Application Notes for 2PD315

WEPOWER 2PD315 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*3W/16A/1700V. Because of the different technique are used in these two drivers, so users are request to carefully read our datasheet of 2PD315 (compare to 2SD315 from CT), and make some necessary adjustment.

Main different as below:

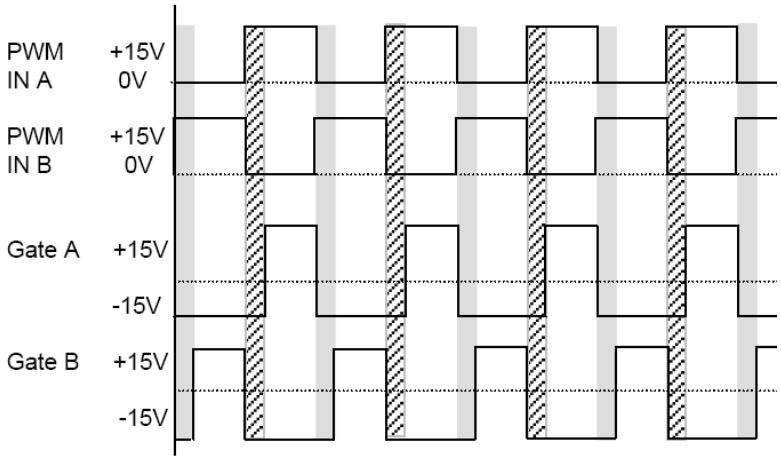
1. Pin Definition

Pin4

Pin 4 for CT 2SD315 is for logic level selection pin, as 2PD315 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 2PD315 only with one work mode, i.e. direct work mode with dead time control, so this Pin 8 is empty. 2PD315 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 2PD315

2. External Parameter Setting

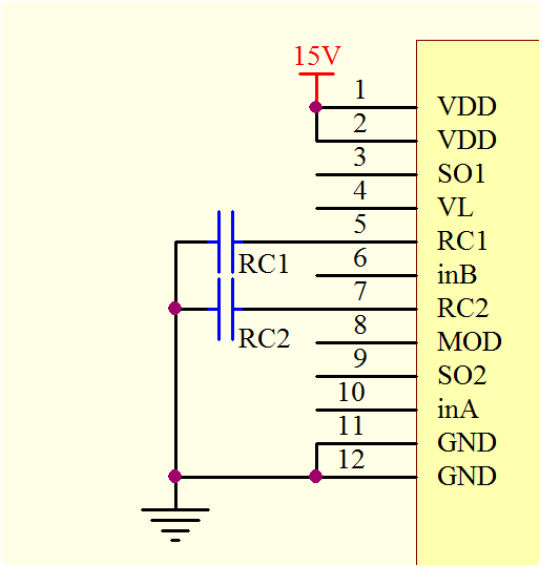
Dead Time

The dead time for 2PD315can 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:

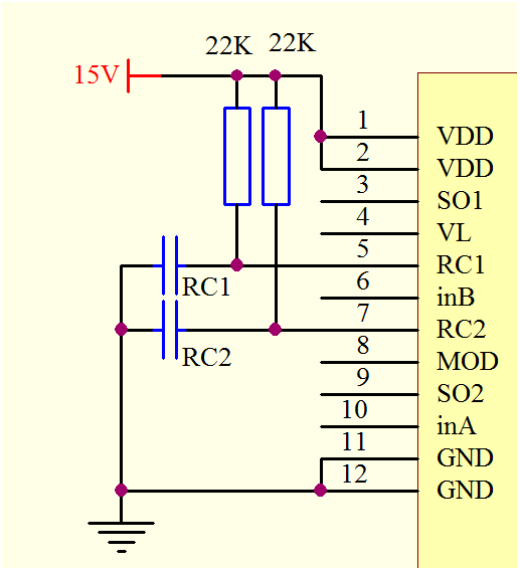
Td = Cx * 3.2/1000 Td-uS，Cx-pF

i.e. 1000pF corresponding to 3.2uS.

Detailed Circuit Different as below:



2PD315 dead zone circuit



2SD315 dead zone circuit

Threshold Setting for Over-Current Protection

Threshold protection for 2SD315 is about Vth = Rth * 150 *10^{-6} while WEPOWER 2PD315 can use external resistor connection “Rth” or Zener diode to set. When set by external resistor connection, Vth = 15 * Rth/(Rth + 1.2) Rth-kΩ

