

## Test Data

PCTF-220P-X2S

(AC(85)90~264V)

### DC POWER SUPPLY

Approved by :           *K. Imai*          

Prepared by :           *A. Tsumi*          

INPUT : AC (85)90V ~ 264V

OUTPUT : V1: 5V      6A (Peak 15A)  
          V2: 3.3V     10A (Peak 16.7A)  
          V3: 12V     10A (Peak 12A)  
          V4: -12V    0.3A (Peak 0.5A)  
          V5: 5Vs     1.5A (Peak 2.5A)

## CONTENTS

1. <b>Line Regulation</b> .....	1 ~ 3
2. <b>Input Current (by Load Power)</b> .....	4
3. <b>Input Power (by Load Power)</b> .....	5
4. <b>Efficiency</b> .....	6
5. <b>Power Factor</b> .....	7
6. <b>Instantaneous Interruption Compensation (by Load Power)</b> ...	8
7. <b>Load Regulation</b> .....	9 ~ 11
8. <b>Ripple-Noise</b> .....	12
9. <b>Over-Current Protection</b> .....	13
10. <b>Over-Voltage Protection</b> .....	14
11. <b>Inrush Current</b> .....	15
12. <b>Dynamic Load Response</b> .....	16 ~ 18
13. <b>12V Cross Regulation</b> .....	19
14. <b>Ambient Temperature Drift</b> .....	20 ~ 22
15. <b>Harmonic Current</b> .....	23 ~ 24
16. <b>Leakage Current</b> .....	25
17. <b>Line Noise Tolerance</b> .....	26
18. <b>Conducted Emission</b> .....	27 ~ 28

Model	PCTF-220P-X2S																															
Item	Line Regulation																															
<p>V1:5V 6A</p> <p>at AC Input</p> <table border="1"> <thead> <tr> <th>Input Voltage [V]</th> <th>Output Voltage [V]</th> <th>Fluctuation Value [%]</th> </tr> </thead> <tbody> <tr><td>AC 90</td><td>4.966</td><td>-0.68</td></tr> <tr><td>100</td><td>4.966</td><td>-0.68</td></tr> <tr><td>240</td><td>4.966</td><td>-0.68</td></tr> <tr><td>264</td><td>4.966</td><td>-0.68</td></tr> </tbody> </table>		Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]	AC 90	4.966	-0.68	100	4.966	-0.68	240	4.966	-0.68	264	4.966	-0.68	<p>at AC Input</p> <table border="1"> <thead> <tr> <th>Input Voltage [V]</th> <th>Output Voltage [V]</th> <th>Fluctuation Value [%]</th> </tr> </thead> <tbody> <tr><td>AC 90</td><td>4.966</td><td>-0.68</td></tr> <tr><td>100</td><td>4.966</td><td>-0.68</td></tr> <tr><td>240</td><td>4.966</td><td>-0.68</td></tr> <tr><td>264</td><td>4.966</td><td>-0.68</td></tr> </tbody> </table>	Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]	AC 90	4.966	-0.68	100	4.966	-0.68	240	4.966	-0.68	264	4.966	-0.68
Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]																														
AC 90	4.966	-0.68																														
100	4.966	-0.68																														
240	4.966	-0.68																														
264	4.966	-0.68																														
Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]																														
AC 90	4.966	-0.68																														
100	4.966	-0.68																														
240	4.966	-0.68																														
264	4.966	-0.68																														
<p>V2:3.3V 10A</p> <p>at AC Input</p> <table border="1"> <thead> <tr> <th>Input Voltage [V]</th> <th>Output Voltage [V]</th> <th>Fluctuation Value [%]</th> </tr> </thead> <tbody> <tr><td>AC 90</td><td>3.289</td><td>-0.33</td></tr> <tr><td>100</td><td>3.289</td><td>-0.33</td></tr> <tr><td>240</td><td>3.289</td><td>-0.33</td></tr> <tr><td>264</td><td>3.289</td><td>-0.33</td></tr> </tbody> </table>		Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]	AC 90	3.289	-0.33	100	3.289	-0.33	240	3.289	-0.33	264	3.289	-0.33	<p>at AC Input</p> <table border="1"> <thead> <tr> <th>Input Voltage [V]</th> <th>Output Voltage [V]</th> <th>Fluctuation Value [%]</th> </tr> </thead> <tbody> <tr><td>AC 90</td><td>3.289</td><td>-0.33</td></tr> <tr><td>100</td><td>3.289</td><td>-0.33</td></tr> <tr><td>240</td><td>3.289</td><td>-0.33</td></tr> <tr><td>264</td><td>3.289</td><td>-0.33</td></tr> </tbody> </table>	Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]	AC 90	3.289	-0.33	100	3.289	-0.33	240	3.289	-0.33	264	3.289	-0.33
Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]																														
AC 90	3.289	-0.33																														
100	3.289	-0.33																														
240	3.289	-0.33																														
264	3.289	-0.33																														
Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]																														
AC 90	3.289	-0.33																														
100	3.289	-0.33																														
240	3.289	-0.33																														
264	3.289	-0.33																														

Model	PCTF-220P-X2S																
Item	Line Regulation																
<p>V3: 12V 10A</p> <p>at AC Input</p> <p>Legend: Rated Load</p>		<p>at AC Input</p> <table border="1"> <thead> <tr> <th>Input Voltage [V]</th> <th>Output Voltage [V]</th> <th>Fluctuation Value [%]</th> </tr> </thead> <tbody> <tr> <td>AC 90</td> <td>12.145</td> <td>1.21</td> </tr> <tr> <td>100</td> <td>12.145</td> <td>1.21</td> </tr> <tr> <td>240</td> <td>12.145</td> <td>1.21</td> </tr> <tr> <td>264</td> <td>12.145</td> <td>1.21</td> </tr> </tbody> </table>	Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]	AC 90	12.145	1.21	100	12.145	1.21	240	12.145	1.21	264	12.145	1.21
Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]															
AC 90	12.145	1.21															
100	12.145	1.21															
240	12.145	1.21															
264	12.145	1.21															
<p>V4: -12V 0.3A</p> <p>at AC Input</p> <p>Legend: Rated Load</p>		<p>at AC Input</p> <table border="1"> <thead> <tr> <th>Input Voltage [V]</th> <th>Output Voltage [V]</th> <th>Fluctuation Value [%]</th> </tr> </thead> <tbody> <tr> <td>AC 90</td> <td>-12.174</td> <td>1.45</td> </tr> <tr> <td>100</td> <td>-12.174</td> <td>1.45</td> </tr> <tr> <td>240</td> <td>-12.174</td> <td>1.45</td> </tr> <tr> <td>264</td> <td>-12.174</td> <td>1.45</td> </tr> </tbody> </table>	Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]	AC 90	-12.174	1.45	100	-12.174	1.45	240	-12.174	1.45	264	-12.174	1.45
Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]															
AC 90	-12.174	1.45															
100	-12.174	1.45															
240	-12.174	1.45															
264	-12.174	1.45															

Model	PCTF-220P-X2S																														
Item	Line Regulation																														
<p>V5:5Vs 1.5A</p> <p>at AC Input</p> <p>Legend: ■ Rated Load</p> <table border="1"> <caption>Data for Line Graph</caption> <thead> <tr> <th>Input Voltage [V]</th> <th>Fluctuation Value [%]</th> </tr> </thead> <tbody> <tr><td>90</td><td>-0.92</td></tr> <tr><td>100</td><td>-0.92</td></tr> <tr><td>140</td><td>-0.92</td></tr> <tr><td>170</td><td>-0.92</td></tr> <tr><td>240</td><td>-0.92</td></tr> <tr><td>264</td><td>-0.92</td></tr> </tbody> </table>		Input Voltage [V]	Fluctuation Value [%]	90	-0.92	100	-0.92	140	-0.92	170	-0.92	240	-0.92	264	-0.92	<p>at AC Input</p> <table border="1"> <thead> <tr> <th>Input Voltage [V]</th> <th>Output Voltage [V]</th> <th>Fluctuation Value [%]</th> </tr> </thead> <tbody> <tr> <td>AC 90</td> <td>4.954</td> <td>-0.92</td> </tr> <tr> <td>100</td> <td>4.954</td> <td>-0.92</td> </tr> <tr> <td>240</td> <td>4.954</td> <td>-0.92</td> </tr> <tr> <td>264</td> <td>4.954</td> <td>-0.92</td> </tr> </tbody> </table>	Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]	AC 90	4.954	-0.92	100	4.954	-0.92	240	4.954	-0.92	264	4.954	-0.92
Input Voltage [V]	Fluctuation Value [%]																														
90	-0.92																														
100	-0.92																														
140	-0.92																														
170	-0.92																														
240	-0.92																														
264	-0.92																														
Input Voltage [V]	Output Voltage [V]	Fluctuation Value [%]																													
AC 90	4.954	-0.92																													
100	4.954	-0.92																													
240	4.954	-0.92																													
264	4.954	-0.92																													

