

Description

Au9678H-X(R) series is designed for high efficient and Low power consumption rectifier in power second side. switching 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. And based on our patented "quasi-GaN" technology with approaching-zero reverse-recovery time, it supports large dynamic load change in switching power or others, reducing turn-off peak voltage very well

Features

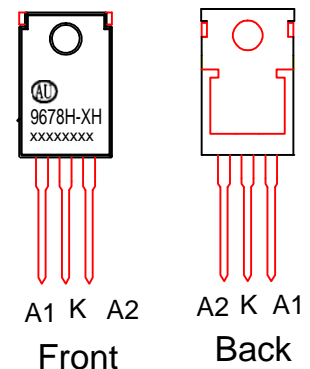
- *Operating frequency up to 130KHz.
- *Low Standby power to meet DOE Lot6 requirement
- *Low power loss, high efficiency, offers efficiency improvement over Schottky Diode
- *simplifying the external circuit design
- *No change on transformer, no Vcc auxiliary winding needed
- *Work well both in high-side and low-side in isolated flyback power.
- *Support working in some non-isolated DC-DC power.

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

TO-220BF



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

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

P/N	VF (mV) Typical forward voltage IF=5A Ta=25°C Vout=12V	VF (mV) Typical forward voltage IF=5A Ta=25°C Vout=5V	Vdc(V) Maximum DC blocking voltage	IF(av.) (A) Maximum average forward rectifier current Tc=100°C	IFRM(A) Peak repetitive forward current	Iout(A) Suggested Load current	Pd (W) Max power dissipation	Tstg (°C) Storage temperature range
Au9678H-WH	15	25	40	120	400	10	40	-40 to +150
Au9678H-HH	80	50	60	80	320	6	40	-40 to +150
Au9678H-YH	12	16	60	150	600	12	40	-40 to +150
Au9678H-Y2H	6	8	60	250	800	25	40	-40 to +150
Au9678H-MLH	45		80	20	80	3	40	-40 to +150
Au9678H-DH	10		85	130	390	13	40	-40 to +150
Au9678H-MH	70		100	35	140	2.5	40	-40 to +150

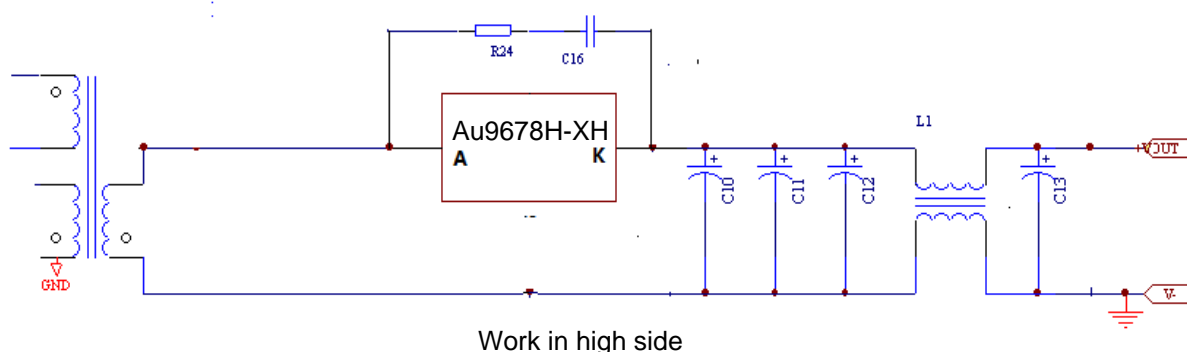
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Au9678H-JH	45		100	40	160	4	40	-40 to +150
Au9678H-NH	40		100	60	240	5	40	-40 to +150
Au9678H-AH	30		100	80	320	8	40	-40 to +150
Au9678H-EH	25		100	100	380	10	40	-40 to +150
Au9678H-TH	15		100	150	600	13	40	-40 to +150
Au9678H-BH	50*		150	60	200	4	40	-40 to +150
Au9678H-KH	40*		150	70	300	5	40	-40 to +150
Au9678H-GH	35*		150	80	300	8	40	-40 to +150

* Tested under the condition IF=3A

Application

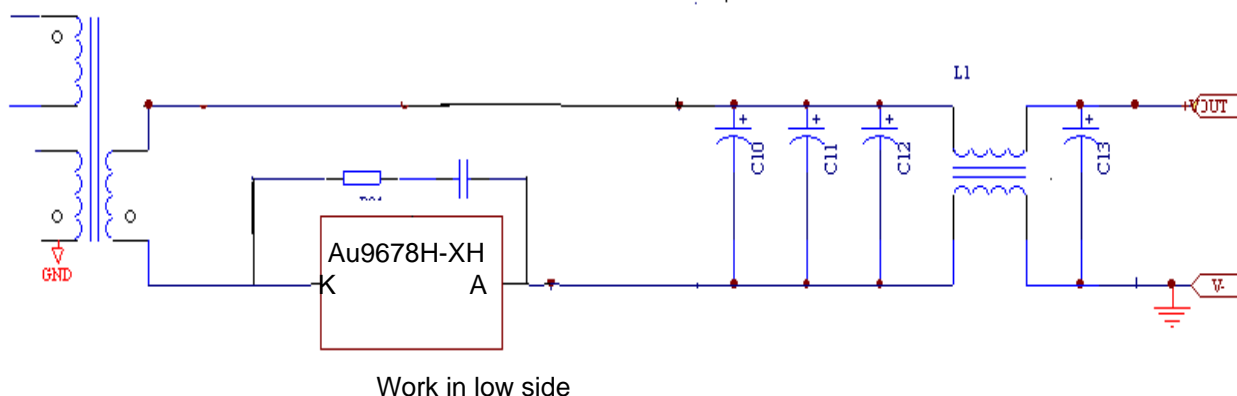
Application note: 1) Pin A2 and Pin A1 must be connected with each other ;
2) Better please insert the pin deeply into the PCB for decreasing the power loss of pin's impedance if possible.

