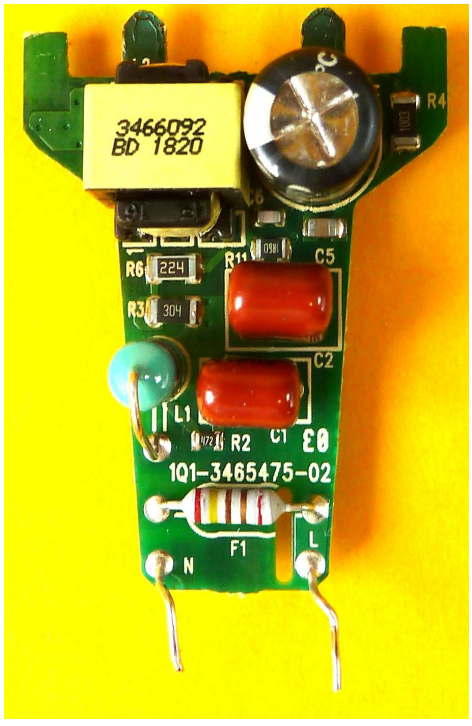
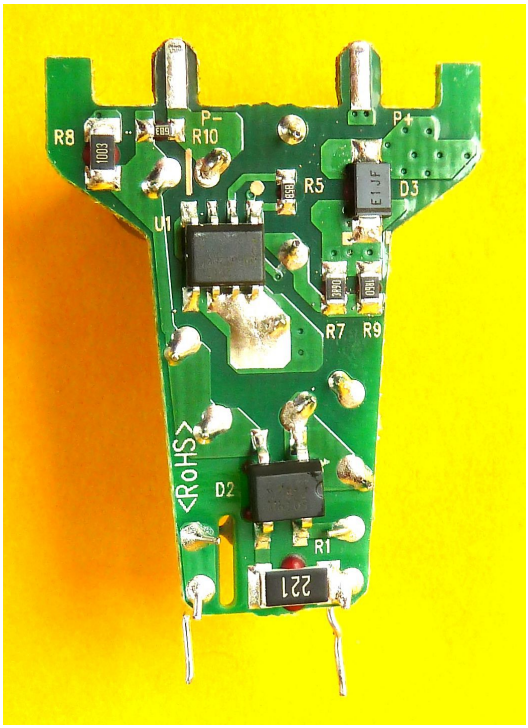
OSRAM LED-Spotlight Type: AC07995 220-10V AC Dim 5,6W nominal 32mA current 350lm 36-Degree GU10-Retrofit

