

Bias supply DC-DC

KIT_6W_12V_BIAS_ICE3

Auxiliary supply solution featuring off-line
SMPS current mode controller IC
CoolSET™ with integrated 650 V
CoolMOS™

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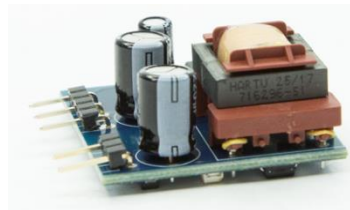
Rev. 1.1

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Description

KIT_6W_12V_BIAS_ICE3



Ordering code:
KIT_6W_12V_BIAS_ICE3

Board components

- › CoolSET™ (ICE3RBR4765JZ)

Board specifications

- › Input voltage: 90 V_{DC} - 400 V_{DC}
- › Output voltage: 12 V_{DC} (prim. and sec. side)
- › Output power max.: 6 W (prim. + sec. side)

To be used with the following boards

- › EVAL_800W_ZVS_FB_CFD7
- › EVAL_2KW_ZVS_FB_CFD2
- › EVAL_2KW_ZVS_FB_CFD7
- › EVAL_2.5KW_CCM_4PIN
- › EVAL_2K5W_CCM_4P_V2

Bill of materials

Part	Value	Pcs*	Remark	Device	Package
R5	1100092; 47	1		R-EU_R0805	R0805
R4, R6	1100124; 1k	2		R-EU_R0805	R0805
R3	1100131; 2k	1		R-EU_R0805	R0805
R1, R2	1100581; 560	2		R-EU_MELF0207R	MINI_MELF-0207R
C8	1100965; 1,5n	1		C-EUC0805	C0805
C5	1100985; 100n	1		C-EUC0805	C0805
R7	1R2	1		MMA02040C1208FB300	MINI_MELF-0204R
PCB1	6W_BIAS-Supply	1		PCB_NUTZEN	PCB-NUTZEN
D1, D4	10BQ100	2		MBRS1100T3	SMB
C6	22µ/25V	1		CPOL-EUE2.5-6	E2,5-6
C3	33p/3000V	1		C-EUC1808	C1808
C2	100n/500V	1		C-EUC1210	C1210
C1, C4	220µ/25V	2		CPOL-EUE5-8.5	E5-8,5
C7	220n/16V	1		C-EUC0805	C0805
Q1	BC847C	1		BC847	SOT23
D6	BZX84-B13,215	1		BZX84	SOT23
TR1	HARTU-716296-51	1		HARTU-716296-51	EF-16_
IC1	ICE3RBR4765JZ	1	Infineon component	ICE3RBR4765JZ	PG-DIP-7-4
D5	LL4448	1		LL4448	MINIMELF
D2	LYT679	1		LEDT679	P-LCC-2
X2, X4	PINHEAD-1X01/90	2		PINHEAD-1X01/90	PINHEAD-1X01/90
X3	PINHEAD-1X02/90	1		PINHEAD-1X02/90	PINHEAD-1X02/90
X1	PINHEAD-1X03/90	1		PINHEAD-1X03/90	PINHEAD-1X03/90
D3	SMAJ15	1		SMAZ	SMA

