



# ETA-USA

## HIGH QUALITY SWITCHING POWER SUPPLIES

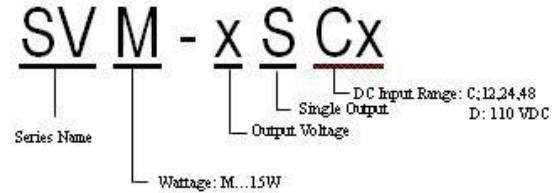
DC/DC SWITCHING POWER SUPPLY  
DC INPUT 12,24,48, 110  
SINGLE OUTPUT  
15WATTS

### SVM-SCx/SVM-SD SERIES



Dimension: 60W × 83L × 20H

#### General Description



#### Features

1. Variety of Models
2. Chassis mount type
3. Compact and High Efficiency
4. Screw Connector

#### DC INPUT: 12V

Input Characteristics	Unit	SVM05SC12	SVM12SC12	SVM15SC15	SVM24SC12	SVM48SC12
Input Voltage	Vdc	DC 12V				
Input Voltage Range	Vdc	DC 9.2V-16V				
Inrush Current	A	Not Specified				
Efficiency (typical) *1	%	79	80	82	83	83
MTBF	H	660'000				
Switching Frequency	kHz	90 Fix	90 Fix	90 Fix	90 Fix	90 Fix

#### DC INPUT: 24V

Input Characteristics	Unit	SVM05SC24	SVM12SC24	SVM15SC24	SVM24SC24	SVM05SC24
Input Voltage	Vdc	DC 24V				
Input Voltage Range	Vdc	DC 19-32V				
Inrush Current *1	A	Not Specified				
Efficiency (typical) *2	%	79	81	82	84	85
MTBF	H	750'000				
Switching Frequency	kHz	90 Fix	90 Fix	90 Fix	90 Fix	90 Fix

#### DC INPUT: 48V

Input Characteristics	Unit	SVM05SC48	SVM12SC48	SVM15SC48	SVM24SC48	SVM05SC48
Input Voltage	Vdc	DC 48V				
Input Voltage Range	Vdc	DC 38-63V				
Inrush Current *1	A	Not Specified				
Efficiency (typical) *2	%	81	83	84	86	86
MTBF	H	750'000				
Switching Frequency	kHz	90 Fix	90 Fix	90 Fix	90 Fix	90 Fix

#### DC INPUT: 110V

Input Characteristics	Unit	SVM05SD	SVM12SD	SVM15SD	SVM24SD	SVM05SD
Input Voltage	Vdc	DC 110V				
Input Voltage Range	Vdc	DC 85-140V				
Inrush Current *1	A	20A (maximum) at DC110V				
Efficiency (typical) *2	%	81	83	84	86	86
MTBF	H	600'000				
Switching Frequency	kHz	90 Fix	90 Fix	90 Fix	90 Fix	90 Fix



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### SVM-SC / SVM-SD

Output Characteristic	Unit	Models				
		SVM05SCx / SD	SVM12SCx / SD	SVM15SCx / SD	SVM24SCx / SD	SVM48SCx / SD
Output Voltage	V	5	12	15	24	48
Output Current Vin=12 Vin=24,48,110	A	5.0	2.1	1.7	1.1	0.5
		3.0	1.3	1.0	0.7	0.35
Voltage Adjust Range	V	+/-10% of Rated Output Voltage (at no load within input range)				
Ripple Noise(max)*3 Vin=12 Vin=24,48,110	mVpp	100	170	200	290	530
		150	220	250	340	580
Rise up time Vin=12,24 Vin=48,110	mS	100mS(maximum) at 25°C and rated input/output 500mS(maximum) at 25°C and rated input/output				
Hold up time	mS	Not specified				
<b>Regulation</b>						
a. Line Regulation (max)	mV	40	96	120	192	384
b. Load Regulation (max)	mV	45	108	135	216	432
c. Temperature Coefficient *4	°C	0.03%/°C				
d. Drift(maximum) *5	mV	40	75	90	135	255
e. Dynamic Load Regulation (typ.) *5	mV	150	360	450	720	1440
f. Recovery Time*6 Vin=12 Vin=24,48,110	mS	0.5mS(typical)				
		0.3mS(typical)				

