

MRS-25-H series

25W Constant Voltage Enclosed Switching Power Supply



■ Features:

- Universal AC input / Full range: 85~305VAC / 100~430VDC
 - Low no-load power consumption < 0.5W
- Protections: Over current / Short circuit / Over Voltage
 - LED indicator for power on
- Wide range of operating temperature range: -30°C to +70°C
 - Design to meet EN61558 standard (OVP cat III)
 - Operating altitude up to 5000m



MODEL NUMBERING

MRS	-	25	-	X	-	H	-	Y	
SERIES		RATED OUTPUT POWER		RATED OUTPUT VOLTAGE		INPUT VOLTAGE RANGE		OPTIONS	
ENCLOSED TYPE SWITCHING POWER SUPPLY, CONSTANT VOLTAGE DESIGN		25 means 25W		X = 03	3.3V	H means 85~300VAC / 100~430VDC		Y = C	Terminal block with cover
			X = 05	5V			Y = Q	Conformal coating	
			X = 12	12V					
			X = 15	15V					
			X = 24	24V					
			X = 48	48V					

ELECTRICAL SPECIFICATION

MODEL	MRS-25-03-H	MRS-25-05-H	MRS-25-12-H	MRS-25-15-H	MRS-25-24-H	MRS-25-48-H
OUTPUT						
RATED VOLTAGE	3.3V	5V	12V	15V	24V	48V
ADJUSTABLE VOLTAGE RANGE (MIN.)	2.85V ÷ 3.6V	4.5V ÷ 5.5V	10.8V ÷ 13.2V	13.5V ÷ 16.5V	22V ÷ 27.6V	42V ÷ 54V
RATED CURRENT	6A	5A	2.1A	1.7A	1.1A	0.57A
RATED POWER	19.8W	25W	25.2W	25.5W	26.4W	27.36W
LINE REGULATION	± 1.0%	± 1.0%	± 0.5%	± 0.5%	± 0.5%	± 0.5%
LOAD REGULATION	± 2.0%	± 2.0%	± 1.0%	± 1.0%	± 1.0%	± 1.0%
RIPPLE & NOISE (MAX.) [2]	100mV _{p-p}	100mV _{p-p}	100mV _{p-p}	100mV _{p-p}	100mV _{p-p}	120mV _{p-p}
START UP, HOLD UP TIME (TYP.)	300ms, 60ms / 230VAC at full load; 300ms, 8ms / 115VAC at full load					
INPUT						
VOLTAGE RANGE	85 ÷ 305VAC; 100 ÷ 430VDC					
FREQUENCY RANGE	47 ÷ 63Hz					
EFFICIENCY (TYP.)	78%	81%	85%	86%	87%	88%
AC CURRENT (TYP.)	0.34A / 230VAC; 0.6A / 115VAC					
INRUSH CURRENT (TYP.)	40A / 230VAC; 20A / 115VAC					
LEAKAGE CURRENT (MAX.)	0.5mA / 277VAC					

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PROTECTIONS

OVER CURRENT	Range: 110% ÷ 300% rated current Type: hiccup mode, auto-recovery
SHORT CIRCUIT	Type: hiccup mode, auto-recovery, recovery time < 5s
OVER VOLTAGE	≤ 6.75VDC ≤ 7.75VDC ≤ 16.2VDC ≤ 20.25VDC ≤ 32.4VDC ≤ 60VDC Type: hiccup mode, auto-recovery

WORKING ENVIRONMENT

WORKING TEMPERATURE	-30°C ÷ 70°C (Refer to Temperature Derating Curve)
WORKING HUMIDITY	20 ÷ 90% RH non-condensing
STORAGE TEMPERATURE AND HUMIDITY	-40°C ÷ 85°C, 10 ÷ 95% RH non-condensing
TEMPERATURE COEFFICIENT	± 0.03% / °C
OPERATION ALTITUDE (MAX.)	[5] 5000m

SAFETY AND EMC REGULATIONS

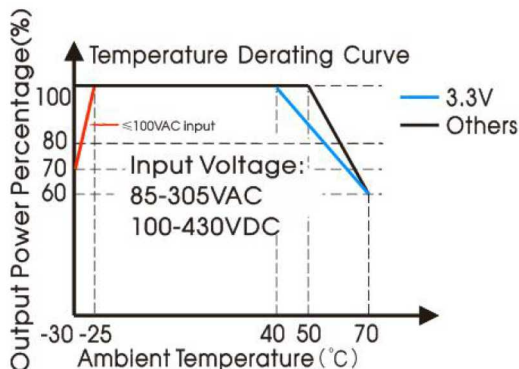
SAFETY STANDARDS	Compliance to EN62368-1
WITHSTAND VOLTAGE	IN/OUT: 4000VAC (< 10mA); IN/GND: 2000VAC (< 10mA) ; OUT/GND: 1250VAC (< 10mA)
ISOLATION RESISTANCE	IN/OUT, IN/GND, OUT/GND: 100MΩ/500VDC
EMC EMISSION	Compliance to EN55032
EMC IMMUNITY	Compliance to EN55035; EN61000-4-2, -3, -4, -5, -6, -11
HARMONIC CURRENT	Compliance to EN61000-3-3, EN61000-3-2

