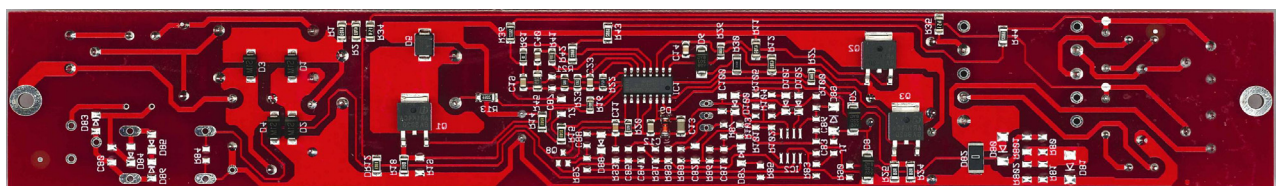


## Board-description: Demoboard 1x54W T5 - VM - 180VAC to 270VAC - ICB2FL03G

	Demoboard 1x54W T5
Design	Voltage Mode preheating
IC Type	ICB2FL03G

Name	short	rated value	unit	comment
Input voltage	$V_{IN\_AC}$	230	$V_{RMS}$	180V <sub>AC</sub> to 270V <sub>AC</sub>
Input current	$I_{IN}$	257	$mA_{RMS}$	@230V <sub>AC</sub>
Input Power	$P_{IN}$	59,1	W	@230V <sub>AC</sub>
Power factor	PF	> 0,99		@230V <sub>AC</sub>
$A_{THD}$	A <sub>thd</sub>	< 4	%	@230V <sub>AC</sub>
efficiency		> 93	%	@230V <sub>AC</sub>
Bus voltage	$V_{BUS}$	410	$V_{RMS}$	Elko voltage
Preheating frequency	$f_{PH}$	106	kHz	
Run frequency	$f_{RUN}$	45,5	kHz	
preheating time	$t_{PH}$	1000	ms	
Lamp voltage	$V_{Lamp}$	118	$V_{RMS}$	
Lamp current	$I_{Lamp}$	460	$mA_{RMS}$	
Ignition voltage	$V_{IGN}$	> 620	$V_{RMS}$	
EOL1 threshold	$V_{EOL1}$	500	$V_{PP}$	Factor: 1,5 of $V_{Lamp}$
EOL2 threshold	$P_{EOL2}$	5	W	