\*1 at cold start

\*2 at rated input/output

\*3 measured by a bayonet probe at the output connector at a 0 to 100MHz bandwidth

\*4 at 0 to +50°C

\*5 for 7hour period after 1hour warm-up at 25°C and rated input/output

\*6 when output current changed from 25% to 75% of rated output current rapidly at rated input

Environmental Specification	
Operating Temperature	0 to +50°C
Operating Humidity	85%RH (non-condensing)
Storage Temperature	-20 to +85°C
Storage Humidity	85%RH (non-condensing)
Withstanding Voltage	Primary-Secondary AC2,000Vfor 1minute (Vin=110 2000) Primary-Frame Ground AC2,000V for 1minute (Vin=110 2000) Secondary-Frame Ground AC500V for 1minute
Isolation Resistance	Primary-Secondary-Frame Ground 50MΩ(minimum) by DC500V insulation ester
Vibration	5-10Hz:10mm double amplitude,10-55Hz:19.6m/s <sup>2</sup> ,20minutes' period for 60minutes each along X,Y,Z axes (non-operating)
Shock	294m/s <sup>2</sup>
Cooling	Convection
Functions	
Over current Protection ≥110% of Rated Output [A]	Current Limiting with automatic recovery 3.30      1.43      1.10      0.77      0.39
Over voltage Protection ≥110% of Rated Output [V]	Output shutdown(to reset,leave 1minute after shutdown) 5.50      13.2      16.5      26.4      52.8
Remote Sense	not available
Remote On/Off	not available
Reverse Voltage Protection	by internal fuse (for Vin=110V by internal bridge diode)
Line Conduction Noise	Not specified
Weight [g] (typical)	120 G
Dimension [mm]	60W × 83L × 20H



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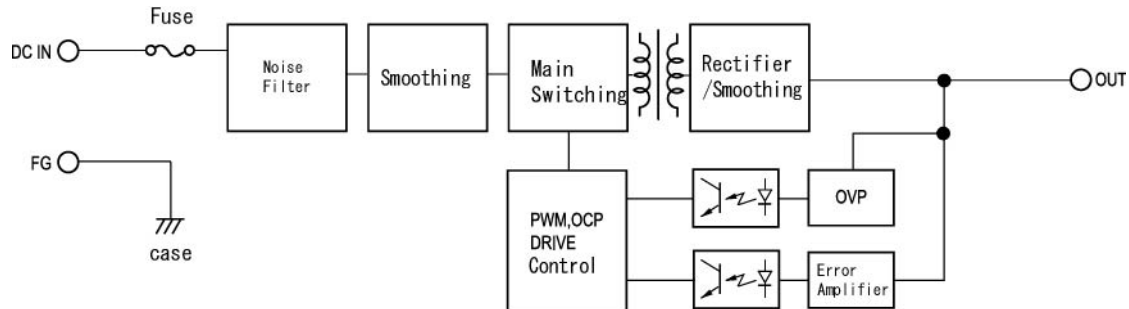


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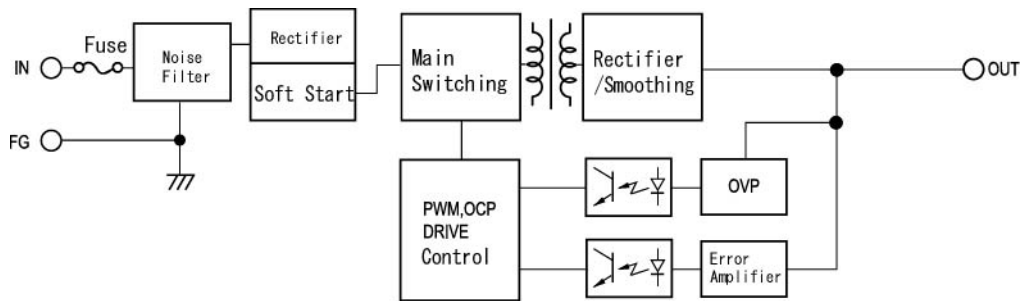
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### BLOCK DIAGRAM