Model	PCTF-220P-X2S																																																																					
Item	Input Current (by Load Power)																																																																					
<p style="text-align: center;">at AC Input</p> <p style="text-align: center;">at AC Input</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Input Current [A rms]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>0.29</td> <td>0.27</td> <td>0.20</td> <td>0.20</td> </tr> <tr> <td>48.53</td> <td>0.90</td> <td>0.80</td> <td>0.38</td> <td>0.38</td> </tr> <tr> <td>97.05</td> <td>1.58</td> <td>1.42</td> <td>0.62</td> <td>0.60</td> </tr> <tr> <td>145.58</td> <td>2.33</td> <td>2.07</td> <td>0.88</td> <td>0.83</td> </tr> <tr> <td>194.1</td> <td>3.14</td> <td>2.78</td> <td>1.14</td> <td>1.07</td> </tr> </tbody> </table>		Load Power [W]	Input Current [A rms]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	5	0.29	0.27	0.20	0.20	48.53	0.90	0.80	0.38	0.38	97.05	1.58	1.42	0.62	0.60	145.58	2.33	2.07	0.88	0.83	194.1	3.14	2.78	1.14	1.07	<table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Input Current [A rms]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>0.29</td> <td>0.27</td> <td>0.20</td> <td>0.20</td> </tr> <tr> <td>48.53</td> <td>0.90</td> <td>0.80</td> <td>0.38</td> <td>0.38</td> </tr> <tr> <td>97.05</td> <td>1.58</td> <td>1.42</td> <td>0.62</td> <td>0.60</td> </tr> <tr> <td>145.58</td> <td>2.33</td> <td>2.07</td> <td>0.88</td> <td>0.83</td> </tr> <tr> <td>194.1</td> <td>3.14</td> <td>2.78</td> <td>1.14</td> <td>1.07</td> </tr> </tbody> </table>	Load Power [W]	Input Current [A rms]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	5	0.29	0.27	0.20	0.20	48.53	0.90	0.80	0.38	0.38	97.05	1.58	1.42	0.62	0.60	145.58	2.33	2.07	0.88	0.83	194.1	3.14	2.78	1.14	1.07
Load Power [W]	Input Current [A rms]																																																																					
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																																																		
5	0.29	0.27	0.20	0.20																																																																		
48.53	0.90	0.80	0.38	0.38																																																																		
97.05	1.58	1.42	0.62	0.60																																																																		
145.58	2.33	2.07	0.88	0.83																																																																		
194.1	3.14	2.78	1.14	1.07																																																																		
Load Power [W]	Input Current [A rms]																																																																					
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																																																		
5	0.29	0.27	0.20	0.20																																																																		
48.53	0.90	0.80	0.38	0.38																																																																		
97.05	1.58	1.42	0.62	0.60																																																																		
145.58	2.33	2.07	0.88	0.83																																																																		
194.1	3.14	2.78	1.14	1.07																																																																		

Model	PCTF-220P-X2S																																																																					
Item	Input Power (by Load Power)																																																																					
<p style="text-align: center;">at AC Input</p> <p style="text-align: center;">at AC Input</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Input Power [W]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>25.98</td> <td>25.78</td> <td>25.14</td> <td>25.06</td> </tr> <tr> <td>48.53</td> <td>79.96</td> <td>79.47</td> <td>76.44</td> <td>76.15</td> </tr> <tr> <td>97.05</td> <td>141.98</td> <td>140.82</td> <td>135.03</td> <td>134.53</td> </tr> <tr> <td>145.58</td> <td>208.54</td> <td>205.90</td> <td>195.84</td> <td>195.01</td> </tr> <tr> <td>194.1</td> <td>281.20</td> <td>276.22</td> <td>259.34</td> <td>258.44</td> </tr> </tbody> </table>		Load Power [W]	Input Power [W]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	5	25.98	25.78	25.14	25.06	48.53	79.96	79.47	76.44	76.15	97.05	141.98	140.82	135.03	134.53	145.58	208.54	205.90	195.84	195.01	194.1	281.20	276.22	259.34	258.44	<table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Input Power [W]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>25.98</td> <td>25.78</td> <td>25.14</td> <td>25.06</td> </tr> <tr> <td>48.53</td> <td>79.96</td> <td>79.47</td> <td>76.44</td> <td>76.15</td> </tr> <tr> <td>97.05</td> <td>141.98</td> <td>140.82</td> <td>135.03</td> <td>134.53</td> </tr> <tr> <td>145.58</td> <td>208.54</td> <td>205.90</td> <td>195.84</td> <td>195.01</td> </tr> <tr> <td>194.1</td> <td>281.20</td> <td>276.22</td> <td>259.34</td> <td>258.44</td> </tr> </tbody> </table>	Load Power [W]	Input Power [W]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	5	25.98	25.78	25.14	25.06	48.53	79.96	79.47	76.44	76.15	97.05	141.98	140.82	135.03	134.53	145.58	208.54	205.90	195.84	195.01	194.1	281.20	276.22	259.34	258.44
Load Power [W]	Input Power [W]																																																																					
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																																																		
5	25.98	25.78	25.14	25.06																																																																		
48.53	79.96	79.47	76.44	76.15																																																																		
97.05	141.98	140.82	135.03	134.53																																																																		
145.58	208.54	205.90	195.84	195.01																																																																		
194.1	281.20	276.22	259.34	258.44																																																																		
Load Power [W]	Input Power [W]																																																																					
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																																																		
5	25.98	25.78	25.14	25.06																																																																		
48.53	79.96	79.47	76.44	76.15																																																																		
97.05	141.98	140.82	135.03	134.53																																																																		
145.58	208.54	205.90	195.84	195.01																																																																		
194.1	281.20	276.22	259.34	258.44																																																																		

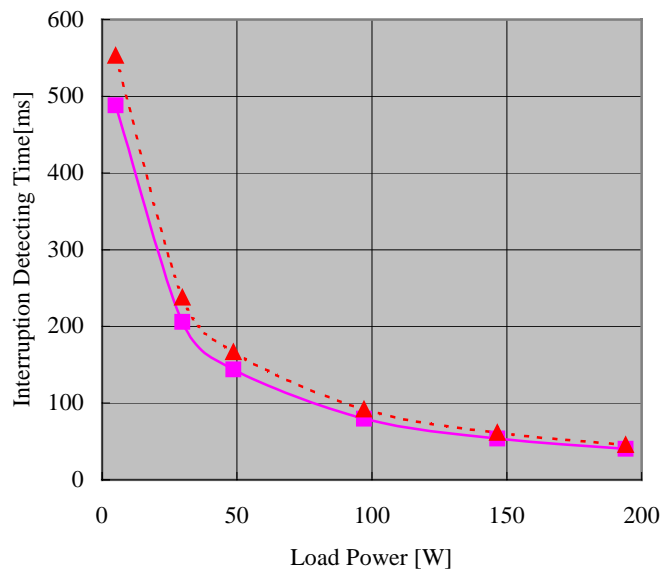
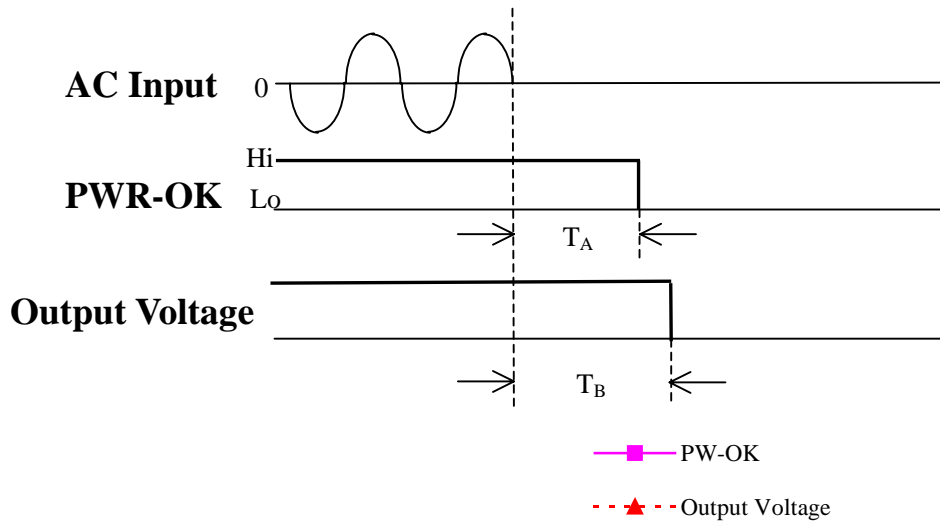
Model	PCTF-220P-X2S																														
Item	Efficiency																														
<p>at AC Input</p> <table border="1"> <caption>at AC Input</caption> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Efficiency [%]</th> </tr> <tr> <th>50% Load</th> <th>100% Load</th> </tr> </thead> <tbody> <tr> <td>90</td> <td>69.09</td> <td>69.42</td> </tr> <tr> <td>100</td> <td>69.66</td> <td>70.68</td> </tr> <tr> <td>240</td> <td>72.64</td> <td>75.28</td> </tr> <tr> <td>264</td> <td>72.91</td> <td>75.54</td> </tr> </tbody> </table>		Input Voltage [V]	Efficiency [%]		50% Load	100% Load	90	69.09	69.42	100	69.66	70.68	240	72.64	75.28	264	72.91	75.54													
Input Voltage [V]	Efficiency [%]																														
	50% Load	100% Load																													
90	69.09	69.42																													
100	69.66	70.68																													
240	72.64	75.28																													
264	72.91	75.54																													
<p>at AC Input</p> <table border="1"> <caption>at AC Input</caption> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Efficiency [%]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr> <td>48.53</td> <td>61.49</td> <td>61.87</td> <td>64.32</td> <td>64.56</td> </tr> <tr> <td>97.05</td> <td>69.09</td> <td>69.66</td> <td>72.64</td> <td>72.91</td> </tr> <tr> <td>145.58</td> <td>70.38</td> <td>71.29</td> <td>74.95</td> <td>75.27</td> </tr> <tr> <td>194.1</td> <td>69.42</td> <td>70.68</td> <td>75.28</td> <td>75.54</td> </tr> </tbody> </table>		Load Power [W]	Efficiency [%]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	48.53	61.49	61.87	64.32	64.56	97.05	69.09	69.66	72.64	72.91	145.58	70.38	71.29	74.95	75.27	194.1	69.42	70.68	75.28	75.54	
Load Power [W]	Efficiency [%]																														
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																											
48.53	61.49	61.87	64.32	64.56																											
97.05	69.09	69.66	72.64	72.91																											
145.58	70.38	71.29	74.95	75.27																											
194.1	69.42	70.68	75.28	75.54																											