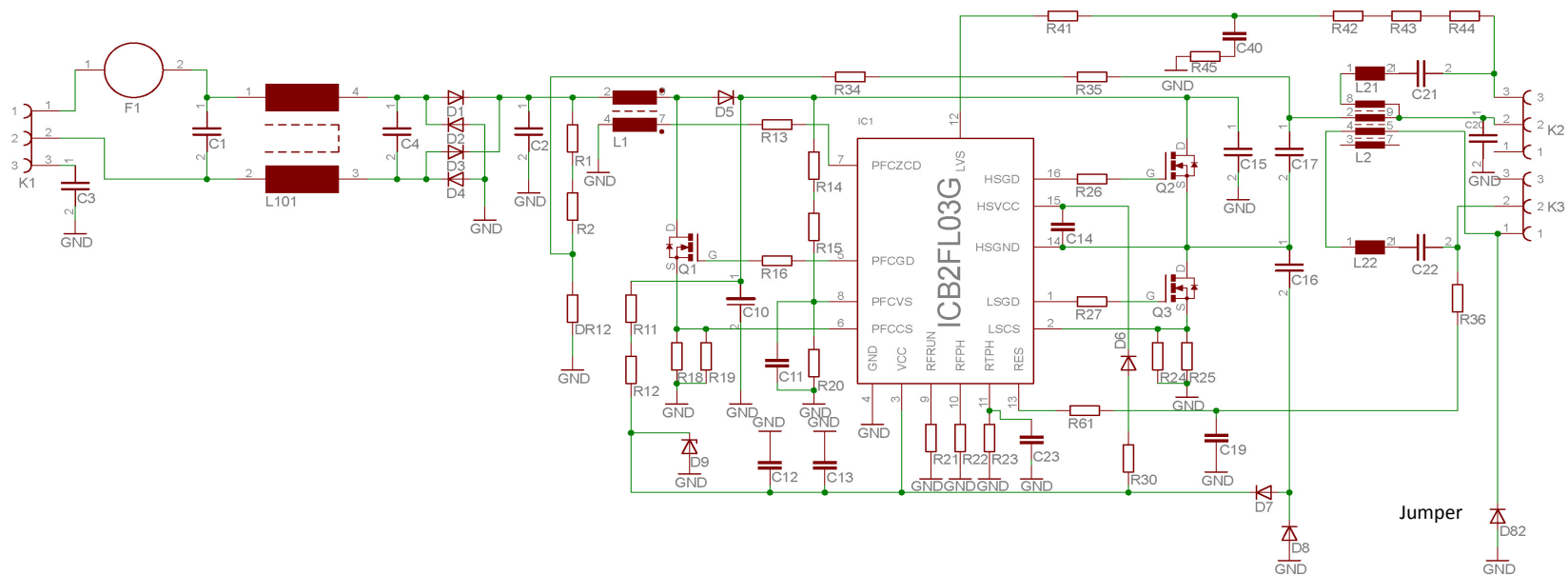


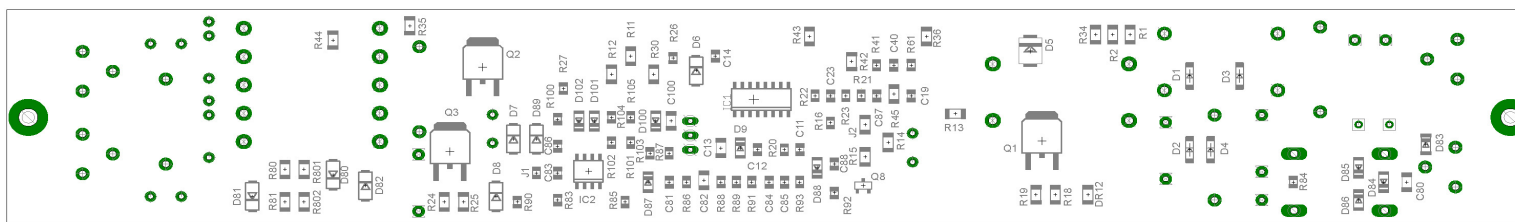
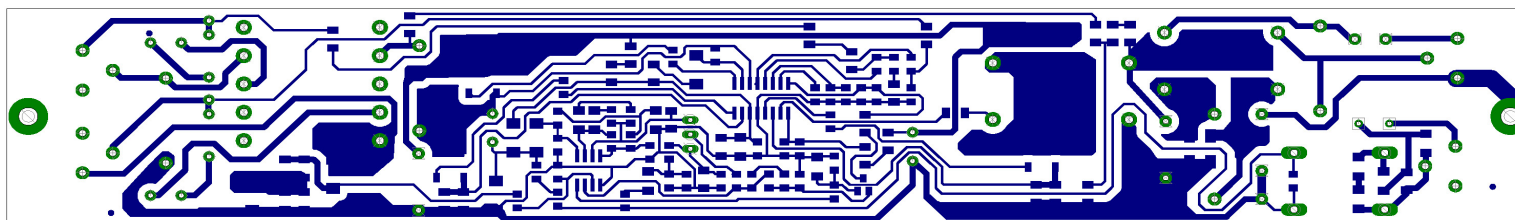
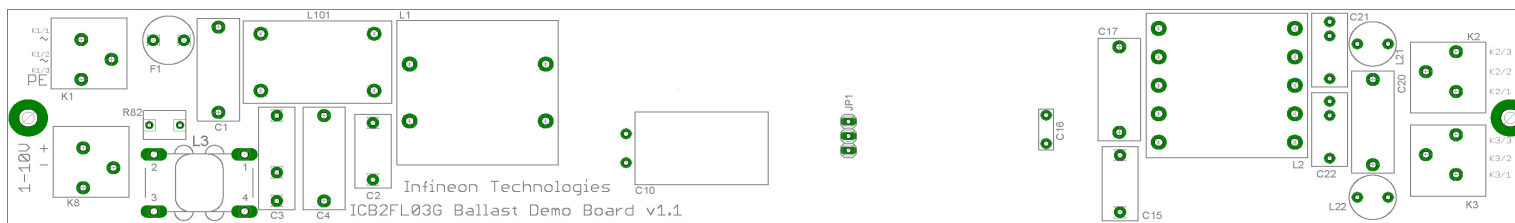
### More information:

