Au9674-X

Imitating Diode- Flyback Smart Rectifier

Description

Au9674-X series is designed for high efficient and Low power consumption rectifier in switching power second side. it is capable to work in not only CCM, DCM, CRM, used in common and QR isolated flyback power with no added adjustments,but also can work in single-stage PFC flyback power too.
Especially it could be used in Non-isolated power to replace fly-wheel diode to improve efficiency.

Features

*Operating frequence up to 250KHz.

*Low Standy power to meet DOE Lot6 requirement

*Low power loss,high efficience,offers efficiency improvement over Schottky Diode

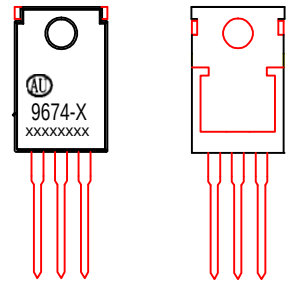
*simplifying the external circuit design

*No change on transformer , no Vcc auxiliary winding needed

* Work well both in high-side and low-side in isolated flyback power.

* Support working in some non-isolated DC-DC power.

TO-220BF



APPLICATIONS

- Switching Mode Power Supply (CCM&DCM&QR)
- Storage area network power supplies
- Telecommunication converters
- Embedded systems
- Industrial & commercial systems using high current processors
- Power converters to meet Lot 6 requirement

PIN DESCRIPTION

Pin	Symbol	Description
1	A1	assistant current input.
2	A2	main current input.
3	K	Current output

Maximum Ratings and Electrical Characteristics

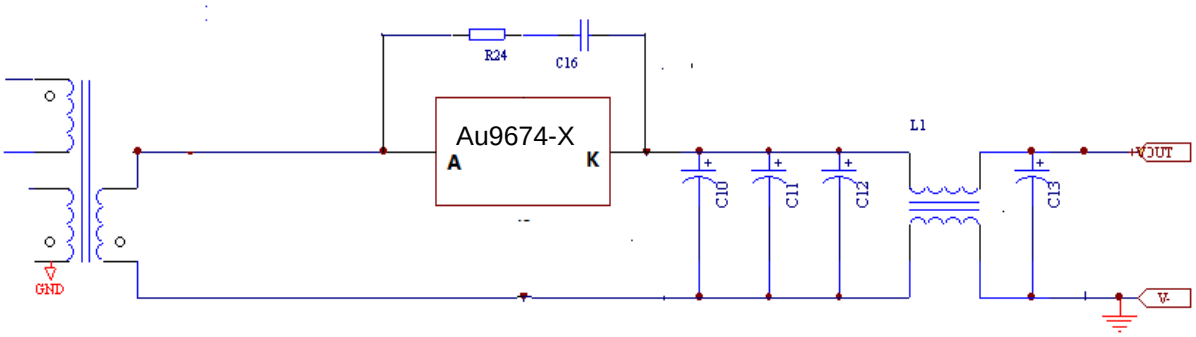
Rating at 25 ℃ ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%

P/N	Symbol	VF (mV)	VF (mV)	Vdc (V)	IF(av.) (A)	IFRM(A)	Iout(A)	Pd (W)	Tstg (℃)
		Typical forward vlotage IF=5A Ta=25℃ Vout=12V	Typical forward vlotage IF=5A Ta=25℃ Vout=5V	Maximum DC blocking voltage	Maximum average forward rectifier current Tc=100℃	Peak repetitive forward current	Suggested Load current	Max power dissipation	Storage temperature range
AU9674-L	Smart Synchronous	40	55	40	60	240	4	40	-25 to +150
AU9674-O	Smart Synchronous	24	48	40	80	320	6	40	-25 to +150
AU9674-R	Smart Synchronous	20	25	40	100	400	8	40	-25 to +150
AU9674-W	Smart Synchronous	12	16	40	130	520	10	40	-25 to +150
AU9674-S	Smart Synchronous	55	68	60	60	240	4	40	-25 to +150
AU9674-H	Smart Synchronous	80	50	60	80	320	6	40	-25 to +150
AU9674-Y	Smart Synchronous	12	16	60	150	600	12	40	-25 to +150
AU9674-ML	Smart Synchronous	45		80	20	80	3	40	-25 to +150

* Tested under the condition IF=3A

P/N	Symbol	VF (mV) Typical forward vlotage IF=5A Ta=25℃ Vout=12V	VF (mV) Typical forward vlotage IF=5A Ta=25℃ Vout=5V	Vdc (V) Maximum DC blocking voltage	IF(av.) (A) Maximum average forward rectifier current Tc=100℃	IFRM(A) Peak repetitive forward current	Iout(A) Suggested Load current	Pd (W) Max power dissipation	Tstg (℃) Storage temperature range
AU9674-D	Smart Synchronous Rectifier	10		85	130	390	13	40	-25 to +150
AU9674-M	Smart Synchronous Rectifier	70		100	35	140	3	40	-25 to +150
AU9674-J	Smart Synchronous Rectifier	45		100	40	160	3.5	40	-25 to +150
AU9674-N	Smart Synchronous Rectifier	40		100	60	240	5	40	-25 to +150
AU9674-A	Smart Synchronous Rectifier	30		100	80	320	7	40	-25 to +150
AU9674-E	Smart Synchronous Rectifier	25		100	100	380	10	40	-25 to +150
AU9674-T	Smart Synchronous Rectifier	10		100	140	420	13	40	-25 to +150
AU9674-F	Smart Synchronous Rectifier	30		120	100	360	7	40	-25 to +150
AU9674-B	Smart Synchronous Rectifier	110		150	60	200	4	40	-25 to +150
AU9674-K	Smart Synchronous Rectifier	60		150	80	300	5	40	-25 to +150