#### SVMxSCx:



#### SVMxSD:



### DIMENSION DIAGRAM (mm)



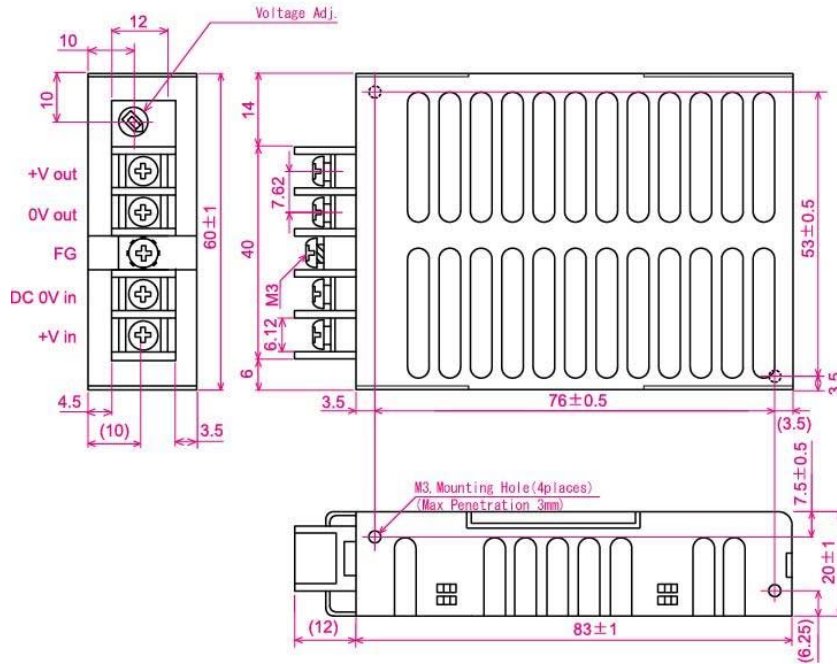
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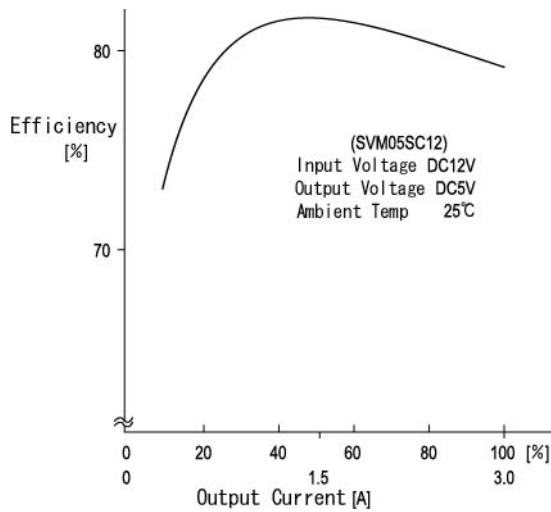


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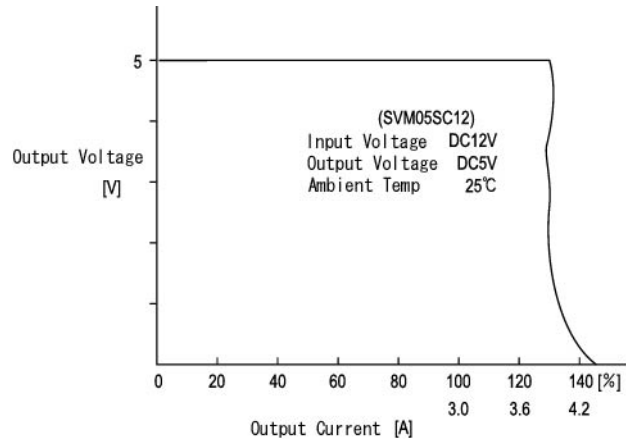
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### EFFICIENCY CURVE



### OCP CURVE



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