Driver-CS

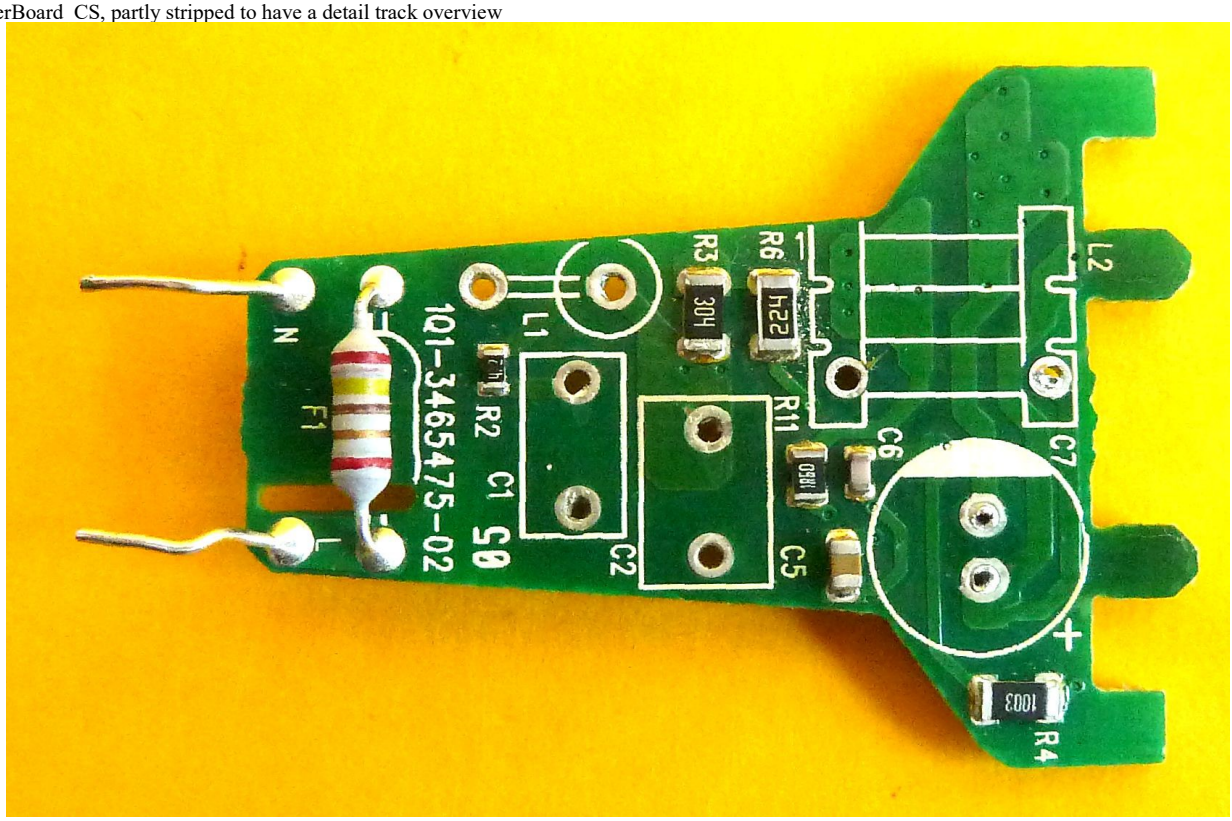


Driver-SS

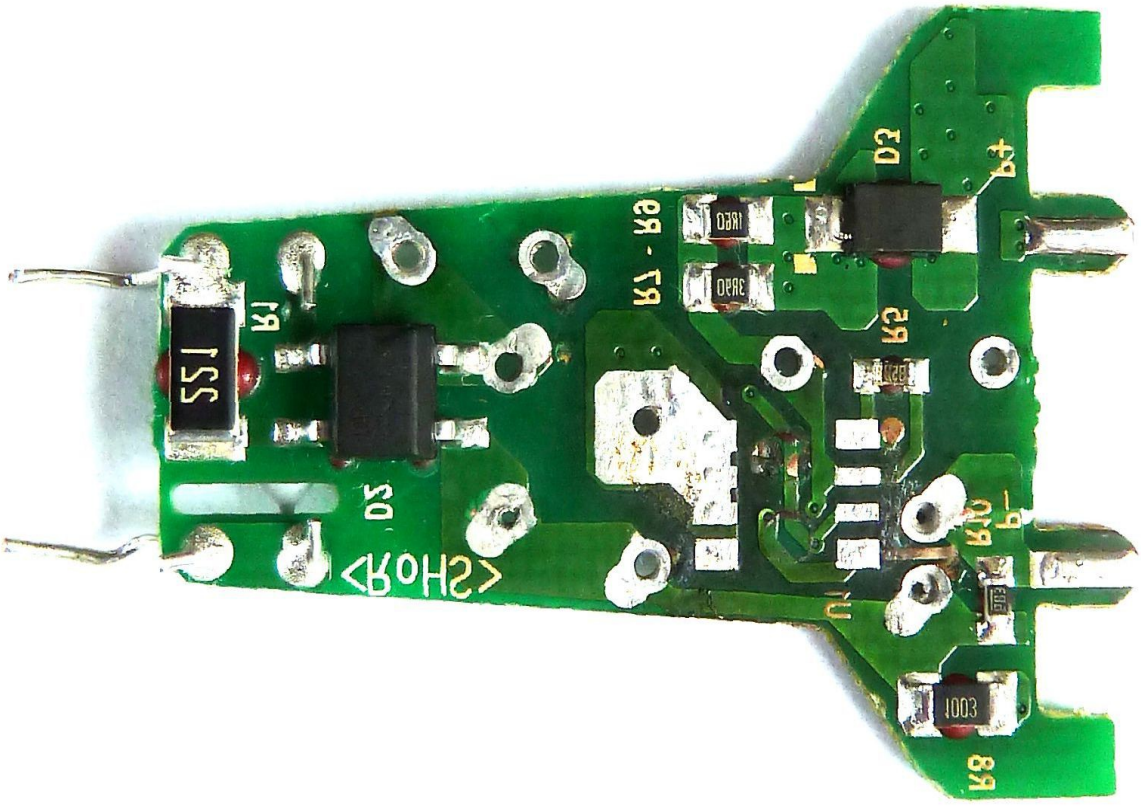


Osram Type: AC07995 220-10V AC Dim 5,6W 32mA 350lm 36-Grad

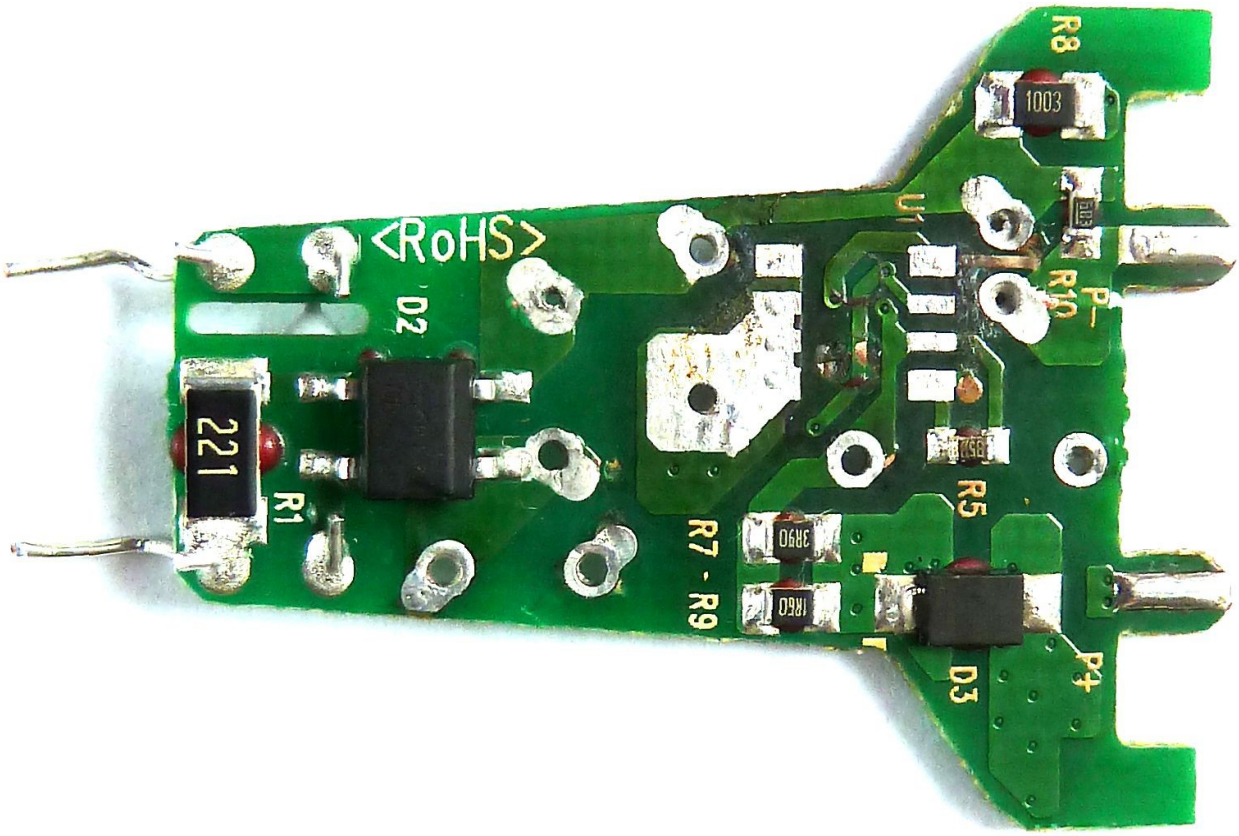
LED-DriverBoard_CS, partly stripped to have a detail track overview



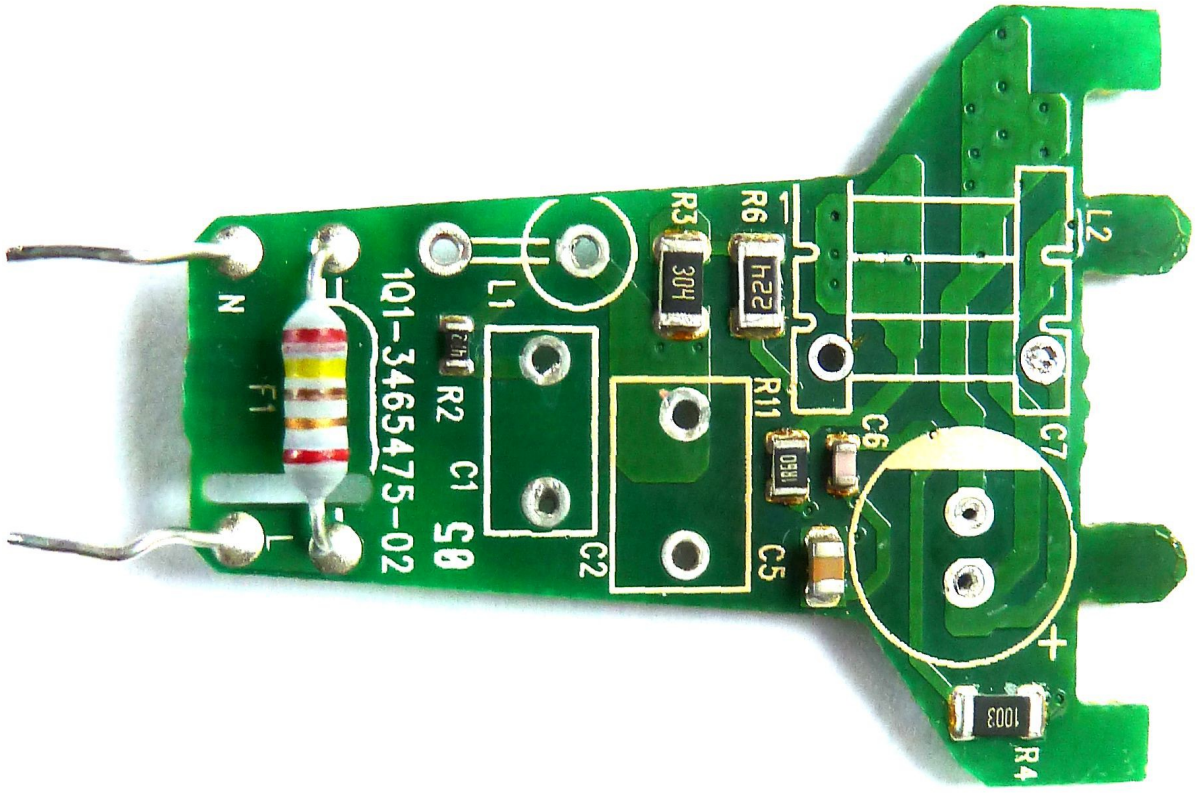
LED-DriverBoard_SS_mirror-view, partly stripped to have a detail track overview



