

Evaluation Data

품 목	SMPS
품 명	RP150-S
Rev. No.	A

CE CB

ORIENT
ELECTRONICS

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CONTENTS

1. RP150-05

- . Input Current & Efficiency
- . Line & Load Regulation
- . Leakage Current
- . Inrush Current
- . Ripple & Noise
- . Turn on Time
- . Hold up Time
- . Electro Magnetic Compatibility

2. RP150-12

- . Input Current & Efficiency
- . Line & Load Regulation
- . Leakage Current
- . Inrush Current
- . Ripple & Noise
- . Turn on Time
- . Hold up Time
- . Electro Magnetic Compatibility

3. RP150-24

- . Input Current & Efficiency
- . Line & Load Regulation
- . Leakage Current
- . Inrush Current
- . Ripple & Noise
- . Turn on Time
- . Hold up Time
- . Electro Magnetic Compatibility

4. RP150-48

- . Input Current & Efficiency
- . Line & Load Regulation
- . Leakage Current
- . Inrush Current
- . Ripple & Noise
- . Turn on Time
- . Hold up Time
- . Electro Magnetic Compatibility

RP150-05

Input Current & Efficiency

Specification : 3.0A @ AC110V , 1.7A / 85% @ AC220V

I _o		V _{in}	AC85V	AC110V	AC220V	AC264V
		0%	Input Current [A]		0.023A	0.027A
Efficiency [%]			-	-	-	-
50%	Input Current [A]		1.593A	1.335A	0.764A	0.617A
	Efficiency [%]		79.20%	80.00%	80.60%	84.60%
100%	Input Current [A]		2.741A	2.273A	1.287A	1.134A
	Efficiency [%]		83.60%	85.50%	86.90%	87.00%

Line & Load Regulation

Specification : Line Regulation ±25mV
Load Regulation ±50mV

V _{in}	AC85V	AC110V	AC220V	AC264V	Line Regulation [mV]
0%	5.049V	5.049V	5.045V	5.046V	4mV
50%	5.028V	5.023V	5.024V	5.022V	6mV
100%	5.016V	5.015V	5.016V	5.015V	1mV
Load Regulation [mV]	33mV	34mV	29mV	31mV	