Model	PCTF-220P-X2S																															
Item	Power Factor																															
<p style="text-align: center;">at AC Input</p>	at AC Input																															
	<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Power Factor [%]</th> </tr> <tr> <th>50%Load</th> <th>100% Load</th> </tr> </thead> <tbody> <tr> <td>90</td> <td>99.57</td> <td>99.43</td> </tr> <tr> <td>100</td> <td>99.38</td> <td>99.43</td> </tr> <tr> <td>240</td> <td>90.63</td> <td>94.75</td> </tr> <tr> <td>264</td> <td>84.99</td> <td>91.91</td> </tr> </tbody> </table>			Input Voltage [V]	Power Factor [%]		50%Load	100% Load	90	99.57	99.43	100	99.38	99.43	240	90.63	94.75	264	84.99	91.91												
Input Voltage [V]	Power Factor [%]																															
	50%Load	100% Load																														
90	99.57	99.43																														
100	99.38	99.43																														
240	90.63	94.75																														
264	84.99	91.91																														
<p style="text-align: center;">at AC Input</p>	at AC Input																															
	<table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Power Factor [%]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr> <td>48.53</td> <td>99.17</td> <td>99.05</td> <td>83.38</td> <td>75.14</td> </tr> <tr> <td>97.05</td> <td>99.57</td> <td>99.38</td> <td>90.63</td> <td>84.99</td> </tr> <tr> <td>145.58</td> <td>99.55</td> <td>99.48</td> <td>93.14</td> <td>89.48</td> </tr> <tr> <td>194.1</td> <td>99.43</td> <td>99.43</td> <td>94.75</td> <td>91.91</td> </tr> </tbody> </table>				Load Power [W]	Power Factor [%]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	48.53	99.17	99.05	83.38	75.14	97.05	99.57	99.38	90.63	84.99	145.58	99.55	99.48	93.14	89.48	194.1	99.43	99.43	94.75
Load Power [W]	Power Factor [%]																															
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																												
48.53	99.17	99.05	83.38	75.14																												
97.05	99.57	99.38	90.63	84.99																												
145.58	99.55	99.48	93.14	89.48																												
194.1	99.43	99.43	94.75	91.91																												

Model	PCTF-220P-X2S
Item	Instantaneous Interruption Compensation (by Load Power)

at AC Input (90V / 100V / 240V / 264V)



Load Power [W]	Interruption Detecting Time (ms)	
	PWR-OK $T_A$	DC Output $T_B$
5	488.20	552.80
29.7	205.84	237.50
48.61	143.92	166.36
97.05	79.74	91.62
146.51	53.77	61.44
194.1	40.48	45.42

Model	PCTF-220P-X2S																																																
Item	Load Regulation																																																
<b>V1:5V 6A</b>																																																	
<p>at AC Input</p>		<p>at AC Input</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Fluctuation Value [%]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr><td>5</td><td>0.26</td><td>0.26</td><td>0.26</td><td>0.26</td></tr> <tr><td>48.53</td><td>0.08</td><td>0.08</td><td>0.08</td><td>0.08</td></tr> <tr><td>97.05</td><td>-0.18</td><td>-0.18</td><td>-0.18</td><td>-0.18</td></tr> <tr><td>145.58</td><td>-0.42</td><td>-0.42</td><td>-0.42</td><td>-0.42</td></tr> <tr><td>194.1</td><td>-0.68</td><td>-0.68</td><td>-0.68</td><td>-0.68</td></tr> <tr><td>218.3</td><td>-1.40</td><td>-1.20</td><td>-1.00</td><td>-1.00</td></tr> </tbody> </table>	Load Power [W]	Fluctuation Value [%]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	5	0.26	0.26	0.26	0.26	48.53	0.08	0.08	0.08	0.08	97.05	-0.18	-0.18	-0.18	-0.18	145.58	-0.42	-0.42	-0.42	-0.42	194.1	-0.68	-0.68	-0.68	-0.68	218.3	-1.40	-1.20	-1.00	-1.00								
Load Power [W]	Fluctuation Value [%]																																																
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																													
5	0.26	0.26	0.26	0.26																																													
48.53	0.08	0.08	0.08	0.08																																													
97.05	-0.18	-0.18	-0.18	-0.18																																													
145.58	-0.42	-0.42	-0.42	-0.42																																													
194.1	-0.68	-0.68	-0.68	-0.68																																													
218.3	-1.40	-1.20	-1.00	-1.00																																													
		<p>Load Condition</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="5">Load Current [A]</th> </tr> <tr> <th>5V</th> <th>3.3V</th> <th>12V</th> <th>-12V</th> <th>5Vs</th> </tr> </thead> <tbody> <tr><td>5</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>48.53</td><td>1.5</td><td>2.5</td><td>2.5</td><td>0.075</td><td>0.375</td></tr> <tr><td>97.05</td><td>3</td><td>5</td><td>5</td><td>0.15</td><td>0.75</td></tr> <tr><td>145.58</td><td>4.5</td><td>7.5</td><td>7.5</td><td>0.225</td><td>1.125</td></tr> <tr><td>194.1</td><td>6</td><td>10</td><td>10</td><td>0.3</td><td>1.5</td></tr> <tr><td>218.3</td><td>15</td><td>0</td><td>10.4</td><td>0.5</td><td>2.5</td></tr> </tbody> </table>	Load Power [W]	Load Current [A]					5V	3.3V	12V	-12V	5Vs	5	1	0	0	0	0	48.53	1.5	2.5	2.5	0.075	0.375	97.05	3	5	5	0.15	0.75	145.58	4.5	7.5	7.5	0.225	1.125	194.1	6	10	10	0.3	1.5	218.3	15	0	10.4	0.5	2.5
Load Power [W]	Load Current [A]																																																
	5V	3.3V	12V	-12V	5Vs																																												
5	1	0	0	0	0																																												
48.53	1.5	2.5	2.5	0.075	0.375																																												
97.05	3	5	5	0.15	0.75																																												
145.58	4.5	7.5	7.5	0.225	1.125																																												
194.1	6	10	10	0.3	1.5																																												
218.3	15	0	10.4	0.5	2.5																																												
<b>V2:3.3V 10A</b>																																																	
<p>at AC Input</p>		<p>at AC Input</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Fluctuation Value [%]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr><td>5</td><td>1.36</td><td>1.36</td><td>1.36</td><td>1.36</td></tr> <tr><td>48.53</td><td>0.97</td><td>0.97</td><td>0.97</td><td>0.97</td></tr> <tr><td>97.05</td><td>0.55</td><td>0.55</td><td>0.55</td><td>0.55</td></tr> <tr><td>145.58</td><td>0.12</td><td>0.12</td><td>0.12</td><td>0.12</td></tr> <tr><td>194.1</td><td>-0.33</td><td>-0.33</td><td>-0.33</td><td>-0.33</td></tr> <tr><td>204.91</td><td>-0.61</td><td>-0.61</td><td>-0.61</td><td>-0.61</td></tr> </tbody> </table>	Load Power [W]	Fluctuation Value [%]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	5	1.36	1.36	1.36	1.36	48.53	0.97	0.97	0.97	0.97	97.05	0.55	0.55	0.55	0.55	145.58	0.12	0.12	0.12	0.12	194.1	-0.33	-0.33	-0.33	-0.33	204.91	-0.61	-0.61	-0.61	-0.61								
Load Power [W]	Fluctuation Value [%]																																																
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																													
5	1.36	1.36	1.36	1.36																																													
48.53	0.97	0.97	0.97	0.97																																													
97.05	0.55	0.55	0.55	0.55																																													
145.58	0.12	0.12	0.12	0.12																																													
194.1	-0.33	-0.33	-0.33	-0.33																																													
204.91	-0.61	-0.61	-0.61	-0.61																																													
		<p>Load Condition</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="5">Load Current [A]</th> </tr> <tr> <th>5V</th> <th>3.3V</th> <th>12V</th> <th>-12V</th> <th>5Vs</th> </tr> </thead> <tbody> <tr><td>5</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>48.53</td><td>1.5</td><td>2.5</td><td>2.5</td><td>0.075</td><td>0.375</td></tr> <tr><td>97.05</td><td>3</td><td>5</td><td>5</td><td>0.15</td><td>0.75</td></tr> <tr><td>145.58</td><td>4.5</td><td>7.5</td><td>7.5</td><td>0.225</td><td>1.125</td></tr> <tr><td>194.1</td><td>6</td><td>10</td><td>10</td><td>0.3</td><td>1.5</td></tr> <tr><td>204.91</td><td>1.3</td><td>16.7</td><td>10.4</td><td>0.5</td><td>2.5</td></tr> </tbody> </table>	Load Power [W]	Load Current [A]					5V	3.3V	12V	-12V	5Vs	5	1	0	0	0	0	48.53	1.5	2.5	2.5	0.075	0.375	97.05	3	5	5	0.15	0.75	145.58	4.5	7.5	7.5	0.225	1.125	194.1	6	10	10	0.3	1.5	204.91	1.3	16.7	10.4	0.5	2.5
Load Power [W]	Load Current [A]																																																
	5V	3.3V	12V	-12V	5Vs																																												
5	1	0	0	0	0																																												
48.53	1.5	2.5	2.5	0.075	0.375																																												
97.05	3	5	5	0.15	0.75																																												
145.58	4.5	7.5	7.5	0.225	1.125																																												
194.1	6	10	10	0.3	1.5																																												
204.91	1.3	16.7	10.4	0.5	2.5																																												