LED-DriverBoard_CS, partly stripped to have a detail track overview



LED-DriverBoard_CS, partly stripped to have a detail track overview



220V AC, LED Driver example Application

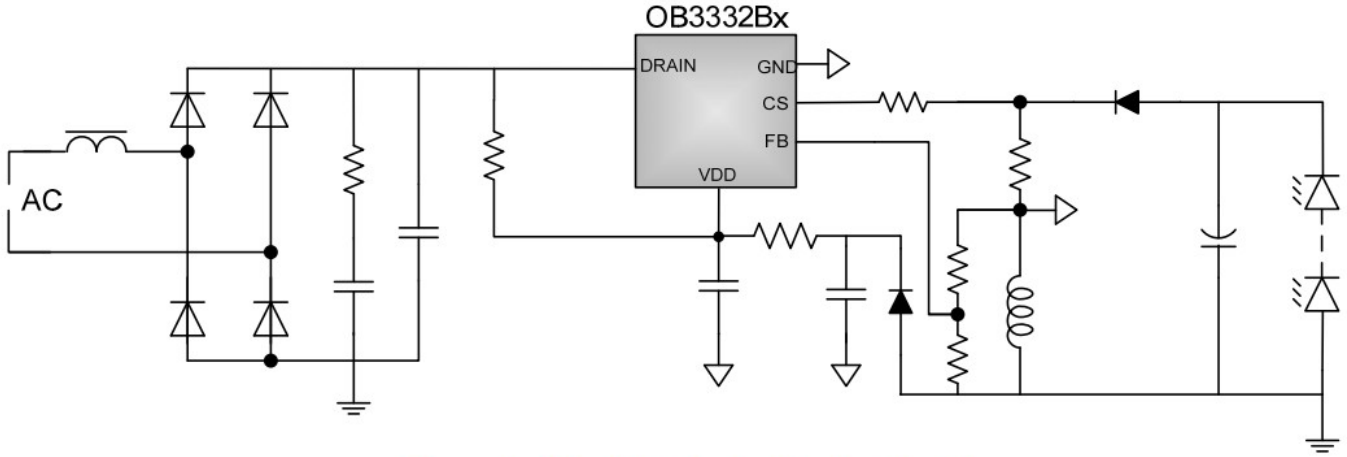


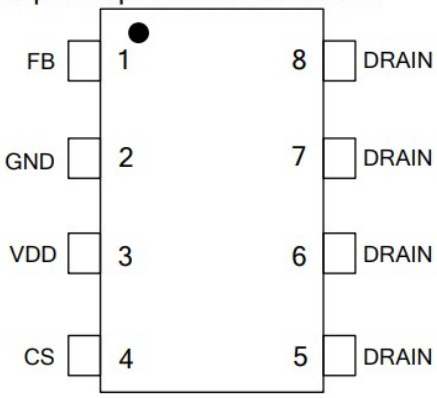
Figure 2 Buck-Boost Application circuit

Data sheet Info:

GENERAL INFORMATION

Pin Configuration

The pin map is shown as below.



Ordering Information

Part Number	Description
OB3332BMCP-H	8 Pin SOP, Halogen-free in Tube
OB3332BMCPA-H	8 Pin SOP , Halogen-free in T&R
OB3332BNCP-H	8 Pin SOP, Halogen-free in Tube
OB3332BNCPA-H	8 Pin SOP , Halogen-free in T&R
OB3332BPCP-J	8 Pin SOP, Halogen-free in Tube
OB3332BPCPA-J	8 Pin SOP , Halogen-free in T&R
OB3332BRCP-H	8 Pin SOP, Halogen-free in Tube
OB3332BRCPA-H	8 Pin SOP , Halogen-free in T&R

Absolute Maximum Ratings

Parameter		Value
VDD Voltage		-0.3 to 20V
CS Input Voltage		-0.3 to 7V
FB Input Voltage		-0.3 to 7V
DRAIN Voltage	OB3332BPCP-J	-0.3 to 500V
	OB3332BMCP-H OB3332BNCP-H OB3332BRCP-H	-0.3 to 650V
Min/Max Operating Junction Temperature T_J		-40 to 150 ℃
Operating Ambient Temperature T_A		-40 to 85 ℃
Min/Max Storage Temperature T_{stg}		-55 to 150 ℃
Lead Temperature (Soldering, 10secs)		260 ℃

Note: Stresses beyond those listed under “absolute maximum ratings” may cause permanent damage to the device. These are stress ratings only, functional operation of the device at these or any other conditions beyond those indicated under “recommended operating conditions” is not implied. Exposure to absolute maximum-rated conditions for extended periods may affect device reliability.

Output Power Table

Product	Condition	175Vac~264Vac Input
OB3332BMCP-H	Io≤80mA	10W
OB3332BNCP-H	Io≤105mA	12W
OB3332BPCP-J	Io≤180mA	17.6W

Data sheet Info:

TERMINAL ASSIGNMENTS

Pin Num	Pin Name	I/O	Description
1	FB	I/O	The voltage feedback from output. Connected to resistor divider from output voltage.
2	GND	P	Power Ground.
3	VDD	P	Power supply input.
4	CS	I/O	Current sensing terminal.
5,6,7,8	DRAIN	I/O	Drain of power MOSFET.