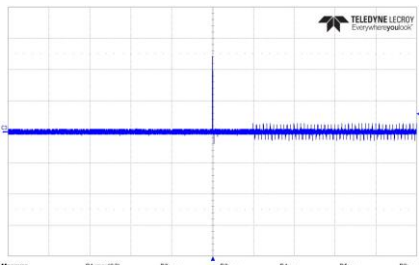
Leakage Current

Specification : 0.75mA

	110V	220V
Line L [mA]	0.20mA	0.21mA
Line N [mA]	0.20mA	0.21mA

Inrush Current

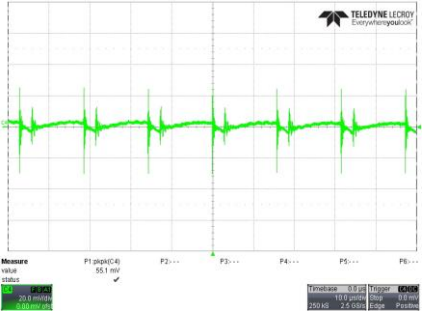
Specification : 60A

Input	Output	Result
AC220V	I _o =100%	 <p>48.0A</p>

RP150-05

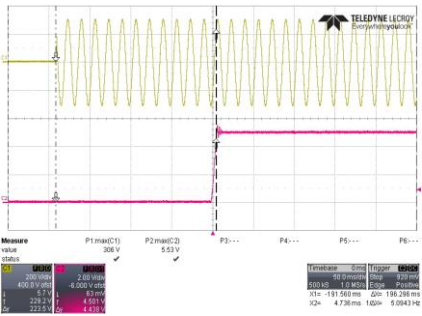
Ripple & Noise

Specification : 100mV

Input	Output	Result
AC220V	Io=100%	 <p>55.1mV</p>

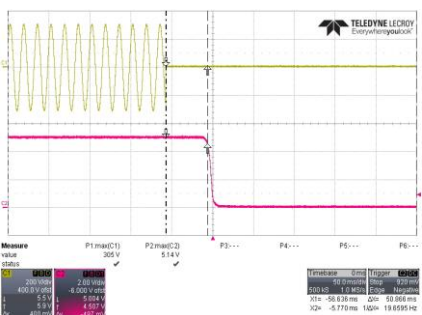
Turn on Time

Specification : 500ms

Input	Output	Result
AC220V	Io=100%	 <p>196.29ms</p>

Hold up Time

Specification : 40ms

Input	Output	Result
AC220V	Io=100%	 <p>50.86ms</p>

RP150-05

Electro Magnetic Compatibility

Item	Standard	Tset Condition	Result
EMI (Conduction/Radiation)	EN55032	AC230V, 50Hz, Full Load	Class B Pass
Harmonic Current	EN61000-3-2	AC230V, 50Hz, Full Load	Class A Pass
Electrostatic Discharge	EN61000-4-2	AC230V, 50Hz, Full Load Ari : 8kV, Contact : 4kV	Criteria A
Electrical Fast Transient	EN61000-4-4	AC230V, 50Hz, Full Load 2kV	Criteria A
Surge	EN61000-4-5	AC230V, 50Hz, Full Load Line-Line : 2kV Line-PE : 4kV	Criteria A

RP150-12

Input Current & Efficiency

Specification : 3.0A @ AC110V , 1.7A / 87.5% @ AC220V

I _o		V _{in}	AC85V	AC110V	AC220V	AC264V
		0%	Input Current [A]		0.024A	0.028A
Efficiency [%]			-	-	-	-
50%	Input Current [A]		1.932A	1.605A	0.915A	0.801A
	Efficiency [%]		87.10%	88.10%	89.00%	88.30%
100%	Input Current [A]		3.591A	2.944A	1.706A	1.513A
	Efficiency [%]		84.00%	86.40%	88.10%	88.30%

Line & Load Regulation

Specification : Line Regulation ±60mV
Load Regulation ±60mV

V _{in}	AC85V	AC110V	AC220V	AC264V	Line Regulation [mV]
0%	12.028V	12.033V	12.040V	12.035V	12mV
50%	12.031V	12.050V	12.045V	12.041V	19mV
100%	12.079V	12.085V	12.091V	12.092V	13mV
Load Regulation [mV]	51mV	52mV	51mV	57mV	

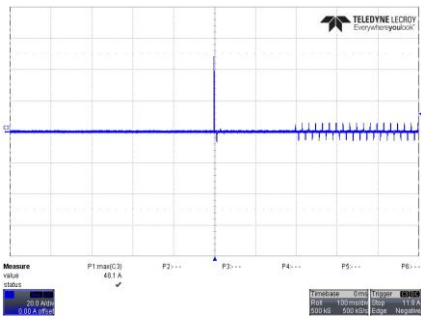
Leakage Current

Specification : 0.75mA

	110V	220V
Line L [mA]	0.20mA	0.21mA
Line N [mA]	0.20mA	0.21mA

Inrush Current

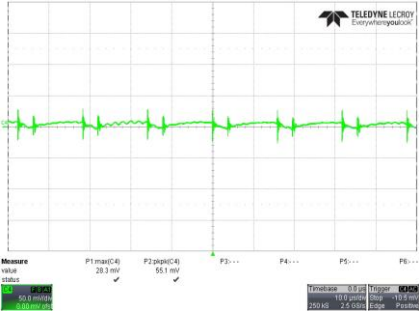
Specification : 60A

Input	Output	Result
AC220V	I _o =100%	 <p>48.1A</p>

RP150-12

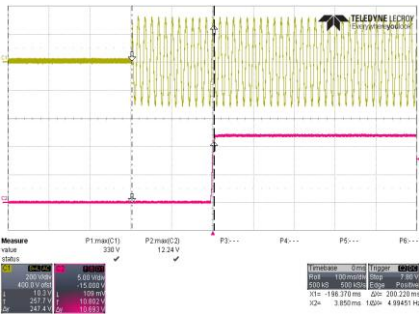
Ripple & Noise

Specification : 150mV

Input	Output	Result	
AC220V	Io=100%		55.1mV

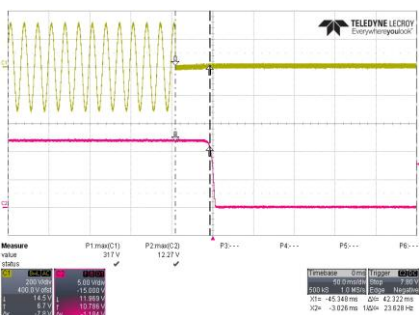
Turn on Time

Specification : 500ms

Input	Output	Result	
AC220V	Io=100%		200.22ms

Hold up Time

Specification : 40ms

Input	Output	Result	
AC220V	Io=100%		42.32ms

RP150-12

Electro Magnetic Compatibility

Item	Standard	Tset Condition	Result
EMI (Conduction/Radiation)	EN55032	AC230V, 50Hz, Full Load	Class B Pass
Harmonic Current	EN61000-3-2	AC230V, 50Hz, Full Load	Class A Pass
Electrostatic Discharge	EN61000-4-2	AC230V, 50Hz, Full Load Ari : 8kV, Contact : 4kV	Criteria A
Electrical Fast Transient	EN61000-4-4	AC230V, 50Hz, Full Load 2kV	Criteria A
Surge	EN61000-4-5	AC230V, 50Hz, Full Load Line-Line : 2kV Line-PE : 4kV	Criteria A