Product features

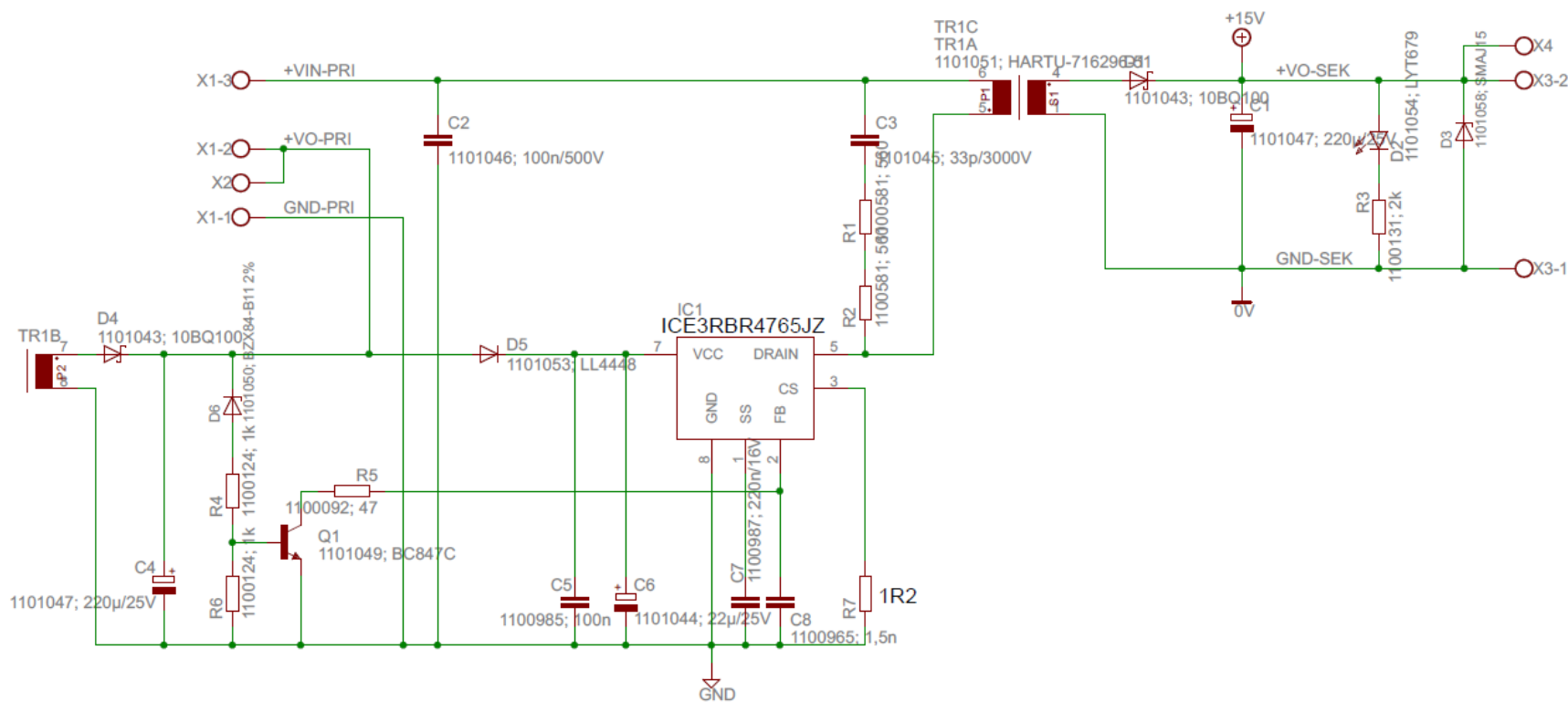
CoolSET™ ICE3RBR4765JZ

Off-line SMPS current mode controller IC with integrated 650 V CoolMOS™ and start-up cell in DIP-7 package. It has a more robust design and can work to -40°C. The outstanding performance includes BiCMOS technology, active burst mode, built-in frequency jitter, soft gate driving, propagation delay compensation, built-in soft start time, built-in blanking time and extendable blanking time for over load protection, external auto-restart enable feature, etc.

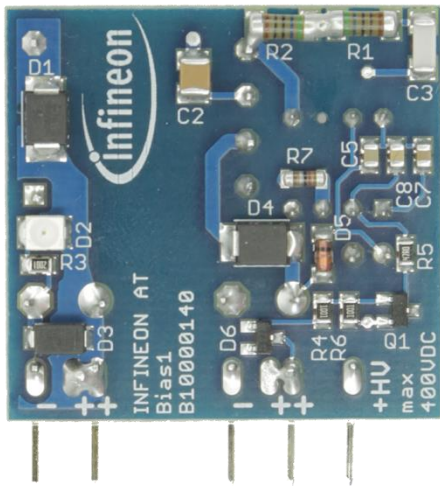
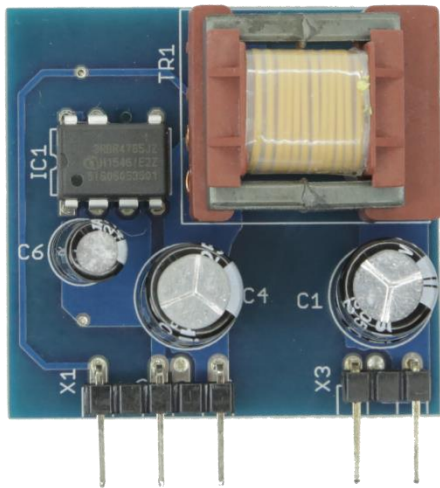
- > 650 V avalanche rugged CoolMOS™ with built-in start-up cell
- > Active burst mode for lowest standby power
- > Fast load jump response in active burst mode
- > 65 kHz internally fixed switching frequency
- > Auto restart protection mode for overload, open loop, V_{CC} under voltage, over temperature and over voltage
- > Built-in soft start
- > Built-in blanking window with extendable blanking time for short duration high current



Schematic



Base board KIT_6W_12V_BIAS_ICE3



~35mm

~37mm

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Auxiliary supply solution featuring off-line SMPS current mode controller IC CoolSET™ with integrated 650 V CoolMOS™



Technical Material

- > Application Notes
- > Simulation Models
- > Datasheets
- > PCB Design Data

- > [EVAL_2KW_ZVS_FB_CFD2](#)
- > [EVAL_2K5W_CCM_4P_V2](#)

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