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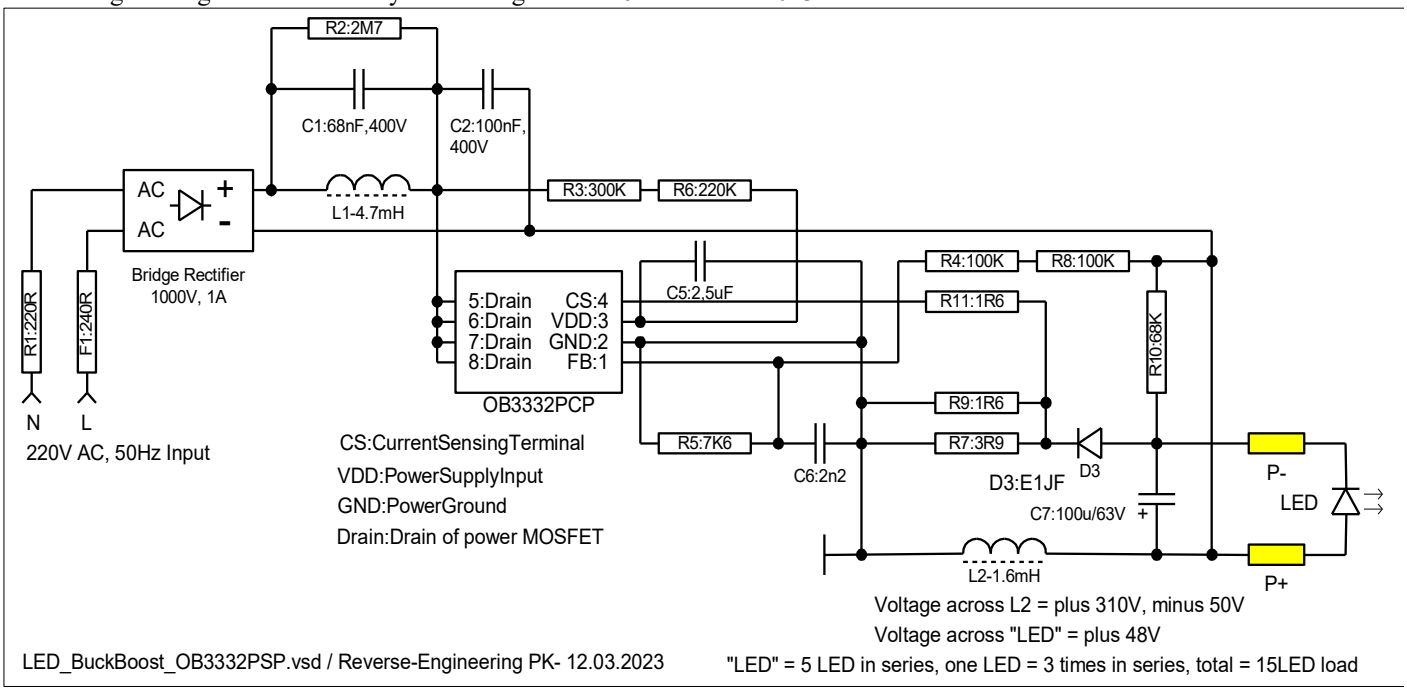
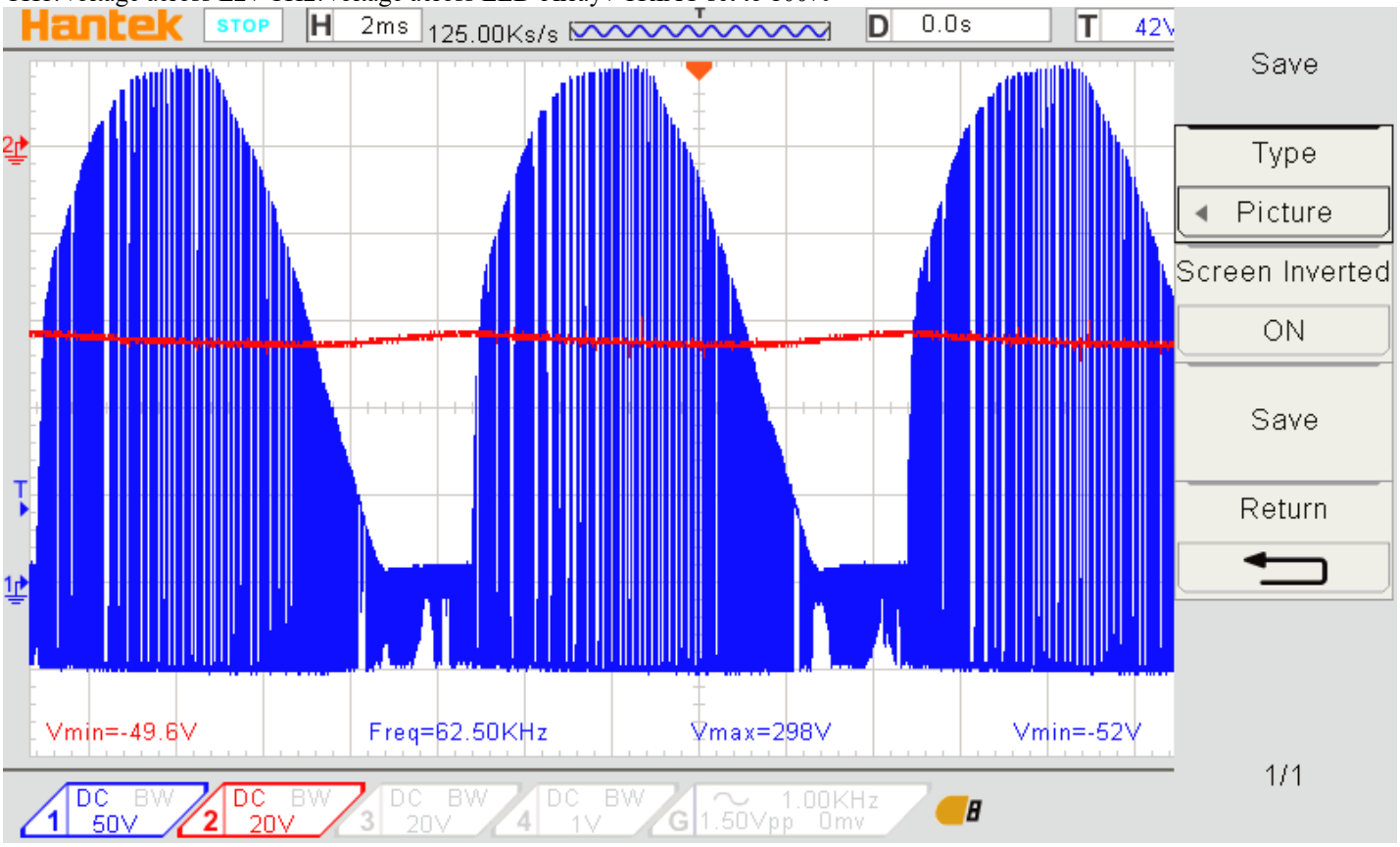
OB_DOC_DS_3332BxA4

220V AC, Osram GU10 LED Bulb Dimmable Spotlight 2700 K Warm White 4.9 W, Replaces 50 Watt Halogen Bulb
Betr. Dimming, nur für „trailing edge controller“ geeignet!
Reverse engineering circuit created by Peter Kruger on the 9th of March 2023