RP150-24

Input Current & Efficiency

Specification : 3.0A @ AC110V , 1.7A / 89% @ AC220V

Io		Vin	AC85V	AC110V	AC220V	AC264V
		0%	Input Current [A]	0.031A	0.039A	0.066A
	Efficiency [%]	-	-	-	-	
50%	Input Current [A]	1.929A	1.624A	0.930A	0.820A	
	Efficiency [%]	88.80%	88.70%	90.60%	90.00%	
100%	Input Current [A]	3.577A	2.933A	1.686A	1.502A	
	Efficiency [%]	86.50%	88.30%	90.20%	90.10%	

Line & Load Regulation

Specification : Line Regulation $\pm 120\text{mV}$

Load Regulation $\pm 120\text{mV}$

Vin	AC85V	AC110V	AC220V	AC264V	Line Regulation [mV]
0%	24.000V	24.010V	24.020V	24.020V	20mV
50%	24.020V	24.010V	24.030V	24.050V	40mV
100%	24.040V	24.050V	24.080V	24.100V	60mV
Load Regulation [mV]	40mV	40mV	60mV	80mV	

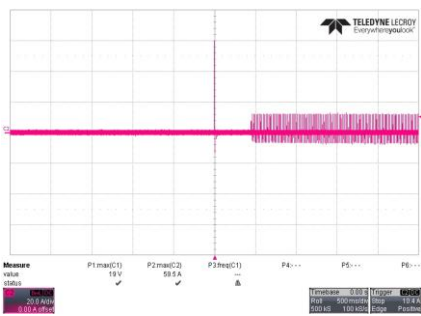
Leakage Current

Specification : 0.75mA

	110V	220V
Line L [mA]	0.20mA	0.21mA
Line N [mA]	0.20mA	0.21mA

Inrush Current

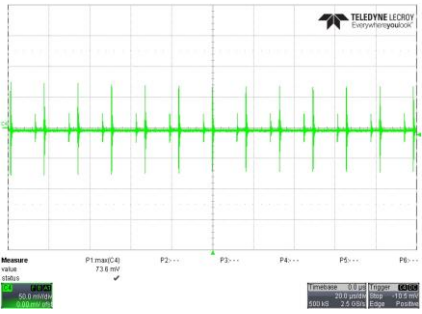
Specification : 60A

Input	Output	Result
AC220V	Io=100%	 <p>59.5A</p>

RP150-24

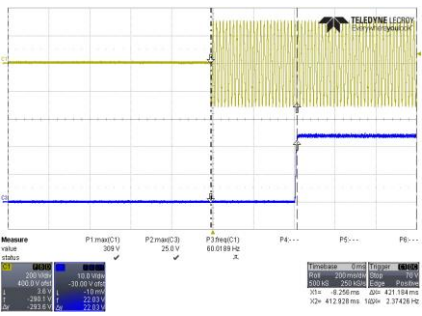
Ripple & Noise

Specification : 200mV

Input	Output	Result	
AC220V	Io=100%		73.6mV

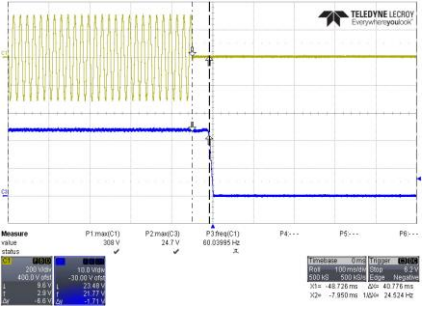
Turn on Time

Specification : 500ms

Input	Output	Result	
AC220V	Io=100%		421.18ms

Hold up Time

Specification : 40ms

Input	Output	Result	
AC220V	Io=100%		40.77ms

RP150-24

Electro Magnetic Compatibility

Item	Standard	Tset Condition	Result
EMI (Conduction/Radiation)	EN55032	AC230V, 50Hz, Full Load	Class B Pass
Harmonic Current	EN61000-3-2	AC230V, 50Hz, Full Load	Class A Pass
Electrostatic Discharge	EN61000-4-2	AC230V, 50Hz, Full Load Ari : 8kV, Contact : 4kV	Criteria A
Electrical Fast Transient	EN61000-4-4	AC230V, 50Hz, Full Load 2kV	Criteria A
Surge	EN61000-4-5	AC230V, 50Hz, Full Load Line-Line : 2kV Line-PE : 4kV	Criteria A