Model	PCTF-220P-X2S																																																																																							
Item	Load Regulation																																																																																							
<b>V3: 12V 10A</b>																																																																																								
<p style="text-align: center;">at AC Input</p> <p style="text-align: center;">Fluctuation Value [%]</p> <p style="text-align: center;">Load Power [W]</p>		<p style="text-align: center;">at AC Input</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Fluctuation Value [%]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr><td>5</td><td>1.97</td><td>1.97</td><td>1.97</td><td>1.97</td></tr> <tr><td>48.53</td><td>1.79</td><td>1.79</td><td>1.79</td><td>1.79</td></tr> <tr><td>97.05</td><td>1.60</td><td>1.60</td><td>1.60</td><td>1.60</td></tr> <tr><td>145.58</td><td>1.40</td><td>1.40</td><td>1.40</td><td>1.40</td></tr> <tr><td>194.1</td><td>1.21</td><td>1.21</td><td>1.21</td><td>1.21</td></tr> <tr><td>218.24</td><td>1.33</td><td>1.33</td><td>1.33</td><td>1.33</td></tr> </tbody> </table> <p style="text-align: center;">Load Condition</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="5">Load Current [A]</th> </tr> <tr> <th>5V</th> <th>3.3V</th> <th>12V</th> <th>-12V</th> <th>5Vs</th> </tr> </thead> <tbody> <tr><td>5</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>48.53</td><td>1.5</td><td>2.5</td><td>2.5</td><td>0.075</td><td>0.375</td></tr> <tr><td>97.05</td><td>3</td><td>5</td><td>5</td><td>0.15</td><td>0.75</td></tr> <tr><td>145.58</td><td>4.5</td><td>7.5</td><td>7.5</td><td>0.225</td><td>1.125</td></tr> <tr><td>194.1</td><td>6</td><td>10</td><td>10</td><td>0.3</td><td>1.5</td></tr> <tr><td>218.24</td><td>6</td><td>7.8</td><td>12</td><td>0.5</td><td>2.5</td></tr> </tbody> </table>	Load Power [W]	Fluctuation Value [%]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	5	1.97	1.97	1.97	1.97	48.53	1.79	1.79	1.79	1.79	97.05	1.60	1.60	1.60	1.60	145.58	1.40	1.40	1.40	1.40	194.1	1.21	1.21	1.21	1.21	218.24	1.33	1.33	1.33	1.33	Load Power [W]	Load Current [A]					5V	3.3V	12V	-12V	5Vs	5	1	0	0	0	0	48.53	1.5	2.5	2.5	0.075	0.375	97.05	3	5	5	0.15	0.75	145.58	4.5	7.5	7.5	0.225	1.125	194.1	6	10	10	0.3	1.5	218.24	6	7.8	12	0.5	2.5
Load Power [W]	Fluctuation Value [%]																																																																																							
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																																																																				
5	1.97	1.97	1.97	1.97																																																																																				
48.53	1.79	1.79	1.79	1.79																																																																																				
97.05	1.60	1.60	1.60	1.60																																																																																				
145.58	1.40	1.40	1.40	1.40																																																																																				
194.1	1.21	1.21	1.21	1.21																																																																																				
218.24	1.33	1.33	1.33	1.33																																																																																				
Load Power [W]	Load Current [A]																																																																																							
	5V	3.3V	12V	-12V	5Vs																																																																																			
5	1	0	0	0	0																																																																																			
48.53	1.5	2.5	2.5	0.075	0.375																																																																																			
97.05	3	5	5	0.15	0.75																																																																																			
145.58	4.5	7.5	7.5	0.225	1.125																																																																																			
194.1	6	10	10	0.3	1.5																																																																																			
218.24	6	7.8	12	0.5	2.5																																																																																			
<b>V4: -12V 0.3A</b>																																																																																								
<p style="text-align: center;">at AC Input</p> <p style="text-align: center;">Fluctuation Value [%]</p> <p style="text-align: center;">Load Power [W]</p>		<p style="text-align: center;">at AC Input</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Fluctuation Value [%]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr><td>5</td><td>0.90</td><td>0.90</td><td>0.90</td><td>0.90</td></tr> <tr><td>48.53</td><td>1.02</td><td>1.02</td><td>1.02</td><td>1.02</td></tr> <tr><td>97.05</td><td>1.17</td><td>1.17</td><td>1.17</td><td>1.17</td></tr> <tr><td>145.58</td><td>1.31</td><td>1.31</td><td>1.31</td><td>1.31</td></tr> <tr><td>194.1</td><td>1.45</td><td>1.45</td><td>1.45</td><td>1.45</td></tr> <tr><td>218.3</td><td>1.17</td><td>1.17</td><td>1.17</td><td>1.17</td></tr> </tbody> </table> <p style="text-align: center;">Load Condition</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="5">Load Current [A]</th> </tr> <tr> <th>5V</th> <th>3.3V</th> <th>12V</th> <th>-12V</th> <th>5Vs</th> </tr> </thead> <tbody> <tr><td>5</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>48.53</td><td>1.5</td><td>2.5</td><td>2.5</td><td>0.075</td><td>0.375</td></tr> <tr><td>97.05</td><td>3</td><td>5</td><td>5</td><td>0.15</td><td>0.75</td></tr> <tr><td>145.58</td><td>4.5</td><td>7.5</td><td>7.5</td><td>0.225</td><td>1.125</td></tr> <tr><td>194.1</td><td>6</td><td>10</td><td>10</td><td>0.3</td><td>1.5</td></tr> <tr><td>218.3</td><td>15</td><td>0</td><td>10.4</td><td>0.5</td><td>2.5</td></tr> </tbody> </table>	Load Power [W]	Fluctuation Value [%]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	5	0.90	0.90	0.90	0.90	48.53	1.02	1.02	1.02	1.02	97.05	1.17	1.17	1.17	1.17	145.58	1.31	1.31	1.31	1.31	194.1	1.45	1.45	1.45	1.45	218.3	1.17	1.17	1.17	1.17	Load Power [W]	Load Current [A]					5V	3.3V	12V	-12V	5Vs	5	1	0	0	0	0	48.53	1.5	2.5	2.5	0.075	0.375	97.05	3	5	5	0.15	0.75	145.58	4.5	7.5	7.5	0.225	1.125	194.1	6	10	10	0.3	1.5	218.3	15	0	10.4	0.5	2.5
Load Power [W]	Fluctuation Value [%]																																																																																							
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																																																																				
5	0.90	0.90	0.90	0.90																																																																																				
48.53	1.02	1.02	1.02	1.02																																																																																				
97.05	1.17	1.17	1.17	1.17																																																																																				
145.58	1.31	1.31	1.31	1.31																																																																																				
194.1	1.45	1.45	1.45	1.45																																																																																				
218.3	1.17	1.17	1.17	1.17																																																																																				
Load Power [W]	Load Current [A]																																																																																							
	5V	3.3V	12V	-12V	5Vs																																																																																			
5	1	0	0	0	0																																																																																			
48.53	1.5	2.5	2.5	0.075	0.375																																																																																			
97.05	3	5	5	0.15	0.75																																																																																			
145.58	4.5	7.5	7.5	0.225	1.125																																																																																			
194.1	6	10	10	0.3	1.5																																																																																			
218.3	15	0	10.4	0.5	2.5																																																																																			

Model	PCTF-220P-X2S																																																																																																																														
Item	Load Regulation																																																																																																																														
<b>V5: -5V 0.3A</b> <p style="text-align: center;">at AC Input</p> <p style="text-align: center;">at AC Input</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Fluctuation Value [%]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr><td>5</td><td>0.76</td><td>0.76</td><td>0.76</td><td>0.76</td></tr> <tr><td>48.53</td><td>0.36</td><td>0.36</td><td>0.36</td><td>0.36</td></tr> <tr><td>97.05</td><td>-0.12</td><td>-0.12</td><td>-0.12</td><td>-0.12</td></tr> <tr><td>145.58</td><td>-0.52</td><td>-0.52</td><td>-0.52</td><td>-0.52</td></tr> <tr><td>194.1</td><td>-0.92</td><td>-0.92</td><td>-0.92</td><td>-0.92</td></tr> <tr><td>218.3</td><td>-1.40</td><td>-1.40</td><td>-1.40</td><td>-1.40</td></tr> </tbody> </table>		Load Power [W]	Fluctuation Value [%]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	5	0.76	0.76	0.76	0.76	48.53	0.36	0.36	0.36	0.36	97.05	-0.12	-0.12	-0.12	-0.12	145.58	-0.52	-0.52	-0.52	-0.52	194.1	-0.92	-0.92	-0.92	-0.92	218.3	-1.40	-1.40	-1.40	-1.40	<p style="text-align: center;">at AC Input</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Fluctuation Value [%]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr><td>5</td><td>0.76</td><td>0.76</td><td>0.76</td><td>0.76</td></tr> <tr><td>48.53</td><td>0.36</td><td>0.36</td><td>0.36</td><td>0.36</td></tr> <tr><td>97.05</td><td>-0.12</td><td>-0.12</td><td>-0.12</td><td>-0.12</td></tr> <tr><td>145.58</td><td>-0.52</td><td>-0.52</td><td>-0.52</td><td>-0.52</td></tr> <tr><td>194.1</td><td>-0.92</td><td>-0.92</td><td>-0.92</td><td>-0.92</td></tr> <tr><td>218.3</td><td>-1.40</td><td>-1.40</td><td>-1.40</td><td>-1.40</td></tr> </tbody> </table> <p style="text-align: center;">Load Condition</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="5">Load Current [A]</th> </tr> <tr> <th>5V</th> <th>3.3V</th> <th>12V</th> <th>-12V</th> <th>5Vs</th> </tr> </thead> <tbody> <tr><td>5</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>48.53</td><td>1.5</td><td>2.5</td><td>2.5</td><td>0.075</td><td>0.375</td></tr> <tr><td>97.05</td><td>3</td><td>5</td><td>5</td><td>0.15</td><td>0.75</td></tr> <tr><td>145.58</td><td>4.5</td><td>7.5</td><td>7.5</td><td>0.225</td><td>1.125</td></tr> <tr><td>194.1</td><td>6</td><td>10</td><td>10</td><td>0.3</td><td>1.5</td></tr> <tr><td>218.3</td><td>15</td><td>0</td><td>10.4</td><td>0.5</td><td>2.5</td></tr> </tbody> </table>	Load Power [W]	Fluctuation Value [%]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	5	0.76	0.76	0.76	0.76	48.53	0.36	0.36	0.36	0.36	97.05	-0.12	-0.12	-0.12	-0.12	145.58	-0.52	-0.52	-0.52	-0.52	194.1	-0.92	-0.92	-0.92	-0.92	218.3	-1.40	-1.40	-1.40	-1.40	Load Power [W]	Load Current [A]					5V	3.3V	12V	-12V	5Vs	5	1	0	0	0	0	48.53	1.5	2.5	2.5	0.075	0.375	97.05	3	5	5	0.15	0.75	145.58	4.5	7.5	7.5	0.225	1.125	194.1	6	10	10	0.3	1.5	218.3	15	0	10.4	0.5	2.5
Load Power [W]	Fluctuation Value [%]																																																																																																																														
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																																																																																																											
5	0.76	0.76	0.76	0.76																																																																																																																											
48.53	0.36	0.36	0.36	0.36																																																																																																																											
97.05	-0.12	-0.12	-0.12	-0.12																																																																																																																											
145.58	-0.52	-0.52	-0.52	-0.52																																																																																																																											
194.1	-0.92	-0.92	-0.92	-0.92																																																																																																																											
218.3	-1.40	-1.40	-1.40	-1.40																																																																																																																											
Load Power [W]	Fluctuation Value [%]																																																																																																																														
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																																																																																																											
5	0.76	0.76	0.76	0.76																																																																																																																											
48.53	0.36	0.36	0.36	0.36																																																																																																																											
97.05	-0.12	-0.12	-0.12	-0.12																																																																																																																											
145.58	-0.52	-0.52	-0.52	-0.52																																																																																																																											
194.1	-0.92	-0.92	-0.92	-0.92																																																																																																																											
218.3	-1.40	-1.40	-1.40	-1.40																																																																																																																											
Load Power [W]	Load Current [A]																																																																																																																														
	5V	3.3V	12V	-12V	5Vs																																																																																																																										
5	1	0	0	0	0																																																																																																																										
48.53	1.5	2.5	2.5	0.075	0.375																																																																																																																										
97.05	3	5	5	0.15	0.75																																																																																																																										
145.58	4.5	7.5	7.5	0.225	1.125																																																																																																																										
194.1	6	10	10	0.3	1.5																																																																																																																										
218.3	15	0	10.4	0.5	2.5																																																																																																																										