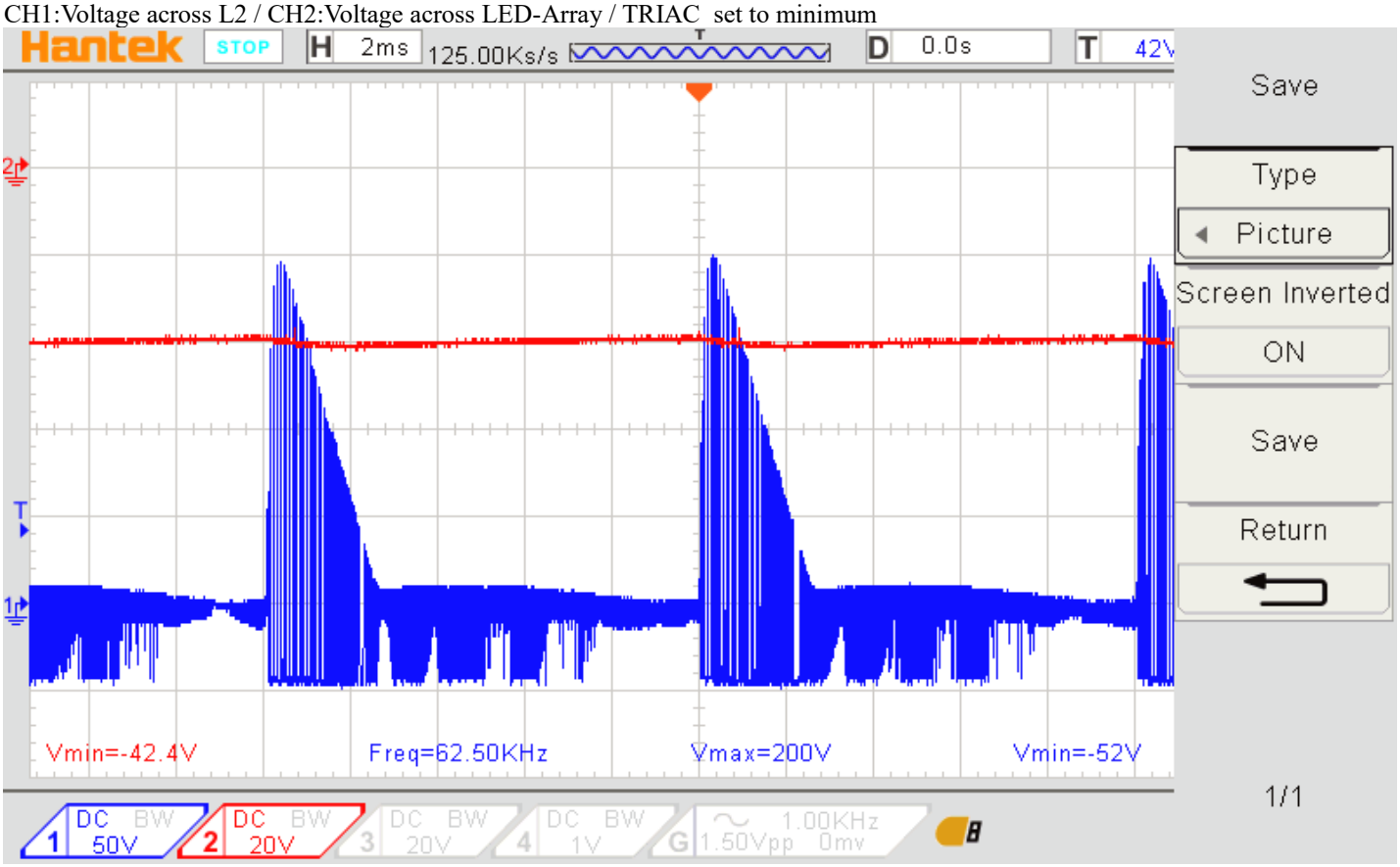


https://datasheet.lcsc.com/szlcsc/2004180932_OB-On-Bright-Elec-OB3332BPCPA-J_C507642.pdf
OB3332Bx is a TRIAC dimmable high power factor, highly integrated buck/buck-boost regulator with advanced features to provide high efficiency control and high precision constant current output for flicker free dimmable LED lighting applications.
The proprietary CC control scheme is used to:
Excellent TRIAC dimming performance, Low system cost and high efficiency
High PF（PF>0.9）@175~264Vac input, Support buck/buck-boost topology
High precision constant current regulation at universal AC input
AC-Input using Variac: inreasing voltage > 60V, LED-Array turn on / Increasing AC voltage to >110V, LED at full brighness
decreasing AC voltage < 110V, dimming start / decreasing Variac voltage to < 10V AC, LED turn off

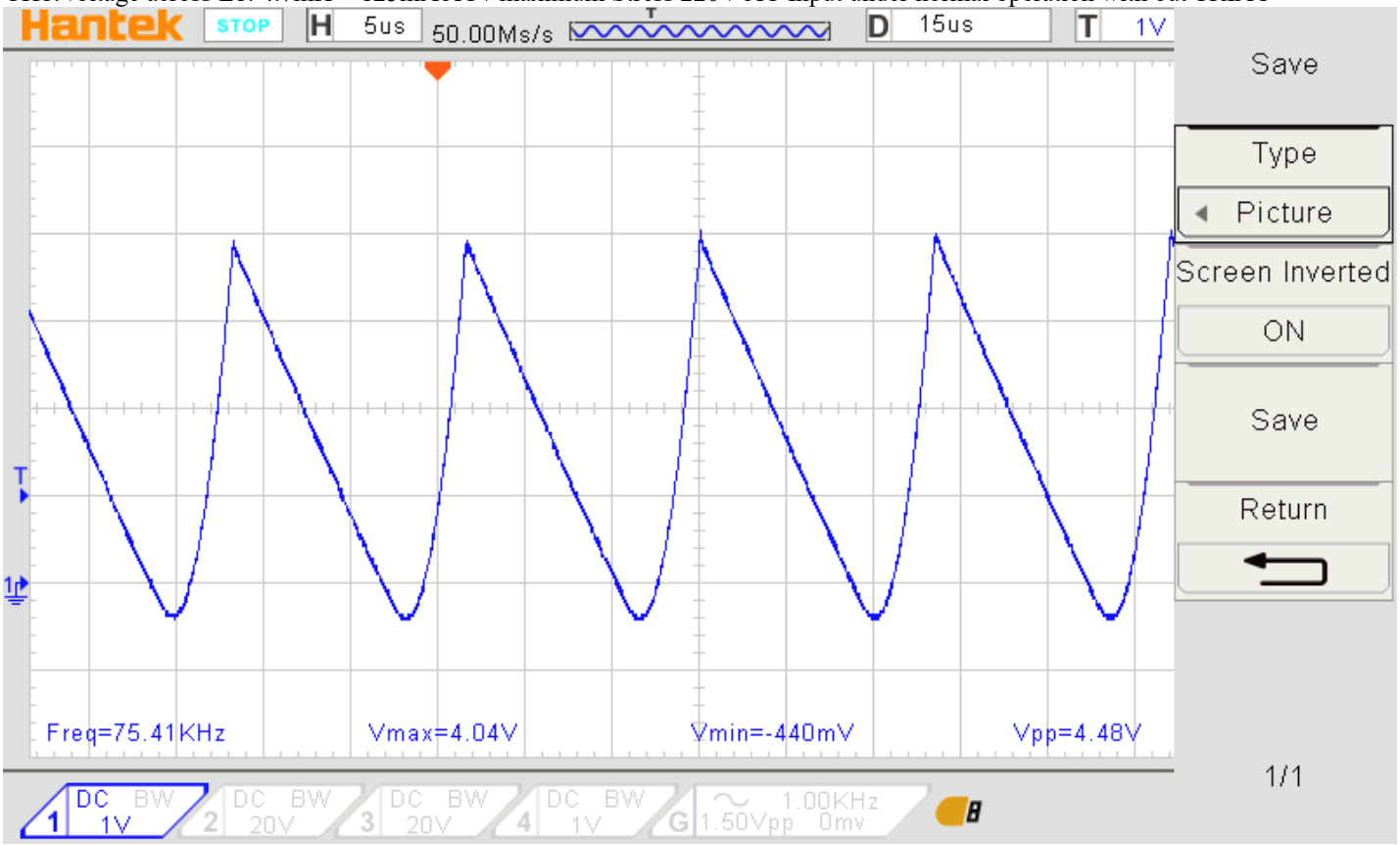
CH1:Voltage across L2 / CH2:Voltage across LED-Array / TRIAC set to 100%