<http://www.infineon.com/smartlighting>

<http://www.infineon.com/CoolMOS>

## Schematic: Demoboard 1x54W T5 - VM - 180VAC to 270VAC - ICB2FL03G





# BOM: Demoboard 1x54W T5 - VM - 180VAC to 270VAC - ICB2FL03G

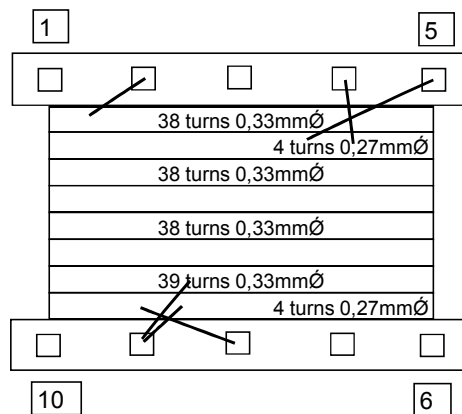
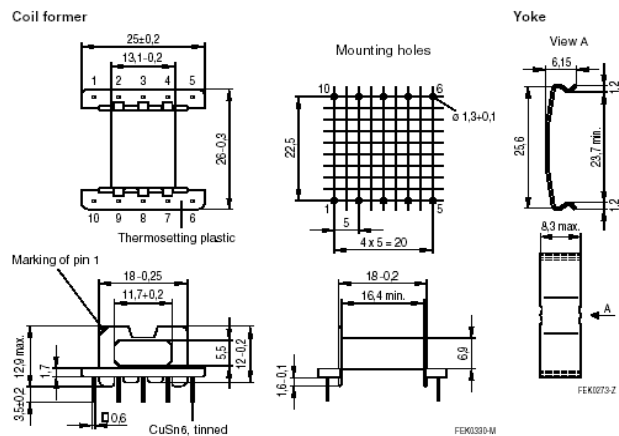
					ICB2FL03G		
Input voltage = 180VAC to 270VAC					VBUS = 410 VRMS		
Package					Package		
F1	Fuse 1A fast	Wickmann	Typ 370		R1	470kΩ	.1206
K1/1	AC Input	WAGO 250-203			R2	470kΩ	.1206
K1/2	AC Input				R11	470kΩ	.1206
K1/3	PE				R12	470kΩ	.1206
K2/1	not connected	WAGO 250-203			R13	33kΩ	.1206
K2/2	High Side Filament				R14	820kΩ	.1206
K2/3	High Side Filament				R15	820kΩ	.1206
K3/1	Low Side Filament	WAGO 250-203			R16	10Ω	.0805
K3/2	Low Side Filament				R18	1Ω	.1206
K3/3	not connected				R19	not assembled	.1206
IC1	ICB2FL03G	Infineon		SO-16	R20	10kΩ	.0805
Q1	IPD60R1k4C6	Infineon		D-Pack	R21	11kΩ	.0805
Q2	IPD60R1k4C6	Infineon		D-Pack	R22	8.2kΩ	.0805
Q3	IPD60R1k4C6	Infineon		D-Pack	R23	10kΩ	.0805
D1...4	S1M	Fairchild	(1000V/1A/2μs)	DO-214AC	R24	0.68Ω	.1206
D5	MURS160T3	ON Semi	(600V/1A/75ns)	SMB	R25	0.68Ω	.1206
D6	BYG20J	Philips	(600V/1.5A/75ns)	SOD124	R26	10Ω	.0805
D7	BYG22D	Philips	(200V/1A/25ns)	DO214	R27	10Ω	.0805
D8	BYG22D	Philips	(200V/1A/25ns)	DO214	R30	33Ω	.1206
D9	BZV55-C16	NXP		SOD-80C	R34	150kΩ	.1206
DR12	110kΩ			.1206	R35	150kΩ	.1206
D82	0Ω			.2512	R36	56kΩ	.1206
L101	2x68mH/0.6A	Epcos	B82732F2601B001		R41	68kΩ	.0805
L1 PFC	1.58mH	Wuerth	750315271	EFD25/13/9	R42	68kΩ	.1206
L 2	1.46mH	Wuerth	750315259	EFD25/13/9	R43	68kΩ	.1206
L 21	100μH/760mA	Epcos	B82144B1104J000	RM5	R44	68kΩ	.1206
L 22	100μH/760mA	Epcos	B82144B1104J000	RM5	R45	6.8kΩ	.1206
C1	220nF/X2/305V	Epcos	B32922C3224M000	RM15	R61	0Ω	.0805
C2	33nF/630V/MKT	Epcos	B32521N8333K000	RM10			
C3	3.3nF/Y2/300V	Epcos	B32021A3332K000	RM10			
C4	220nF/X2/305V	Epcos	B32922C3224M000	RM15			
C10	10μF/450V	Epcos	B43888C5106M000	single ended			
C11	2.2nF/50V	X7R		.0805			
C12	100nF/50V	X7R		.0805			
C13	1μF/25V	X7R		.1206			
C14	68nF/50V	X7R		.0805			
C15	22nF/630V/MKT	Epcos	B32621A6223K000	RM10			
C16	1nF/630V/MKT	Epcos	B32529C8102K000	RM5			
C17	100nF/630V/MKP	Epcos	B32612A6104K008	RM15			
C19	22nF/50V	X7R		.0805			
C20	4.7nF/1600V/MKP	Epcos	B32612-J1472J008	RM15			
C21	22nF/400V/MKP	Epcos	B32620A4223J000	RM7,5			
C22	22nF/400V/MKP	Epcos	B32620A4223J000	RM7,5			
C23	10nF/50V	X7R		.0805			
C40	220nF/50V	X7R		.0805			