Model	PCTF-220P-X2S
Item	Ripple / Noise Voltage Test

Temperature	Input Voltage	V1		5V		V2		3.3V		V3		12V	
		Ripple (mV)	Noise (mV)	Ripple (mV)	Noise (mV)	Ripple (mV)	Noise (mV)	Ripple (mV)	Noise (mV)	Ripple (mV)	Noise (mV)		
-5	AC 90 V	18	/	22	10	/	16	10	/	16	10	/	16
	100 V	18	/	22	10	/	16	10	/	16	10	/	16
	240 V	18	/	24	10	/	16	10	/	16	10	/	16
	264 V	18	/	24	10	/	16	10	/	16	10	/	16
25	AC 90 V	12	/	16	10	/	14	10	/	14	10	/	20
	100 V	12	/	16	10	/	14	10	/	14	10	/	20
	240 V	12	/	16	10	/	14	10	/	14	10	/	20
	264 V	12	/	16	10	/	14	10	/	14	10	/	20
45	AC 90 V	12	/	16	10	/	14	8	/	20	8	/	18
	100 V	12	/	16	10	/	14	8	/	18	8	/	18
	240 V	12	/	16	10	/	14	10	/	18	10	/	18
	264 V	12	/	16	10	/	14	10	/	20	10	/	20
55 (1)	AC 90 V	10	/	12	10	/	12	8	/	16	8	/	16
	100 V	10	/	12	10	/	12	8	/	16	8	/	16
	240 V	10	/	12	10	/	12	8	/	16	8	/	16
	264 V	10	/	12	10	/	12	8	/	16	8	/	16
Specification		50	/	100	50	/	100	150	/	200	150	/	200
Judgment		Good				Good				Good			

Temperature	Input Voltage	V4		-12V		V5		5Vs		
		Ripple (mV)	Noise (mV)	Ripple (mV)	Noise (mV)	Ripple (mV)	Noise (mV)	Ripple (mV)	Noise (mV)	
-5	AC 90 V	22	/	30	12	/	22	12	/	22
	100 V	22	/	30	12	/	22	12	/	22
	240 V	24	/	30	12	/	22	12	/	22
	264 V	24	/	30	12	/	20	12	/	20
25	AC 90 V	20	/	28	12	/	20	12	/	20
	100 V	20	/	28	12	/	20	12	/	20
	240 V	20	/	28	12	/	20	12	/	20
	264 V	20	/	28	12	/	20	12	/	20
45	AC 90 V	20	/	28	12	/	20	12	/	20
	100 V	20	/	28	12	/	20	12	/	20
	240 V	20	/	28	12	/	20	12	/	20
	264 V	20	/	28	12	/	20	12	/	20
55 (1)	AC 90 V	20	/	24	10	/	16	10	/	16
	100 V	20	/	24	10	/	14	10	/	14
	240 V	20	/	24	10	/	14	10	/	14
	264 V	20	/	24	10	/	12	10	/	12
Specification		150	/	200	50	/	100	50	/	100
Judgment		Good				Good				

(1) 80% of Rated Load

Model	PCTF-220P-X2S
Item	Over-Current Protection

Temperature	Input Voltage	V1 5V	V2 3.3V	V3 12V
-5	AC 90 V	23.2 A	24.5 A	18.5 A
	100 V	23.2 A	24.4 A	18.9 A
	240 V	23.2 A	24.4 A	18.9 A
	264 V	23.2 A	24.3 A	18.9 A
25	AC 90 V	23.0 A	25.0 A	16.0 A
	100 V	23.0 A	25.0 A	16.0 A
	240 V	22.8 A	25.0 A	16.0 A
	264 V	22.8 A	25.0 A	16.0 A
45	AC 90 V	21.9 A	19.5 A	17.5 A
	100 V	21.9 A	20.5 A	17.7 A
	240 V	21.9 A	20.6 A	18.0 A
	264 V	21.9 A	20.5 A	18.1 A
55	AC 90 V	21.4 A	21.5 A	17.3 A
	100 V	21.4 A	21.3 A	17.5 A
	240 V	21.5 A	22.0 A	18.0 A
	264 V	21.5 A	22.3 A	18.0 A
Specification		7A or More	13A or More	13A or More
Judgment		Good	Good	Good

Temperature	Input Voltage	V4 -12V	V5 5Vs
-5	AC 90 V	0.87 A	3.60 A
	100 V	0.87 A	3.60 A
	240 V	0.87 A	3.60 A
	264 V	0.87 A	3.60 A
25	AC 90 V	0.79 A	3.40 A
	100 V	0.79 A	3.30 A
	240 V	0.79 A	3.30 A
	264 V	0.78 A	3.30 A
45	AC 90 V	0.76 A	3.20 A
	100 V	0.75 A	3.20 A
	240 V	0.75 A	3.20 A
	264 V	0.75 A	3.20 A
55	AC 90 V	0.74 A	3.10 A
	100 V	0.74 A	3.10 A
	240 V	0.74 A	3.10 A
	264 V	0.74 A	3.10 A
Specification		-	-
Judgment		-	-

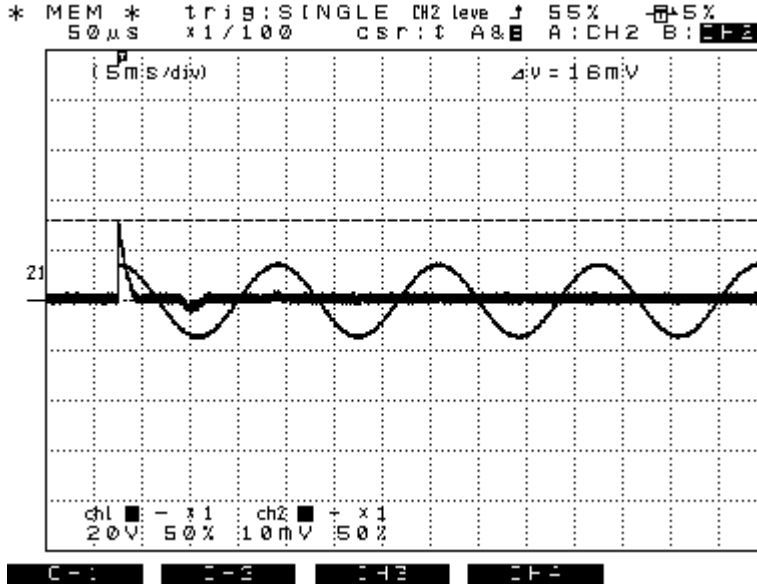
Model	PCTF-220P-X2S
Item	Over-Voltage Protection

Temperature	Input Voltage	V1:5V	V2:3.3V	V3:12V
-5	AC100V	6.90V	4.18V	14.85V
	AC240V	6.90V	4.18V	14.80V
25	AC100V	6.75V	4.00V	14.80V
	AC240V	6.78V	4.01V	14.80V
45	AC100V	6.75V	3.95V	14.90V
	AC240V	6.73V	3.95V	14.90V
55	AC100V	6.75V	3.94V	14.94V
	AC240V	6.74V	3.94V	14.94V
Specification		5.76 ~ 7.0V	3.74 ~ 4.3V	13.4 ~ 15.6V
Judgment		Good	Good	Good

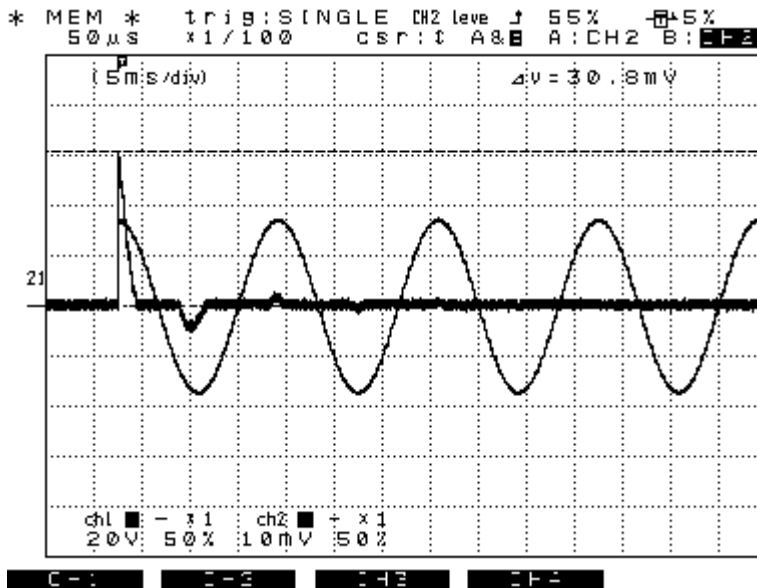


Model	PCTF-220P-X2S
Item	Inrush Current

Inrush Current Wave



Wave No.1	
CH1	Measuring Point : Input Voltage
	Range 200V/DIV
CH2	Measuring Point : Input Current
	Range 20A/DIV
Time Line	5ms/DIV
Conditions	Input : AC100V 60Hz Load : Rated Load
Note :	
Inrush Current Value : 32.0A	