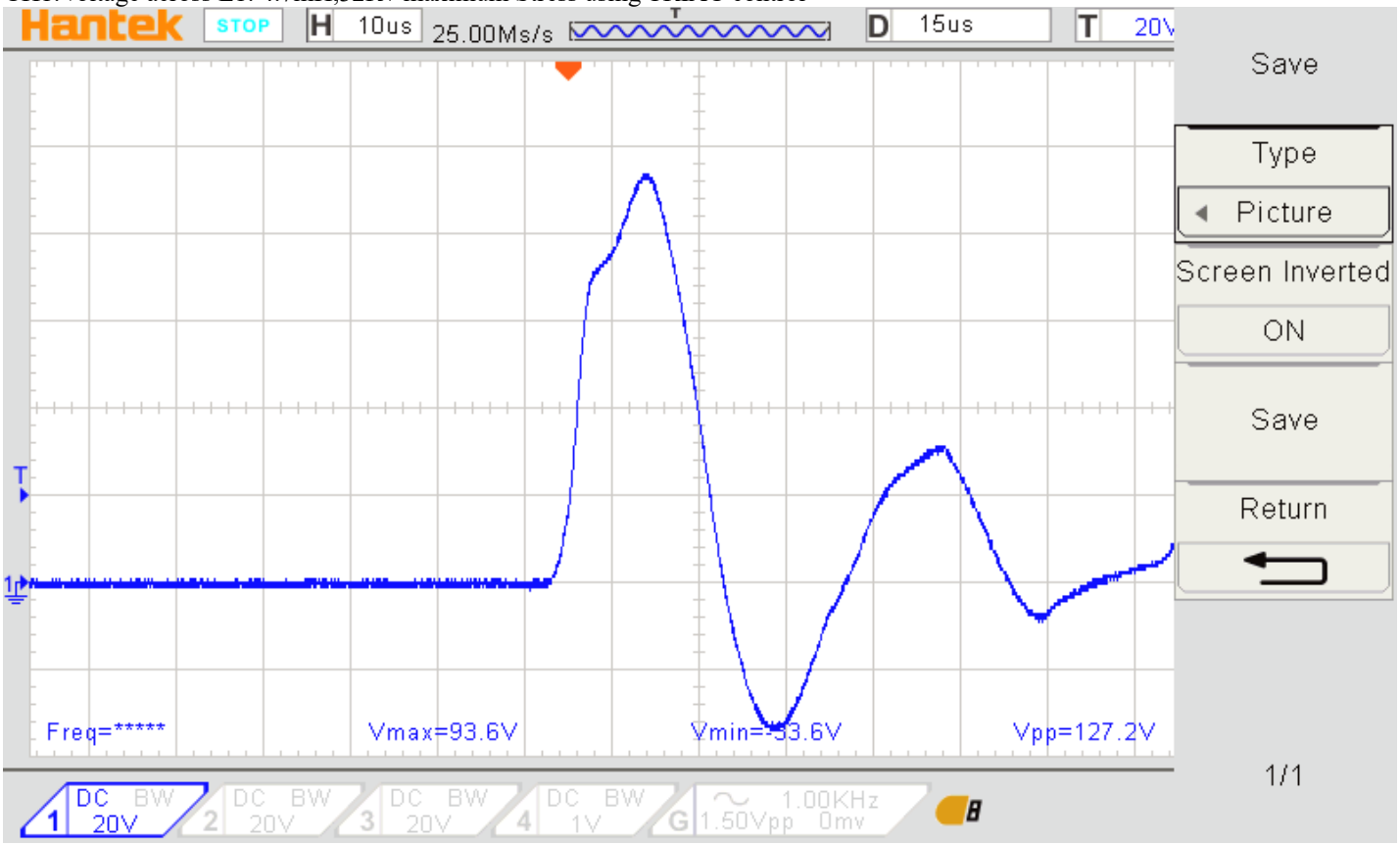
CH1:Voltage across L2 / CH2:Voltage across LED-Array / TRIAC set to minimum



CH1:Voltage across L1: 4.7mH = 125mA AC / maximum Stress 220V-AC Input under normal operation with out TRIAC