RP150-48

Input Current & Efficiency

Specification : 3.0A @ AC110V , 1.7A / 90% @ AC220V

I _o		V _{in}	AC85V	AC110V	AC220V	AC264V
		0%	Input Current [A]		0.037A	0.041A
Efficiency [%]			-	-	-	-
50%	Input Current [A]		1.905A	1.575A	0.925A	0.817A
	Efficiency [%]		88.60%	89.30%	90.40%	90.60%
100%	Input Current [A]		3.597A	2.930A	1.692A	1.516A
	Efficiency [%]		86.90%	88.60%	90.60%	90.20%

Line & Load Regulation

Specification : Line Regulation ±240mV

Load Regulation ±240mV

V _{in}	AC85V	AC110V	AC220V	AC264V	Line Regulation [mV]
0%	47.950V	48.010V	48.020V	48.060V	110mV
50%	47.930V	48.040V	48.070V	48.090V	160mV
100%	48.140V	48.130V	48.170V	48.190V	60mV
Load Regulation [mV]	210mV	120mV	150mV	130mV	

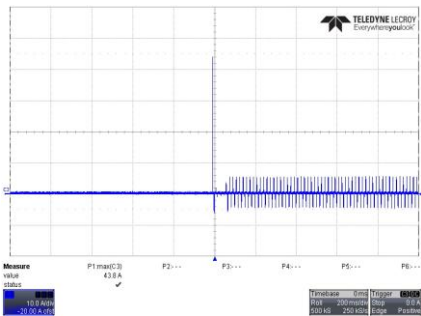
Leakage Current

Specification : 0.75mA

	110V	220V
Line L [mA]	0.20mA	0.21mA
Line N [mA]	0.20mA	0.21mA

Inrush Current

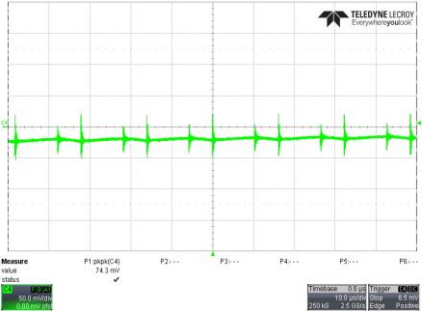
Specification : 60A

Input	Output	Result
AC220V	I _o =100%	 <p>43.8A</p>

RP150-48

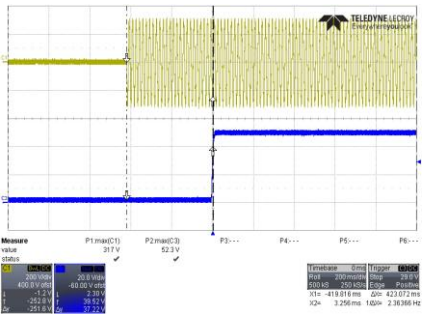
Ripple & Noise

Specification : 200mV

Input	Output	Result	
AC220V	Io=100%		74.3mV

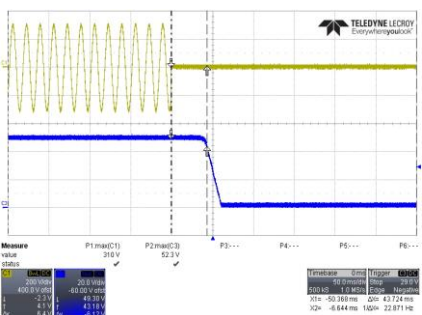
Turn on Time

Specification : 500ms

Input	Output	Result	
AC220V	Io=100%		423.07ms

Hold up Time

Specification : 40ms

Input	Output	Result	
AC220V	Io=100%		43.72ms

RP150-48

Electro Magnetic Compatibility

Item	Standard	Tset Condition	Result
EMI (Conduction/Radiation)	EN55032	AC230V, 50Hz, Full Load	Class B Pass
Harmonic Current	EN61000-3-2	AC230V, 50Hz, Full Load	Class A Pass
Electrostatic Discharge	EN61000-4-2	AC230V, 50Hz, Full Load Ari : 8kV, Contact : 4kV	Criteria A
Electrical Fast Transient	EN61000-4-4	AC230V, 50Hz, Full Load 2kV	Criteria A
Surge	EN61000-4-5	AC230V, 50Hz, Full Load Line-Line : 2kV Line-PE : 4kV	Criteria A