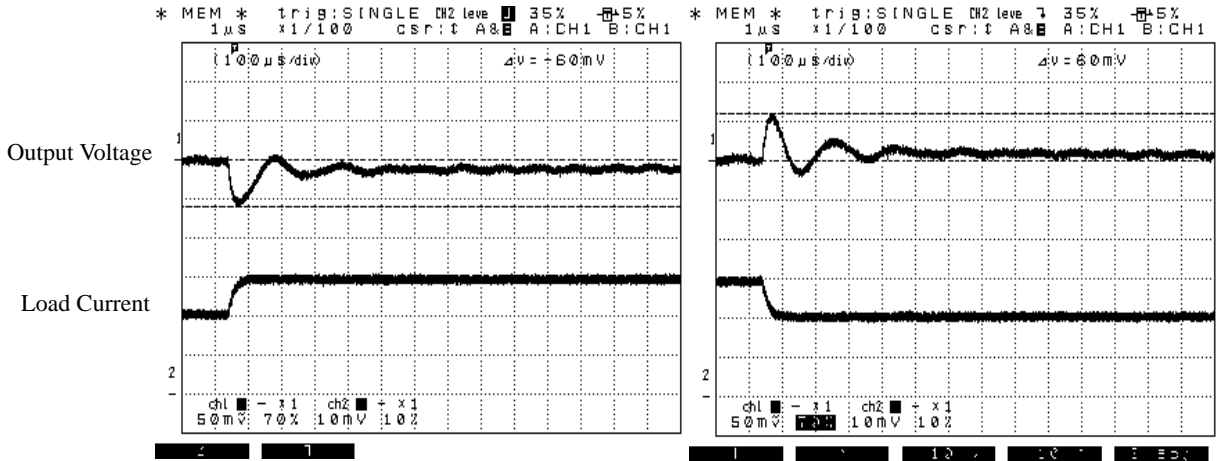


Wave No.2	
CH1	Measuring Point : Input Voltage
	Range 200V/DIV
CH2	Measuring Point : Input Current
	Range 20A/DIV
Time Line	5ms/DIV
Conditions	Input : AC240V 60Hz Load : Rated Load
Note :	
Inrush Current Value : 61.6A	

Model	PCTF-220P-X2S
Item	Dynamic Load Response

V1: +5V 6A

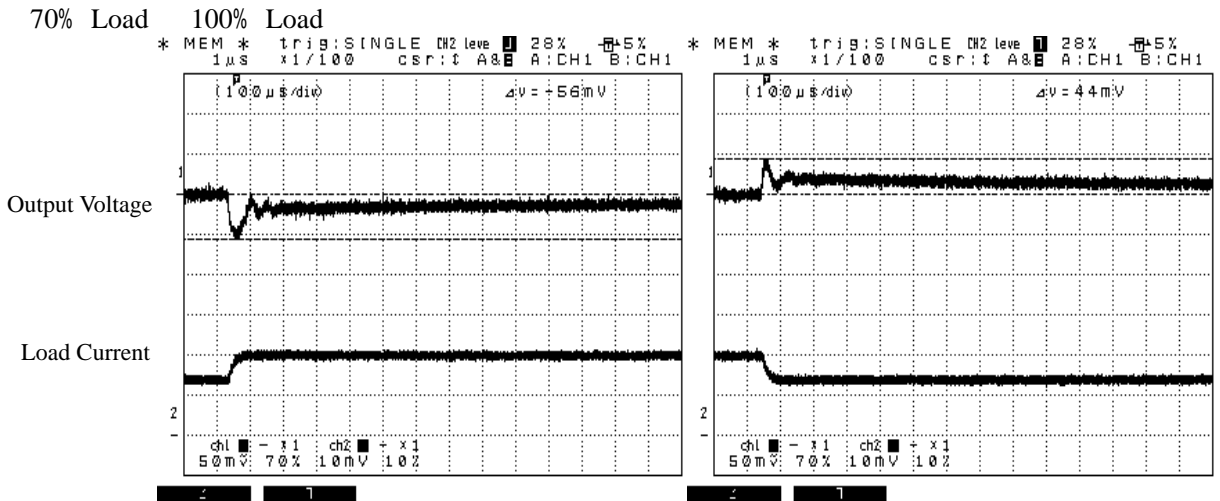
70% Load    100% Load



Sudden Fluctuation of Load	Fluctuation Value	ATX Specific Value	Judgment
70% Load    100% Load	-    mV -60mV	± 250mV	Good
100% Load    70% Load	60mV -20mV		Good

Model	PCTF-220P-X2S
Item	Dynamic Load Response

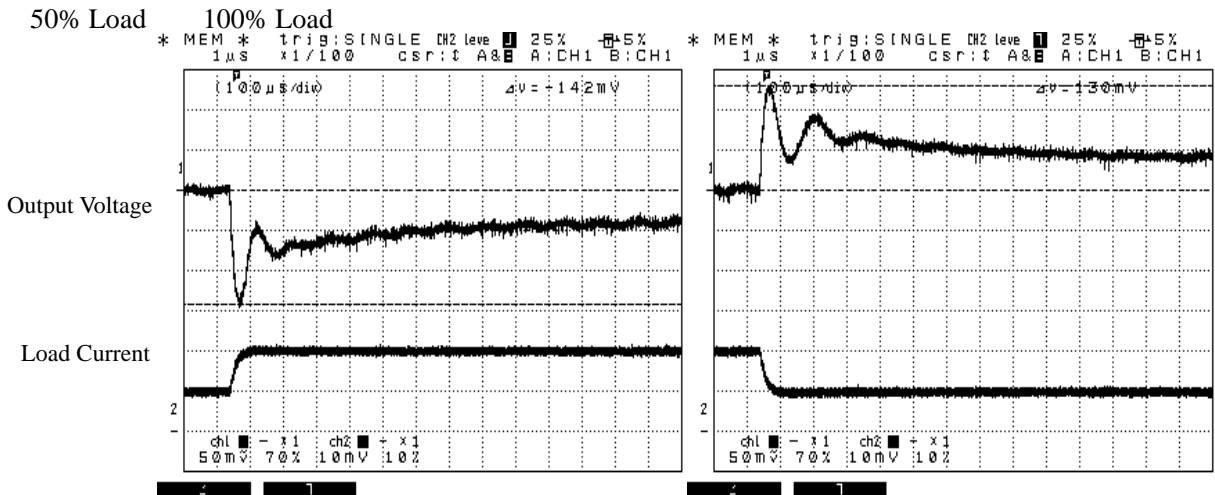
V2: +3.3V 10A



Sudden Fluctuation of Load	Fluctuation Value	ATX Specific Value	Judgment
70%Load    100% Load	-    mV -56mV	± 165mV	Good
100% Load    70% Load	44mV -    mV		Good

Model	PCTF-220P-X2S
Item	Dynamic Load Response

V3: +12V 10A



Sudden Fluctuation of Load	Fluctuation Value	ATX Specific Value	Judgment
50%Load    100% Load	-    mV -142mV	± 600mV	Good
100% Load    50% Load	130mV -    mV		

Model	PCTF-220P-X2S
Item	12V Cross Regulation

12V Load Current	12V Voltage Value [V]			
	5V 1.0A	5V 3A	5V 6A	5V 15A
0A	12.219	12.215	12.210	12.213
2.5A	12.198	12.195	12.190	12.193
5A	12.178	12.175	12.170	12.174
7.5A	12.158	12.155	12.150	12.154
10A	12.138	12.134	12.129	12.133
12A	12.122	12.118	12.113	-

12V Load Current	Fluctuation Value [%]			
	5V 1.5A	5V 3A	5V 6A	5V 15A
0A	1.82	1.79	1.75	1.77
2.5A	1.65	1.63	1.58	1.61
5A	1.48	1.46	1.42	1.45
7.5A	1.32	1.29	1.25	1.28
10A	1.15	1.12	1.08	1.11
12A	1.02	0.98	0.94	-

Model	PCTF-220P-X2S			
Item	Ambient Temperature Drift			
<b>V1:5V 6A</b>				
at AC Input				
Output Voltage [V]				
Temperature ( )	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	5.079	5.079	5.079	5.079
25	5.071	5.071	5.071	5.071
45	5.065	5.065	5.065	5.065
55 <sup>(1)</sup>	5.073	5.073	5.073	5.072
Fluctuation Value [%]				
Temperature ( )	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	1.58	1.58	1.58	1.58
25	1.42	1.42	1.42	1.42
45	1.30	1.30	1.30	1.30
55 <sup>(1)</sup>	1.46	1.46	1.46	1.44
(1) 80% of Rated Load				
<b>V2:3.3V 10A</b>				
at AC Input				
Output Voltage [V]				
Temperature ( )	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	3.290	3.290	3.290	3.290
25	3.289	3.289	3.289	3.289
45	3.283	3.283	3.283	3.283
55 <sup>(1)</sup>	3.292	3.921	3.921	3.921
Fluctuation Value [%]				
Temperature ( )	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V
-5	-0.30	-0.30	-0.30	-0.30
25	-0.33	-0.33	-0.33	-0.33
45	-0.52	-0.52	-0.52	-0.52
55 <sup>(1)</sup>	-0.24	-0.27	-0.27	-0.27
(1) 80% of Rated Load				