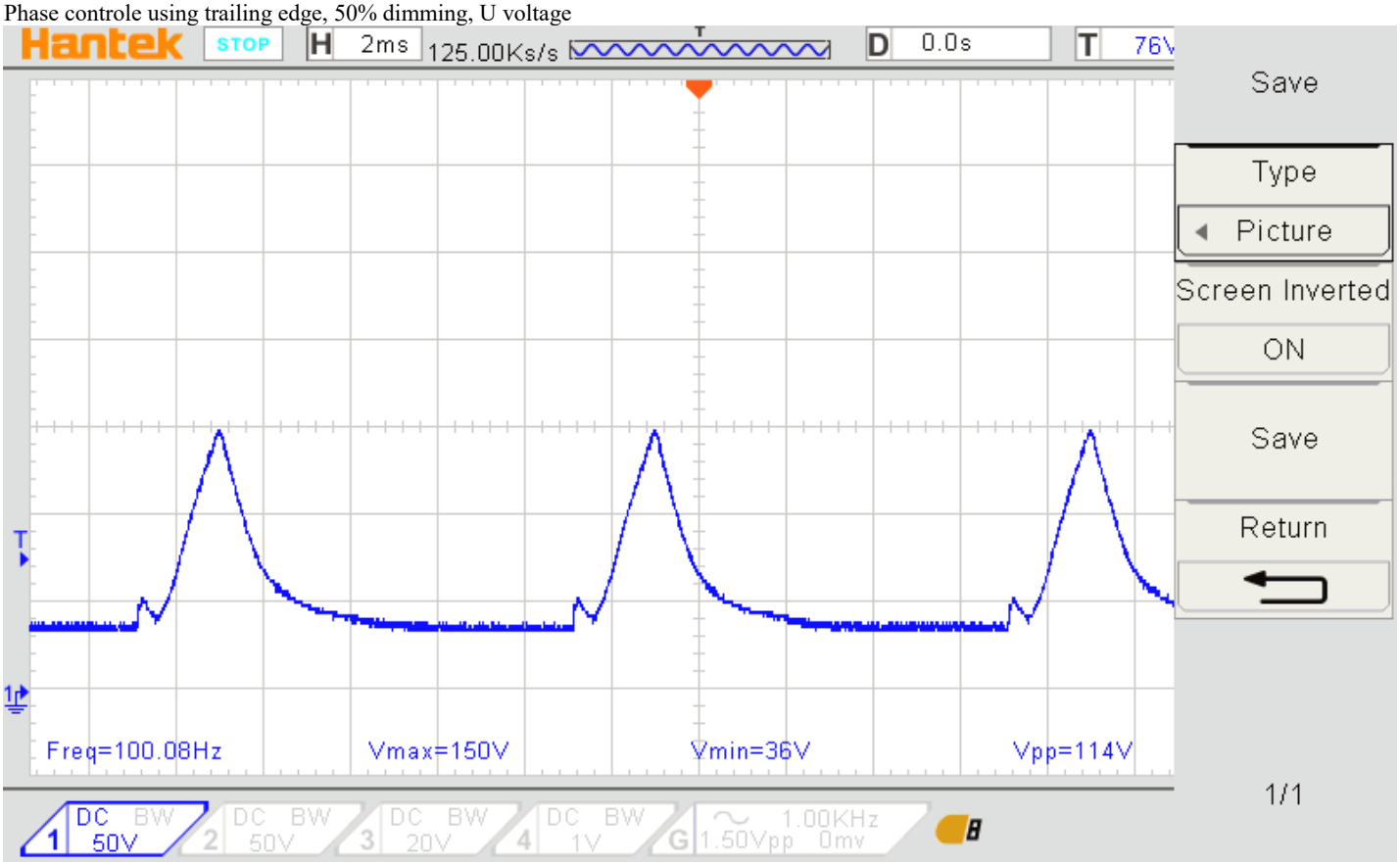


CH1:Voltage across L1: 4.7mH,32R / maximum Stress using TRIAC control

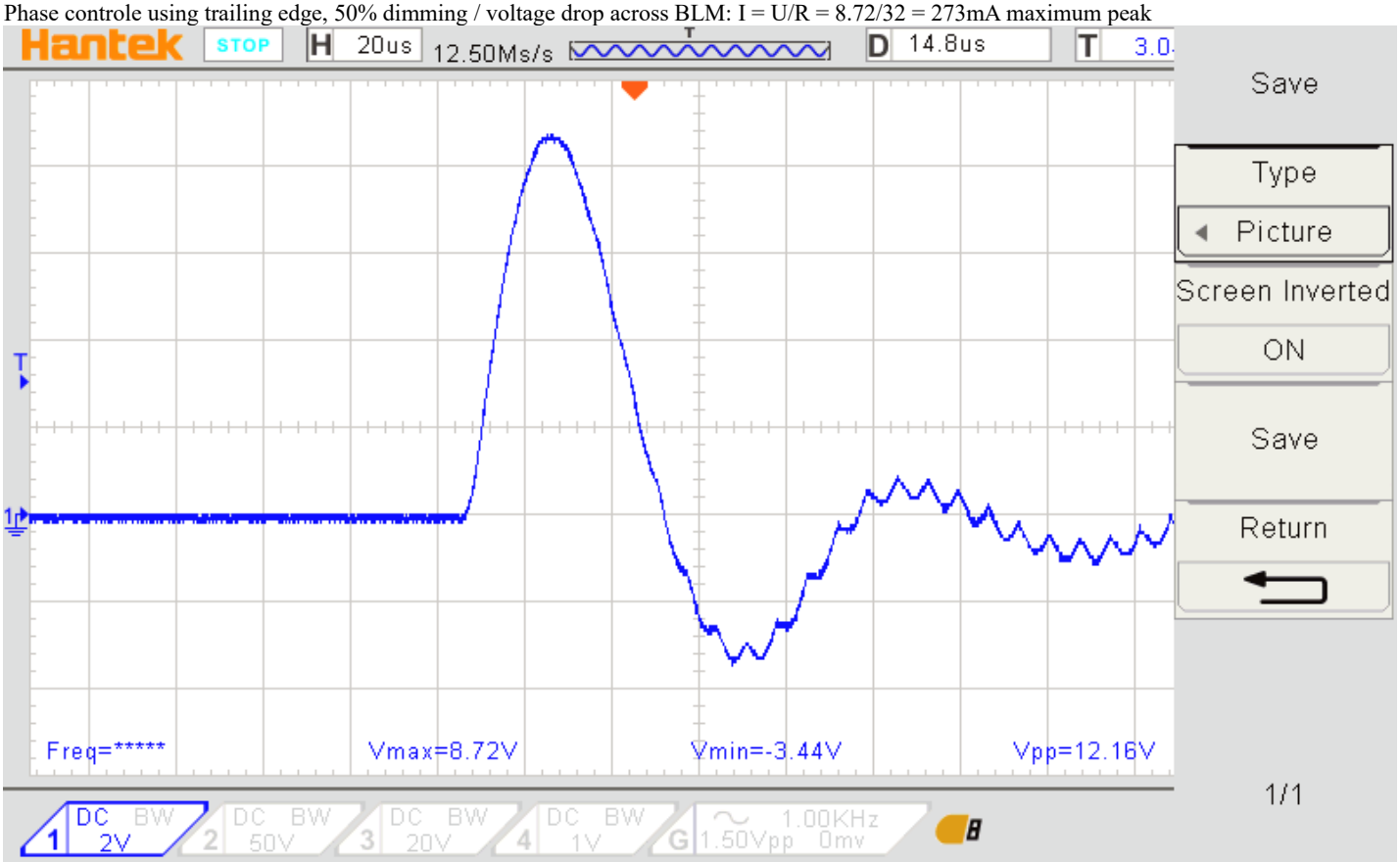


Blm for TRIAC dimmung use underrated! BLM nominal-current use = 60mA, Peak power load using TRIAC Controle: for > 5us = 2,925A !
220V AC drive input with out TRIAC controle: 125mW
BLM axial wire type: 4,3-Dia length-7,5mm
Calculated Power rating: 4.7mH 100mW 32R, I = 57mA continuously

Phase controle using trailing edge, 50% dimming, U voltage



Phase controle using trailing edge, 50% dimming / voltage drop across BLM: I = U/R = 8.72/32 = 273mA maximum peak



Die Bezeichnung „BLM“, "BL" steht für "Chip Ferrites Beads", "M" steht für "Ferrites Beads Single Typ"
Der Bedrahtete BLM Typ "SMCC-472J-YY" entspricht dem bestückten BLM "L1"

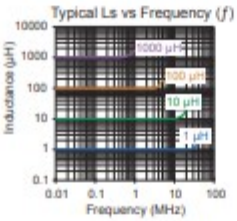
Fastron Group
Fine Inductors

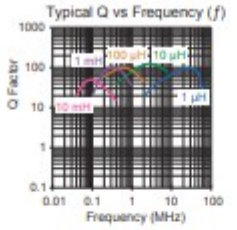
www.fastrongroup.com

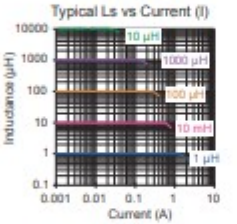
SMCC

(Fixed Choke Coils)

Leaded Inductors / Medical Applications







SPQ :

Packing Form	Taped / Reel
Axial	3500 [-01]
Radial	1500 [-31]

	Taped / Ammo pack
Axial	1200 [-02]
Radial	2500 [-32]

Remarks:
- Difference of SMCC and SMCC/N is that for SMCC/N fL = fQ
- SMCC-R10X to SMCC-R82X are suitable for medical applications.

Medical applications (non-magnetic)

