Application Notes for 2PD632

WEPOWER 2PD632 IGBT gate driver is with two channel high power IGBT driver like 2SD315 from CT. Their pin designation and function are compatible each other. Main technical data is 2*6W/32A/1700V. Because of the different technique are used in these two drivers, so users are request to carefully read our datasheet of 2PD632 (compare to 2SD315 from CT), and make some necessary adjustment.

Main different as below:

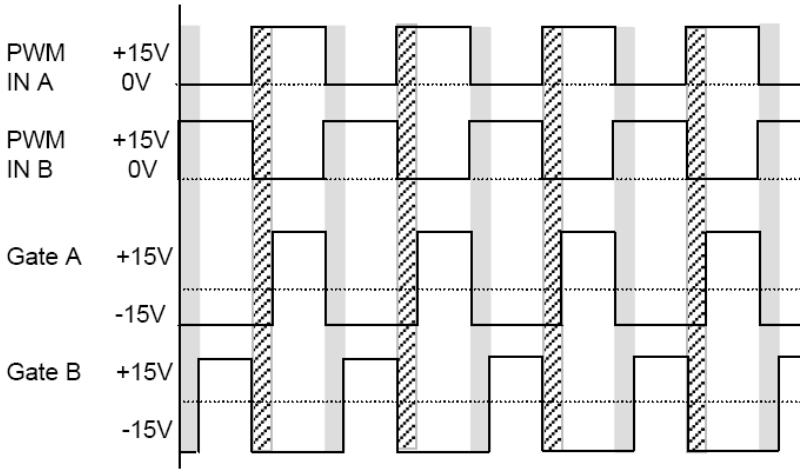
1. Pin Definition

Pin4

Pin 4 for CT 2SD315 is for logic level selection pin, as 2PD6323 inside itself is compatible with TTL and COMS level so this pin is empty.

Pin8

Pin 8 for CT 2SD315 is for work-mode selection pin. To select work mode directly or half-bridge through this pin 8. While WEPOWER 2PD632 only with one work mode, i.e. direct work mode with dead time control, so this Pin 8 is empty. 2PD632 can use external capacitor connection to RCA and RCB to adjust dead time. This is the same as 2ED300C17 from Infineon. (Please note: only under the half-bridge, 2SD315 dead zone circuit is effective. So when use 2SD315 for motor drive, only choose direct work mode, no dead zone function.)



Dead Zone Circuit Timing Diagram for 2PD632

2. External Parameter Setting

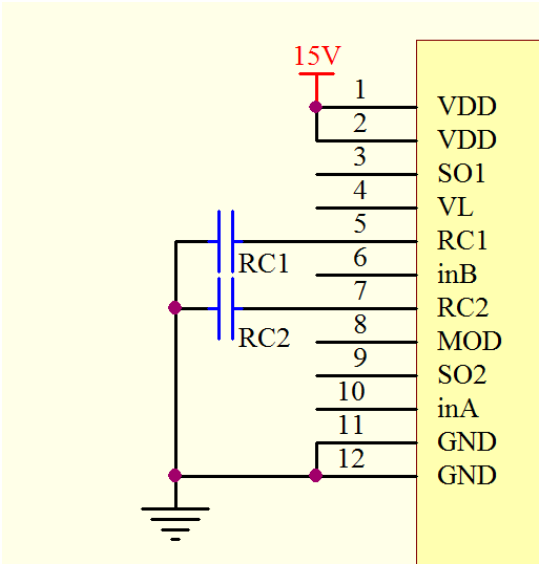
Dead Time

The dead time for 2PD632 can be set with Pin 5 and Pin 7 to Pin GND thru external capacitor connection (pull-up resistor is not needed) . The dead time can be:

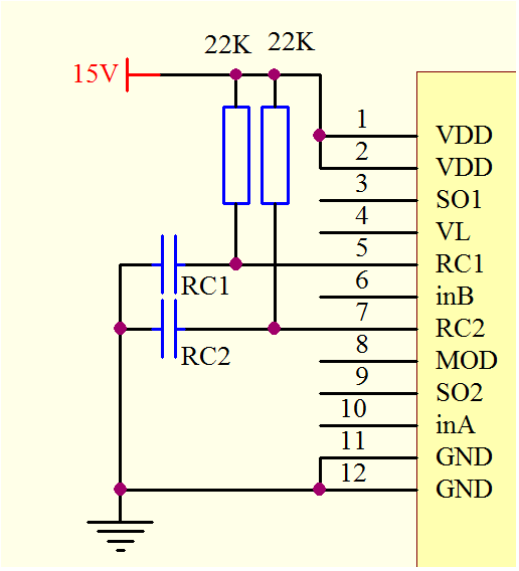
Td = Cx * 3.2/1000 Td-uS，Cx-pF

i.e. 1000pF corresponding to 3.2uS.

Detailed Circuit Different as below:



2PD632 dead zone circuit



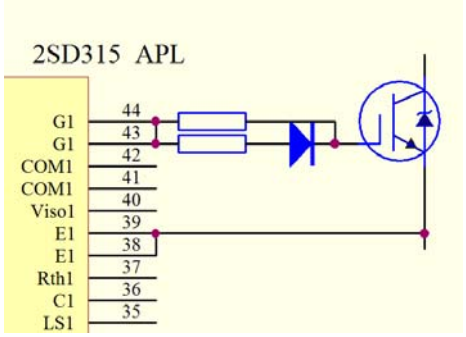
2SD315 dead zone circuit

Threshold Setting for Over-Current Protection

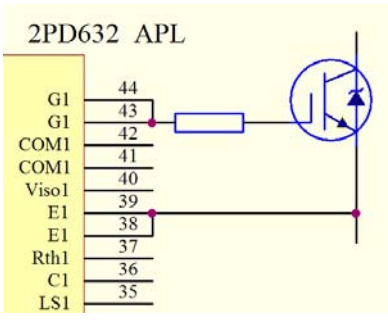
The threshold for 2PD632 is set inside as 9V while 2SD315 can be set thru Rth.

3. Shut-off Voltage

The shut-off voltage for 2SD315 is -15V. In order to limit the shut-off speed, it is usually use two pieces of threshold resistors and one piece of diode to make adjustment. The shut-off voltage for 2PD632 is -10V, so only one piece of threshold resistor is needed. Please refer to below diagram.



2SD315 Threshold Output Circuit



2PD632 Threshold Output Circuit