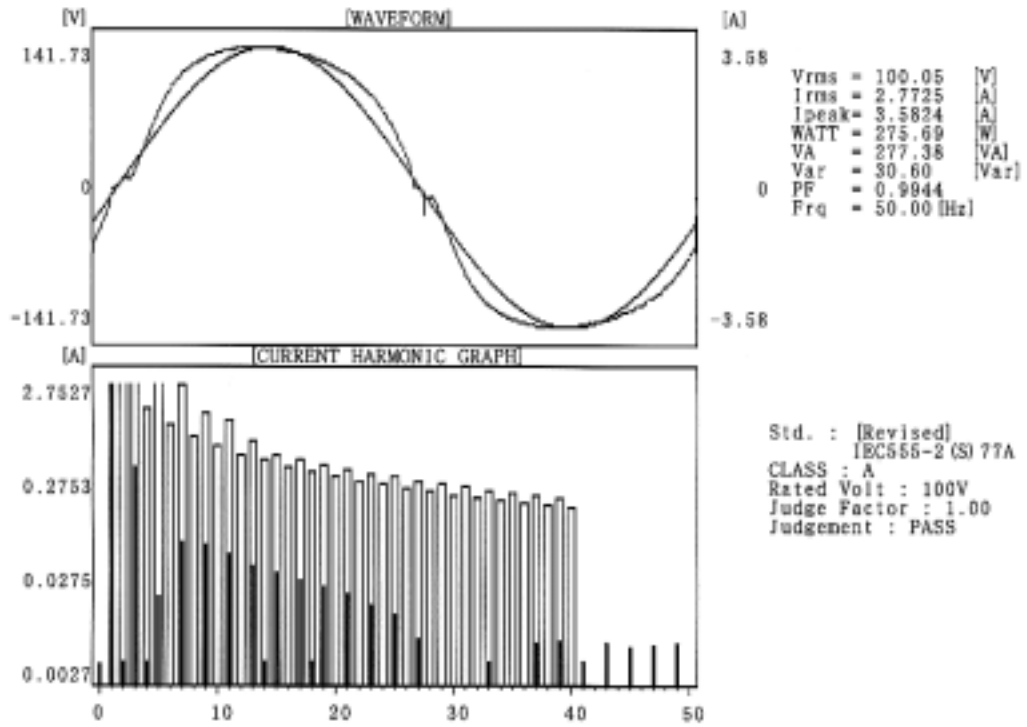
Model	PCTF-220P-X2S																																																											
Item	Ambient Temperature Drift																																																											
<b>V3:12V 10A</b>																																																												
		<p style="text-align: center;">at AC Input</p> <table border="1"> <thead> <tr> <th rowspan="2">Temperature ( )</th> <th colspan="4">Output Voltage [V]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr> <td>-5</td> <td>12.096</td> <td>12.096</td> <td>12.096</td> <td>12.095</td> </tr> <tr> <td>25</td> <td>12.069</td> <td>12.069</td> <td>12.069</td> <td>12.069</td> </tr> <tr> <td>45</td> <td>12.039</td> <td>12.038</td> <td>12.038</td> <td>12.037</td> </tr> <tr> <td>55<sup>(1)</sup></td> <td>11.995</td> <td>11.995</td> <td>11.996</td> <td>11.995</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th rowspan="2">Temperature ( )</th> <th colspan="4">Fluctuation Value [%]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr> <td>-5</td> <td>0.80</td> <td>0.80</td> <td>0.80</td> <td>0.79</td> </tr> <tr> <td>25</td> <td>0.58</td> <td>0.58</td> <td>0.58</td> <td>0.58</td> </tr> <tr> <td>45</td> <td>0.33</td> <td>0.32</td> <td>0.32</td> <td>0.31</td> </tr> <tr> <td>55<sup>(1)</sup></td> <td>-0.04</td> <td>-0.04</td> <td>-0.03</td> <td>-0.04</td> </tr> </tbody> </table> <p>(1) 80% of Rated Load</p>	Temperature ( )	Output Voltage [V]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	-5	12.096	12.096	12.096	12.095	25	12.069	12.069	12.069	12.069	45	12.039	12.038	12.038	12.037	55 <sup>(1)</sup>	11.995	11.995	11.996	11.995	Temperature ( )	Fluctuation Value [%]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	-5	0.80	0.80	0.80	0.79	25	0.58	0.58	0.58	0.58	45	0.33	0.32	0.32	0.31	55 <sup>(1)</sup>	-0.04	-0.04	-0.03	-0.04
Temperature ( )	Output Voltage [V]																																																											
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																																								
-5	12.096	12.096	12.096	12.095																																																								
25	12.069	12.069	12.069	12.069																																																								
45	12.039	12.038	12.038	12.037																																																								
55 <sup>(1)</sup>	11.995	11.995	11.996	11.995																																																								
Temperature ( )	Fluctuation Value [%]																																																											
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																																								
-5	0.80	0.80	0.80	0.79																																																								
25	0.58	0.58	0.58	0.58																																																								
45	0.33	0.32	0.32	0.31																																																								
55 <sup>(1)</sup>	-0.04	-0.04	-0.03	-0.04																																																								
<b>V4:-12V 0.3A</b>																																																												
		<p style="text-align: center;">at AC Input</p> <table border="1"> <thead> <tr> <th rowspan="2">Temperature ( )</th> <th colspan="4">Output Voltage [V]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr> <td>-5</td> <td>-12.048</td> <td>-12.048</td> <td>-12.049</td> <td>-12.049</td> </tr> <tr> <td>25</td> <td>-12.059</td> <td>-12.059</td> <td>-12.059</td> <td>-12.059</td> </tr> <tr> <td>45</td> <td>-12.058</td> <td>-12.058</td> <td>-12.058</td> <td>-12.058</td> </tr> <tr> <td>55<sup>(1)</sup></td> <td>-12.050</td> <td>-12.050</td> <td>-12.050</td> <td>-12.050</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th rowspan="2">Temperature ( )</th> <th colspan="4">Fluctuation Value [%]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr> <td>-5</td> <td>0.40</td> <td>0.40</td> <td>0.41</td> <td>0.41</td> </tr> <tr> <td>25</td> <td>0.49</td> <td>0.49</td> <td>0.49</td> <td>0.49</td> </tr> <tr> <td>45</td> <td>0.48</td> <td>0.48</td> <td>0.48</td> <td>0.48</td> </tr> <tr> <td>55<sup>(1)</sup></td> <td>0.42</td> <td>0.42</td> <td>0.42</td> <td>0.42</td> </tr> </tbody> </table> <p>(1) 80% of Rated Load</p>	Temperature ( )	Output Voltage [V]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	-5	-12.048	-12.048	-12.049	-12.049	25	-12.059	-12.059	-12.059	-12.059	45	-12.058	-12.058	-12.058	-12.058	55 <sup>(1)</sup>	-12.050	-12.050	-12.050	-12.050	Temperature ( )	Fluctuation Value [%]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	-5	0.40	0.40	0.41	0.41	25	0.49	0.49	0.49	0.49	45	0.48	0.48	0.48	0.48	55 <sup>(1)</sup>	0.42	0.42	0.42	0.42
Temperature ( )	Output Voltage [V]																																																											
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																																								
-5	-12.048	-12.048	-12.049	-12.049																																																								
25	-12.059	-12.059	-12.059	-12.059																																																								
45	-12.058	-12.058	-12.058	-12.058																																																								
55 <sup>(1)</sup>	-12.050	-12.050	-12.050	-12.050																																																								
Temperature ( )	Fluctuation Value [%]																																																											
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																																								
-5	0.40	0.40	0.41	0.41																																																								
25	0.49	0.49	0.49	0.49																																																								
45	0.48	0.48	0.48	0.48																																																								
55 <sup>(1)</sup>	0.42	0.42	0.42	0.42																																																								

Model	PCTF-220P-X2S																																																											
Item	Ambient Temperature Drift																																																											
<b>V5:5Vs 1.5A</b>  <p>Legend:</p> <ul style="list-style-type: none"> <li>AC90V (Blue square)</li> <li>AC100V (Magenta diamond)</li> <li>AC240V (Red triangle)</li> <li>AC264V (Green circle)</li> </ul>		<p style="text-align: center;">at AC Input</p> <table border="1"> <thead> <tr> <th rowspan="2">Temperature ( )</th> <th colspan="4">Output Voltage [V]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr> <td>-5</td> <td>4.948</td> <td>4.948</td> <td>4.948</td> <td>4.949</td> </tr> <tr> <td>25</td> <td>4.943</td> <td>4.943</td> <td>4.943</td> <td>4.943</td> </tr> <tr> <td>45</td> <td>4.948</td> <td>4.947</td> <td>4.947</td> <td>4.947</td> </tr> <tr> <td>55<sup>(1)</sup></td> <td>4.963</td> <td>4.963</td> <td>4.963</td> <td>4.963</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th rowspan="2">Temperature ( )</th> <th colspan="4">Fluctuation Value [%]</th> </tr> <tr> <th>Input Voltage AC90V</th> <th>Input Voltage AC100V</th> <th>Input Voltage AC240V</th> <th>Input Voltage AC264V</th> </tr> </thead> <tbody> <tr> <td>-5</td> <td>-1.04</td> <td>-1.04</td> <td>-1.04</td> <td>-1.02</td> </tr> <tr> <td>25</td> <td>-1.14</td> <td>-1.14</td> <td>-1.14</td> <td>-1.14</td> </tr> <tr> <td>45</td> <td>-1.04</td> <td>-1.06</td> <td>-1.06</td> <td>-1.06</td> </tr> <tr> <td>55<sup>(1)</sup></td> <td>-0.74</td> <td>-0.74</td> <td>-0.74</td> <td>-0.74</td> </tr> </tbody> </table> <p>(1) 80% of Rated Load</p>	Temperature ( )	Output Voltage [V]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	-5	4.948	4.948	4.948	4.949	25	4.943	4.943	4.943	4.943	45	4.948	4.947	4.947	4.947	55 <sup>(1)</sup>	4.963	4.963	4.963	4.963	Temperature ( )	Fluctuation Value [%]				Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V	-5	-1.04	-1.04	-1.04	-1.02	25	-1.14	-1.14	-1.14	-1.14	45	-1.04	-1.06	-1.06	-1.06	55 <sup>(1)</sup>	-0.74	-0.74	-0.74	-0.74
Temperature ( )	Output Voltage [V]																																																											
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																																								
-5	4.948	4.948	4.948	4.949																																																								
25	4.943	4.943	4.943	4.943																																																								
45	4.948	4.947	4.947	4.947																																																								
55 <sup>(1)</sup>	4.963	4.963	4.963	4.963																																																								
Temperature ( )	Fluctuation Value [%]																																																											
	Input Voltage AC90V	Input Voltage AC100V	Input Voltage AC240V	Input Voltage AC264V																																																								
-5	-1.04	-1.04	-1.04	-1.02																																																								
25	-1.14	-1.14	-1.14	-1.14																																																								
45	-1.04	-1.06	-1.06	-1.06																																																								
55 <sup>(1)</sup>	-0.74	-0.74	-0.74	-0.74																																																								