Part No	Inductance L (µH)	fL (MHz)	Tol ± (%)	Q min	fQ (MHz)	SRF min (MHz)	DCR max (Ω)	Rated DC Current (mA)	Core Material
SMCC-R10X-YY	0.10	1	10,**20**	45	25.2	380	0.08	1600	Phenolic
SMCC-R12X-YY	0.12	1	10,**20**	45	25.2	360	0.10	1550	Phenolic
SMCC-R15X-YY	0.15	1	10,**20**	45	25.2	340	0.10	1500	Phenolic
SMCC-R18X-YY	0.18	1	10,**20**	45	25.2	320	0.10	1480	Phenolic
SMCC-R22X-YY	0.22	1	10,**20**	45	25.2	300	0.10	1450	Phenolic
SMCC-R27X-YY	0.27	1	10,**20**	45	25.2	270	0.11	1400	Phenolic
SMCC-R33X-YY	0.33	1	10,**20**	45	25.2	250	0.12	1350	Phenolic
SMCC-R39X-YY	0.39	1	10,**20**	45	25.2	230	0.13	1300	Phenolic
SMCC-R47X-YY	0.47	1	10,**20**	45	25.2	220	0.14	1280	Phenolic
SMCC-R56X-YY	0.56	1	10,**20**	45	25.2	210	0.15	1240	Phenolic
SMCC-R68X-YY	0.68	1	10,**20**	45	25.2	200	0.16	1230	Phenolic
SMCC-R82X-YY	0.82	1	10,**20**	45	25.2	190	0.17	1210	Phenolic
SMCC-1R0X-YY	1.0	1	5,**10**,20	45	7.96	205	0.16	1200	Ferrite
SMCC-1R2X-YY	1.2	1	5,**10**,20	50	7.96	185	0.18	1150	Ferrite
SMCC-1R5X-YY	1.5	1	5,**10**,20	50	7.96	165	0.20	1100	Ferrite
SMCC-1R8X-YY	1.8	1	5,**10**,20	55	7.96	155	0.22	1030	Ferrite
SMCC-2R2X-YY	2.2	1	5,**10**,20	55	7.96	140	0.25	1000	Ferrite
SMCC-2R7X-YY	2.7	1	5,**10**,20	60	7.96	125	0.26	940	Ferrite
SMCC-3R3X-YY	3.3	1	5,**10**,20	60	7.96	115	0.29	900	Ferrite
SMCC-3R9X-YY	3.9	1	5,**10**,20	60	7.96	105	0.31	850	Ferrite
SMCC-4R7X-YY	4.7	1	5,**10**,20	60	7.96	95	0.34	820	Ferrite
SMCC-5R6X-YY	5.6	1	5,**10**,20	60	7.96	85	0.38	780	Ferrite
SMCC-6R2X-YY	6.2	1	5,**10**,20	65	7.96	75	0.61	670	Ferrite
SMCC-6R8X-YY	6.8	1	5,**10**,20	65	7.96	75	0.51	670	Ferrite
SMCC-8R2X-YY	8.2	1	5,**10**,20	65	7.96	50	0.48	690	Ferrite
SMCC-100X-YY	10	1	5,**10**,20	65	7.96	35	0.49	680	Ferrite
SMCC-120X-YY	12	0.02	5,**10**,20	50	2.52	30	0.55	650	Ferrite
SMCC-150X-YY	15	0.02	5,**10**,20	50	2.52	20	0.6	610	Ferrite
SMCC-180X-YY	18	0.02	5,**10**,20	50	2.52	17	0.67	580	Ferrite
SMCC-200X-YY	20	0.02	5,**10**,20	50	2.52	13	0.74	560	Ferrite
SMCC-220X-YY	22	0.02	5,**10**,20	50	2.52	13	0.74	560	Ferrite
SMCC-270X-YY	27	0.02	5,**10**,20	55	2.52	10	0.83	530	Ferrite
SMCC-300X-YY	30	0.02	5,**10**,20	55	2.52	9.00	0.92	500	Ferrite
SMCC-330X-YY	33	0.02	5,**10**,20	55	2.52	9.00	0.92	500	Ferrite
SMCC-390X-YY	39	0.02	5,**10**,20	55	2.52	8.00	1.02	470	Ferrite
SMCC-470X-YY	47	0.02	5,**10**,20	40	2.52	7.50	1.10	450	Ferrite
SMCC-560X-YY	56	0.02	5,**10**,20	40	2.52	7.00	1.23	430	Ferrite
SMCC-680X-YY	68	0.02	5,**10**,20	40	2.52	6.50	1.35	410	Ferrite
SMCC-820X-YY	82	0.02	5,**10**,20	35	2.52	6.00	1.54	390	Ferrite
SMCC-101X-YY	100	0.02	5,**10**,20	30	2.52	5.00	1.70	370	Ferrite
SMCC-121X-YY	120	0.02	5,**10**,20	70	0.79	4.50	2.40	300	Ferrite
SMCC-131X-YY	130	0.02	5,**10**,20	70	0.79	4.20	2.80	280	Ferrite
SMCC-151X-YY	150	0.02	5,**10**,20	70	0.79	4.20	2.80	280	Ferrite
SMCC-161X-YY	160	0.02	5,**10**,20	70	0.79	3.90	3.00	270	Ferrite
SMCC-181X-YY	180	0.02	5,**10**,20	70	0.79	3.90	3.00	270	Ferrite
SMCC-201X-YY	200	0.02	5,**10**,20	70	0.79	3.70	3.30	250	Ferrite
SMCC-221X-YY	220	0.02	5,**10**,20	70	0.79	3.70	3.30	250	Ferrite
SMCC-271X-YY	270	0.02	5,**10**,20	70	0.79	2.80	5.70	200	Ferrite
SMCC-281X-YY	280	0.02	5,**10**,20	70	0.79	2.80	5.70	190	Ferrite
SMCC-331X-YY	330	0.02	5,**10**,20	70	0.79	2.70	6.40	190	Ferrite
SMCC-351X-YY	350	0.02	5,**10**,20	70	0.79	2.40	6.40	180	Ferrite
SMCC-391X-YY	390	0.02	5,**10**,20	70	0.79	2.40	7.00	180	Ferrite
SMCC-471X-YY	470	0.02	5,**10**,20	70	0.79	2.20	7.90	170	Ferrite
SMCC-561X-YY	560	0.02	5,**10**,20	60	0.79	2.00	8.80	160	Ferrite
SMCC-681X-YY	680	0.02	5,**10**,20	55	0.79	1.90	10.0	150	Ferrite
SMCC-821X-YY	820	0.02	5,**10**,20	55	0.79	1.60	12.0	140	Ferrite
SMCC-102X-YY	1000	0.02	5,**10**,20	50	0.79	1.60	14.0	130	Ferrite
SMCC-122X-YY	1200	0.02	5,**10**,20	50	0.25	1.30	16.9	120	Ferrite
SMCC-152X-YY	1500	0.02	5,**10**,20	40	0.25	1.25	21.6	100	Ferrite
SMCC-182X-YY	1800	0.02	5,**10**,20	40	0.25	1.20	24.0	95	Ferrite
SMCC-202X-YY	2000	0.02	5,**10**,20	40	0.25	1.10	32.1	80	Ferrite
SMCC-222X-YY	2200	0.02	5,**10**,20	40	0.25	1.10	34.7	80	Ferrite
SMCC-272X-YY	2700	0.02	5,**10**,20	40	0.25	1.00	40.0	75	Ferrite
SMCC-332X-YY	3300	0.02	5,**10**,20	40	0.25	0.90	59.5	62	Ferrite
SMCC-352X-YY	3500	0.02	5,**10**,20	40	0.25	0.70	59.5	59	Ferrite
SMCC-392X-YY	3900	0.02	5,**10**,20	40	0.25	0.80	66.0	59	Ferrite
SMCC-472X-YY	4700	0.02	5,**10**,20	40	0.25	0.70	74.0	55	Ferrite
SMCC-502X-YY	5000	0.02	5,**10**,20	30	0.25	0.55	70.0	40	Ferrite
SMCC-562X-YY	5600	0.02	5,**10**,20	30	0.25	0.55	70.0	40	Ferrite
SMCC-682X-YY	6800	0.02	5,**10**,20	30	0.25	0.50	95.0	35	Ferrite
SMCC-812X-YY	8100	0.02	5,**10**,20	30	0.25	0.40	95.0	30	Ferrite
SMCC-822X-YY	8200	0.02	5,**10**,20	30	0.25	0.40	95.0	30	Ferrite
SMCC-103X-YY	10000	0.02	5,**10**,20	20	0.10	0.35	115.0	25	Ferrite

Revision date : 08 Feb 2021

● Bold figure for **Tol%** is standard ● All dimensions in mm