1.Application in flyback

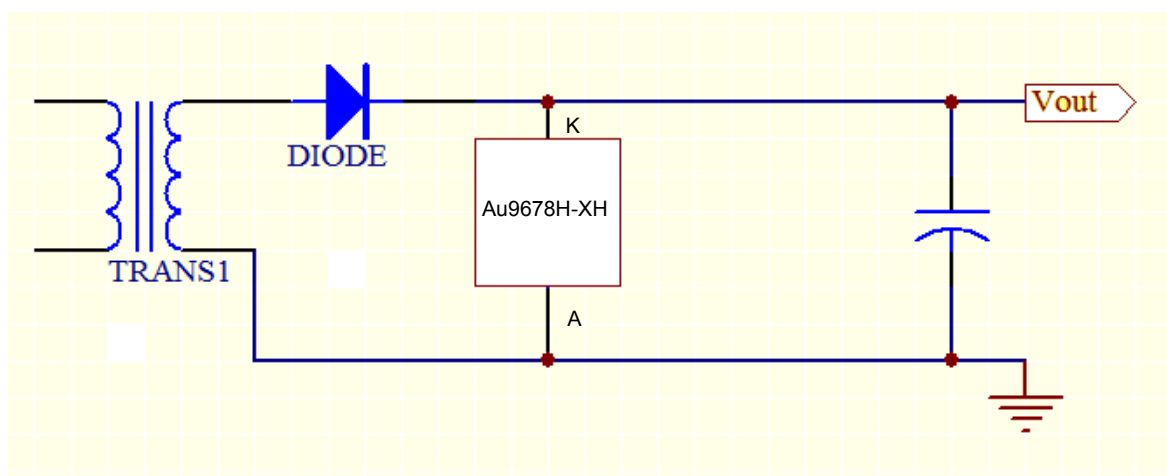


Application Note under working in high side:

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.

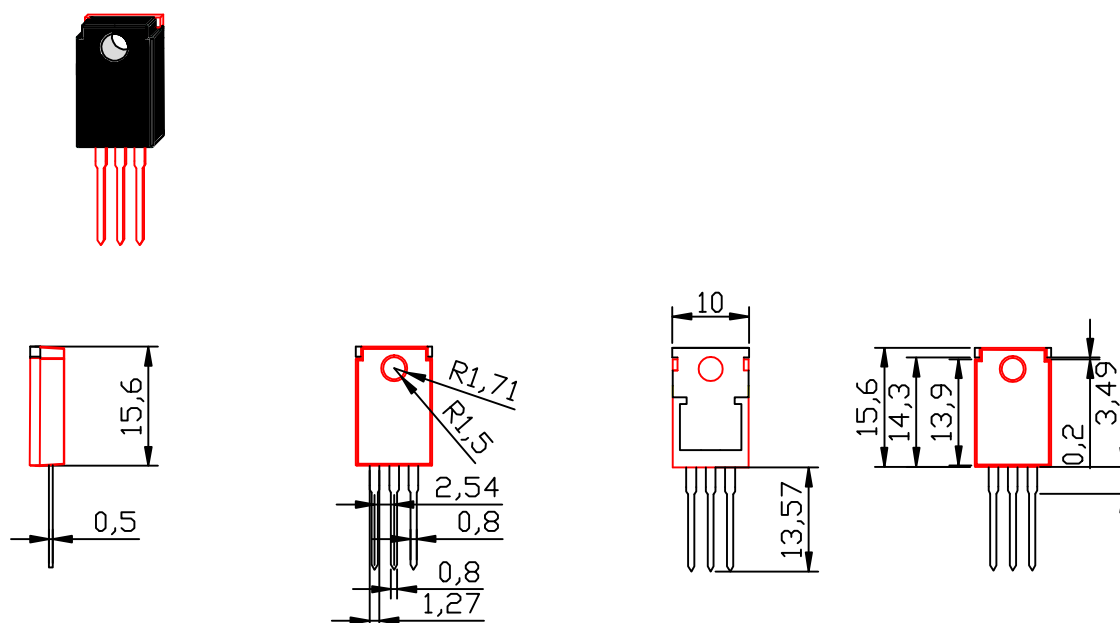


2. Application in Forward power



DIMENSION INFORMATION (mm)

Package TO-220BF



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