OTHERS

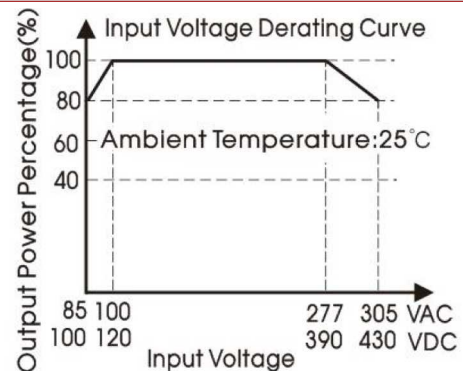
MTBF (MIN.)	450 000h / 25°C per MIL-HDBK-217F
DIMENSIONS AND CASE MATERIAL	80 x 55 x 25mm (L x W x H); Metal (AL5052, SGCC)
NET WEIGHT	0.115kg

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load, 25°C of ambient temperatur and humidity <75% RH.
2. Ripple & noise is measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μF i 47μF parallel capacitor.
3. In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability.
4. Case needs to be connected to the earth (⊕) of the system when the terminal equipment in operating.
5. The room temperature derating of 3.5°C / 1000m is needed for operating altitude greater than 2000m.
6. Power supply is considered as component not indented to apply by end-user. Power supply meets safety and EMC standards however the final equipment with power supply must be re-quality to comply with EMC Directives.

DERATING CURVE



STATIC CHARACTERISTIC

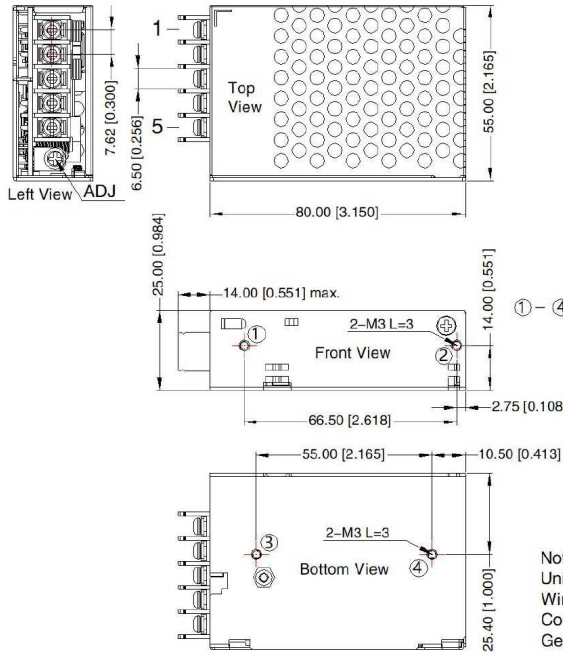


MRS-25-H series

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MECHANICAL SPECIFICATION of MRS-25-H and MRS-25-H-Q

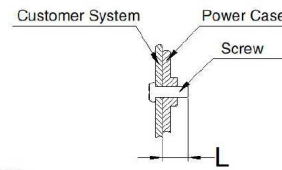


THIRD ANGLE PROJECTION

Pin-Out	
Pin	Function
1	AC(L)
2	AC(N)
3	⊕
4	-Vo
5	+Vo

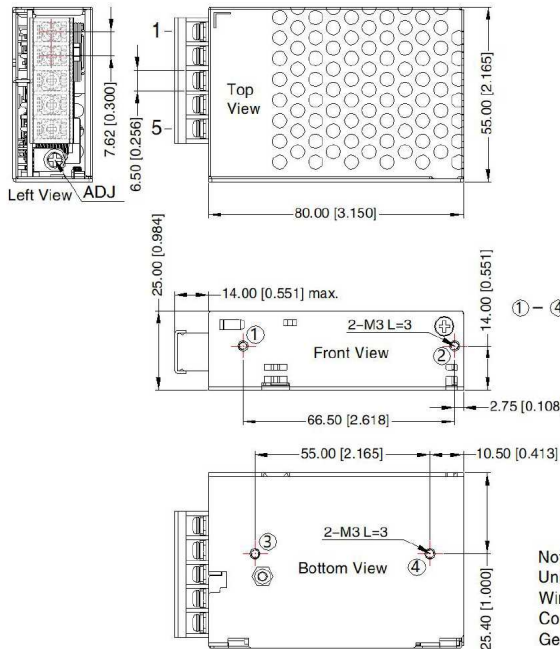
① - ④ any position must be connected to the earth(⊕)

Position	Screw Spec.	L(max)	Torque(max)
① - ④	M3	3mm	0.4N-m



Note:
 Unit: mm[inch]
 Wire range: 22-12AWG
 Connector tightening torque: M3, 0.4N-m
 General tolerances: ± 1.00[± 0.039]

MECHANICAL SPECIFICATION of MRS-25-H-C

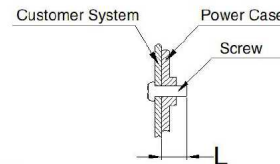


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