

Fairchild® FEB212-003 24V-8A resonant converter demo-board based on chip FSR2100

Transformer comparative test original transformer Vs Itacoil SRLETD34001

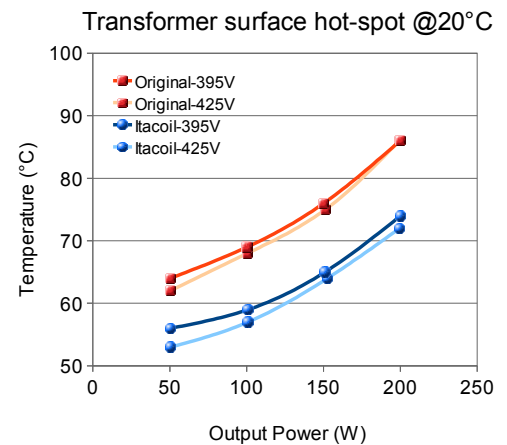
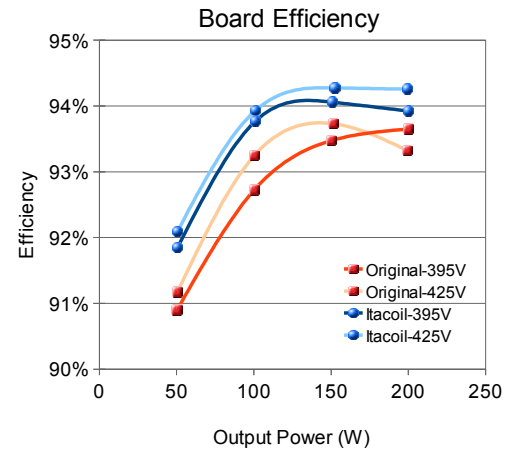
	FULL LOAD, 395Vdc IN		FULL LOAD, 425Vdc IN		
	ORIGINAL	SRLETD34001	ORIGINAL	SRLETD34001	
Vdc IN	394,73	394,73	424,73	424,72	V
Adc IN	0,5410	0,5402	0,5030	0,4985	A
Vdc OUT	24,005	24,008	23,917	23,986	V
Adc OUT	8,331	8,342	8,336	8,320	A
Power IN	213,5	213,2	213,6	211,7	W
Power OUT	200,0	200,3	199,4	199,6	W
Switching frequency	94	116	110	130	kHz
Efficiency	93,6%	93,9%	93,3%	94,3%	%
Saved power		0,60		2,11	W
Temperatures					
Ambient	17	17	17	17	°C
Pri	83	71	82	69	°C
Sec	79	70	83	68	°C
Rect.Diode	78	77	79	77	°C
FSFR2100	66	71	67	70	°C
Dimensions					
L x W x H	ORIGINAL		SRLETD34001		
overall footprint	4,92x4,31x2,59		3,53x3,47x2,47		cm
overall volume	21,2		12,2		cm ²
	54,9		30,3		cm ³

TEST CONDITIONS

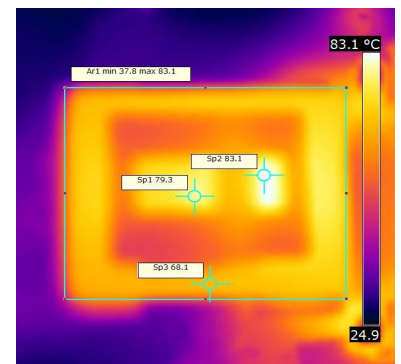
- Test performed on the Fairchild® FEB212-003 demo-board, LLC resonant converter based on FSR2100. ([demo-board user guide](#))
- Vdc input voltage applied directly on rectifier bridge out, in order to measure the actual converter efficiency (bypassed fuse, bridge, etc.).
- Output voltage trimmed by a 500Ω trimmer connected in series to R205.
- C102 resonant capacitor replaced with 15nF.
- R104 and R105 replaced, during SRLETD34001 test, to meet its own frequency range.
- D211-D212 replaced with MBR20150CT only to support also transformers up to 48Vdc center-tap.
- PCB horizontal, with no airflow. Transformer assembled slightly raised from PCB(*).
- (*) A window on PCB, under the transformer, is suggested to avoid cooling and creepage worsening.

BENEFITS OF TRANSFORMER DESIGN BY ITACOIL® PROPRIETARY SOFTWARE

- smaller and lighter transformer
- lower temperature rise and power saving
- lower costs
- larger input voltage range (SRLETD3400x range is 340-450Vdc, it should imply higher temperature rise)
- up to 96% efficiency without sophisticated hardware solutions (48Vdc out)
- **immediate success of your project**
- for more info → ([english](#)) ([italian](#))



ORIGINAL TRANSFORMER



SRLETD34001