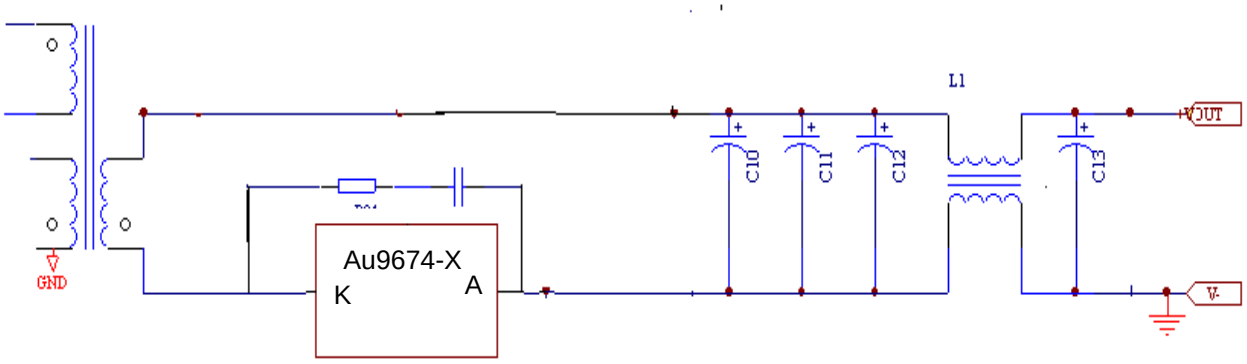
1.Application in flyback



Work in high side

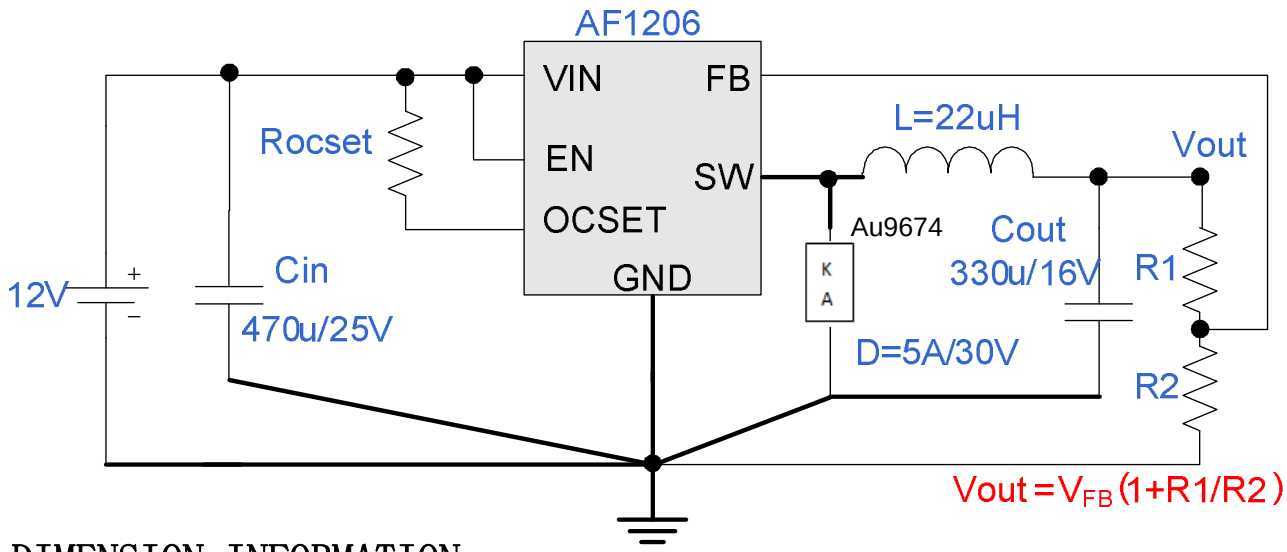
Application Note under working in high side:

If possible, it is a good way connecting heat sink to output capacitor anode directly without insulating collidal particle and heat conductive gasket between the smart rectifier and the heat sink, that could save the cost and improve EMI performance , and decrease the leakage current between the smart rectifier and heat sink to get higher efficiency and lower Vakpeak voltage too.



Work in low side

2. Application in DC-DC non-isolated power



DIMENSION INFORMATION (mm)

Package TO-220BF