Model	PCTF-220P-X2S
Item	Harmonic Current

Measuring Instrument : MP701(Keisoku Giken)

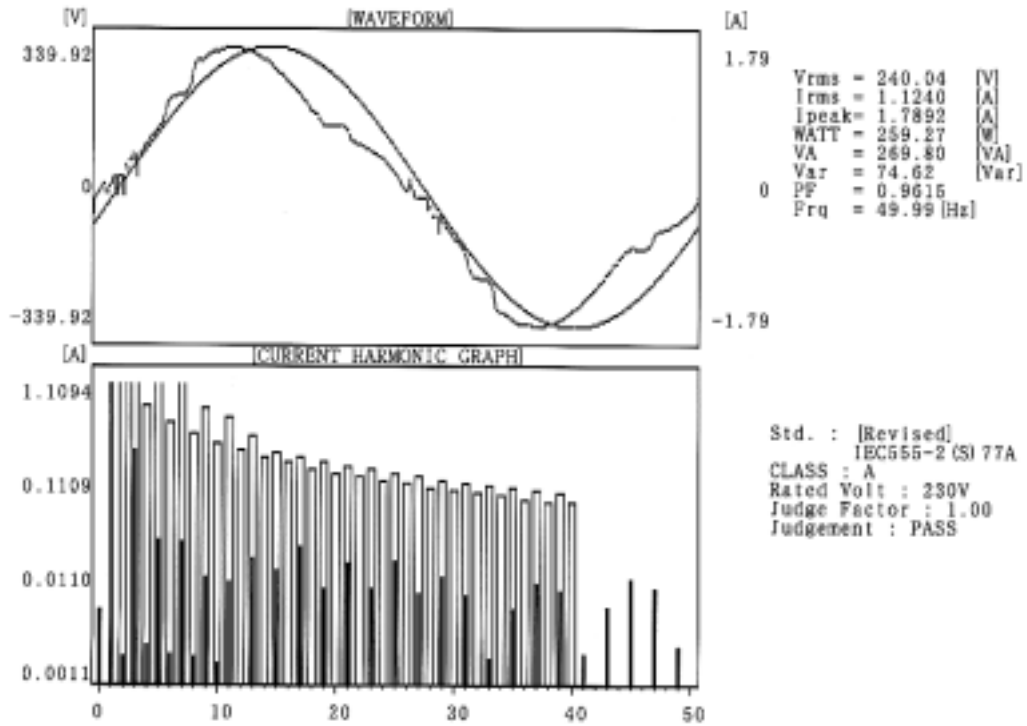


[CURRENT HARMONIC DATA]

No	(A)	No	(A)	No	(A)	No	(A)
00	0.0030	13	0.0288	26	0.0018	39	0.0050
01	2.7527	14	0.0031	27	0.0052	40	0.0000
02	0.0031	15	0.0243	28	0.0018	41	0.0031
03	0.2817	16	0.0025	29	0.0022	42	0.0000
04	0.0031	17	0.0203	30	0.0025	43	0.0048
05	0.0144	18	0.0031	31	0.0025	44	0.0000
06	0.0028	19	0.0174	32	0.0010	45	0.0042
07	0.0501	20	0.0025	33	0.0031	46	0.0000
08	0.0025	21	0.0148	34	0.0000	47	0.0045
09	0.0479	22	0.0010	35	0.0022	48	0.0000
10	0.0028	23	0.0117	36	0.0000	49	0.0048
11	0.0382	24	0.0015	37	0.0048		
12	0.0028	25	0.0093	38	0.0000		

Model	PCTF-220P-X2S
Item	Harmonic Current

Measuring Instrument : MP701(Keisoku Giken)



[CURRENT HARMONIC DATA]

No	(A)	No	(A)	No	(A)	No	(A)
00	0.0042	13	0.0136	26	0.0007	39	0.0062
01	1.1094	14	0.0010	27	0.0061	40	0.0010
02	0.0014	15	0.0102	28	0.0005	41	0.0014
03	0.1655	16	0.0007	29	0.0088	42	0.0004
04	0.0018	17	0.0183	30	0.0010	43	0.0043
05	0.0205	18	0.0000	31	0.0056	44	0.0010
06	0.0014	19	0.0066	32	0.0008	45	0.0085
07	0.0198	20	0.0010	33	0.0013	46	0.0008
08	0.0013	21	0.0123	34	0.0009	47	0.0066
09	0.0086	22	0.0010	35	0.0040	48	0.0004
10	0.0011	23	0.0067	36	0.0002	49	0.0018
11	0.0080	24	0.0002	37	0.0074		
12	0.0010	25	0.0132	38	0.0009		

Model	PCTF-220P-X2S
Item	Leakage Current Test

Temperature Room Temperature  
 Input AC100V, 240V  
 Load Rated Load , Minimum Load

Input Voltage (V)	at Rated Load (mA)	at Minimum Load (mA)
100V	0.25	0.24
240V	0.64	0.64

Measuring Instrument: YEW.TYPE3226 Applicable Products ( Range: 1K )

Model	PCTF-220P-X2S
Item	Line Noise Tolerance

Temperature	Room Temperature
Input	AC100V,60Hz
Load	Rated Load
Noise Impressed Voltage	± 2000V
Repeat Cycle	10 ~ 35ms
Pulse Width	100,800ns

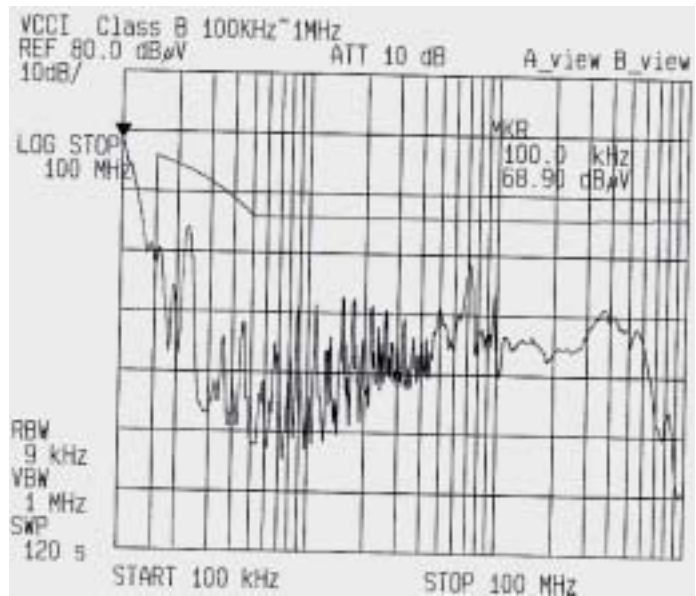
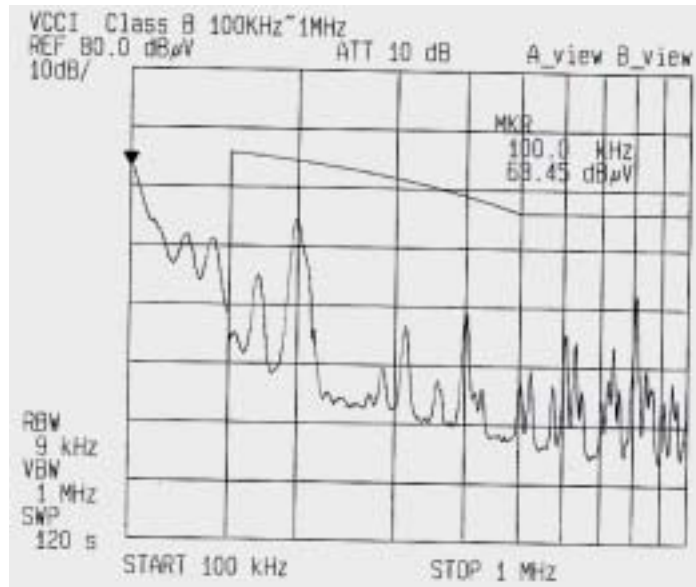
Normal	Pulse Impressed Mode			
	100ns		800ns	
	Polarity +	Polarity -	Polarity +	Polarity -
Common R Phase	Pulse Impressed Mode			
	100ns		800ns	
	Polarity +	Polarity -	Polarity +	Polarity -
Common S Phase	Pulse Impressed Mode			
	100ns		800ns	
	Polarity +	Polarity -	Polarity +	Polarity -

- No Trouble
- Faulty Operation of Over-Voltage and so on
- × Power Supply Breakdown

Measuring Instrument : INS420 (Noise Laboratory Co.,Ltd.)

Model	PCTF-220P-X2S
Item	Conduction Emission

Temperature	Room Temperature
Input	AC100V
Load	Rated Load
Measuring Point	L-FG
Measuring Instrument	R3261A (Advantest)



Model	PCTF-220P-X2S
Item	Conduction Emission

Temperature	Room Temperature
Input	AC240V
Load	Rated Load
Measuring Point	L-FG
Measuring Instrument	R3261A (Advantest)