## More information:

<http://www.infineon.com/smartlighting>
<http://www.infineon.com/CoolMOS>

## L-Design - Inverter: Demoboard 1x54W T5 - VM - 180VAC to 270VAC - ICB2FL03G

Coil former					Ordering code
Sections	$A_N$ mm <sup>2</sup>	$l_N$ mm	$A_R$ value $\mu\Omega$	Pins	
1	40,7	50	42,3	10	B66422-B1010-D1 B66422-W1010-D1
Yoke (ordering code per piece, 2 are required)					B66422-B2000

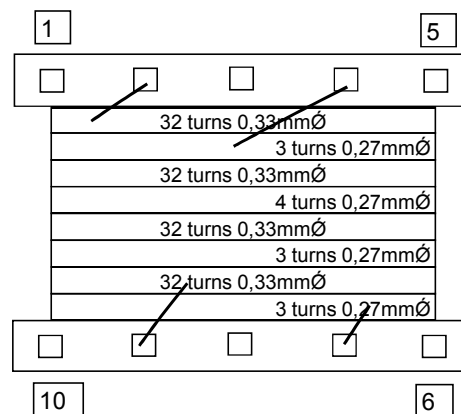


EFD 25/13/9; N87; (total gap= 2,0mm)  
L=1,46mH  
View at pin-side of the coil former

Wind windings (Pin 2 to Pin 9) first  
then the others for preheating on top

Wuerth Part # 750315259

Coil former					Ordering code
Sections	A <sub>N</sub> mm <sup>2</sup>	N mm	R <sub>p</sub> value μΩ	Pins	
1	40,7	50	42,3	10	B66422-B1010-D1 B66422-W1010-D1
Yoke (ordering code per piece, 2 are required)					B66422-B2000



EFD 25/13/9; N87; (total gap= 1,1mm)  
L=1,58mH  
View at pin-side of the coil former

Wind windings (Pin 2 to Pin 9) first  
then the others on top

**Wuerth Part # 750315271**