63.0 W	+3.3 V/6.0 A	+12.0 V/3.0 A	-12.0 V/0.8 A	-5.0 V/0.8 A	SDS60UQ00
63.0 W	+3.3 V/6.0 A	+12.0 V/3.0 A	-12.0 V/0.8 A	+5.0 V/0.8 A	SDS60UQ01
63.0 W	+5.0 V/6.0 A	+12.0 V/3.0 A	-12.0 V/0.8 A	-5.0 V/0.8 A	SDS60UQ02
63.0 W	+5.0 V/6.0 A	+12.0 V/3.0 A	-12.0 V/0.8 A	+24.0 V/0.8 A	SDS60UQ03
63.0 W	+5.0 V/6.0 A	+12.0 V/3.0 A	-12.0 V/0.8 A	-24.0 V/0.8 A	SDS60UQ04
63.0 W	+5.0 V/6.0 A	+15.0 V/3.0 A	-15.0 V/0.8 A	-5.0 V/0.8 A	SDS60UQ05
59.3 W	+5.0 V/6.0 A	+24.0 V/1.8 A	-15.0 V/0.1 A	+12.0 V/0.8 A	SDS60UQ06

Notes

1. *If an output voltage within the factory-set voltage range is required, a model number will be allocated at the time of order.*
2. *10% minimum load required on V1 & V2 of multi-output units to maintain regulation of ±5%. Regulation increases to ±10% with no load.*
3. *Other output combinations are available - contact sales for more information.*
4. *On multi-output units V2 tracks V1, if V1 is adjusted by 5%, V2 changes by 5%.*
5. *For optional U-bracket, add suffix 'B' to model number.*
6. *For optional 2 pin AC input, contact sales for details.*

Mechanical Details



PIN CONNECTIONS				
Pin	Single Output	Dual Output	Triple Output	Quad Output
1	Output 1	Output 2	Output 2	Output 2
2	Output 1	Output 1	Output 1	Output 1
3	Output 1	Output 1	Output 1	Output 1
4	Return	Common	Common	Common
5	Return	Common	Common	Common
6	Return	N/C	Output 3	Output 3
7				Output 4
8				Output 4

Notes

1. All dimensions are in inches (mm)
2. Weight: 0.52 lbs (240 g) approx
3. Tolerance: ±0.02 (0.5)
4. Input connector mates with Molex housing 09-50-3051 and Molex 2878 series crimp terminal.
5. Output connector mates with Molex housing 09-50-3061 or 9-50-3081 and Molex 2878 series crimp terminal.
6. For mating connectors and cable harness order part numbers:
   - SDS60 CON KIT - Single, dual and triple output models
   - SDS60Q CON KIT - Quad output models
   - SDS60 LOOM KIT - Single output models cable harness
   - SDS60DT LOOM KT - Dual and triple output models cable harness
   - SDS60Q LOOM KIT - Quad output models cable harness