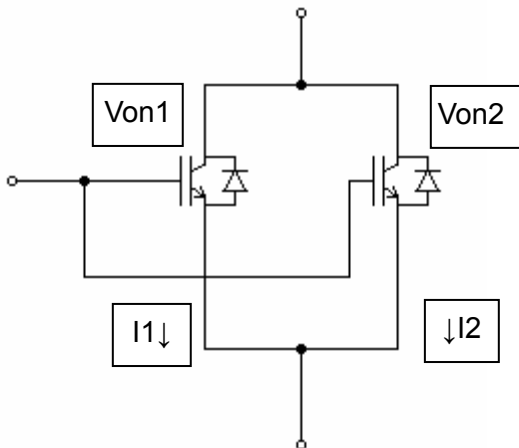


FUJI IGBT Modules U Series

2 in one-package module parallel connection application 1200V

Current imbalance in parallel connection

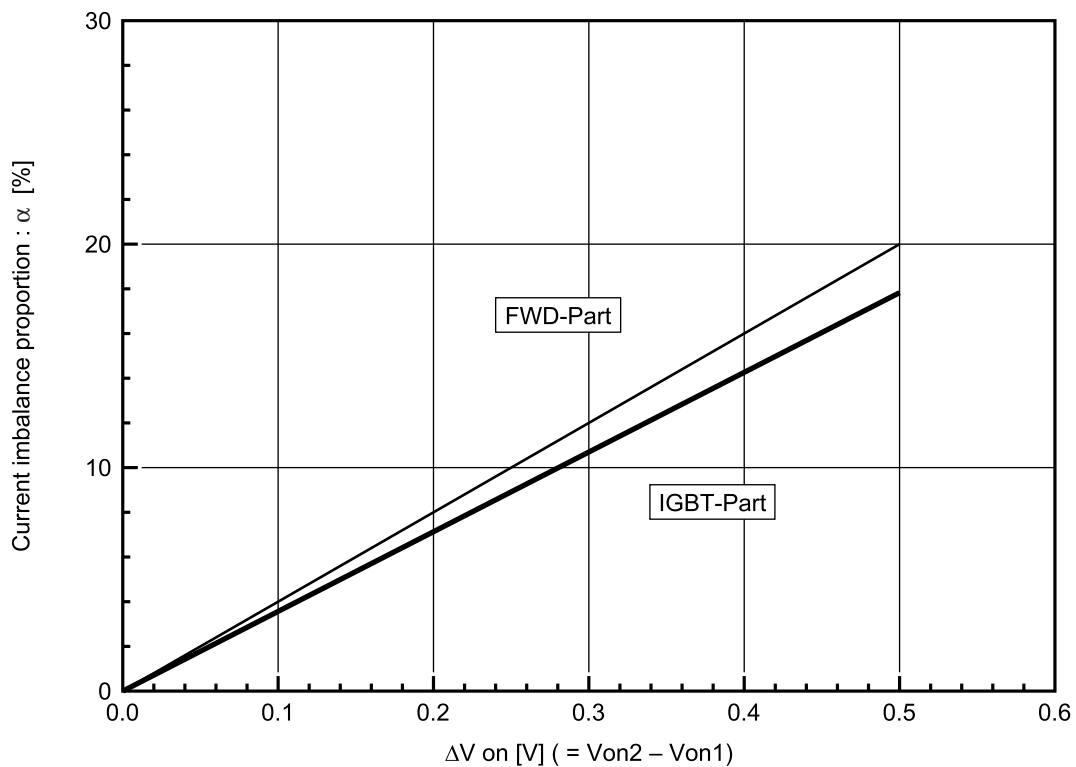


Configuration and equation

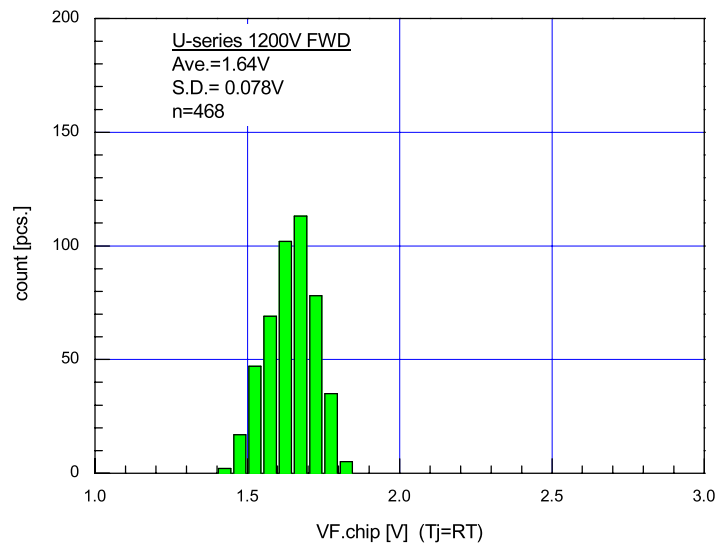
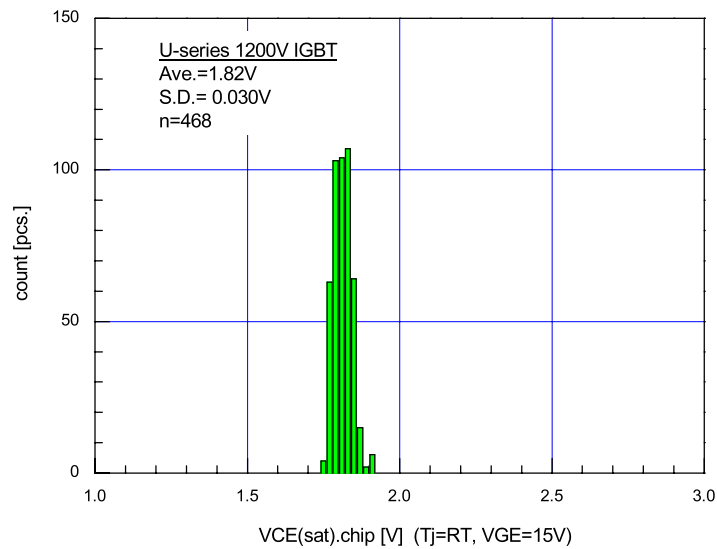
$$\Delta V_{on} = V_{on2} - V_{on1}$$

Current imbalance was caused by difference between V_{on1} and V_{on2} , current will be divided to I_1 and I_2 respectively. In this case, the current imbalance rate is defined as following equation.

$$\alpha = [I_1 / I_c(ave) - 1] \times 100(\%)$$



V_{CE(sat)}, V_F distribution



Von distribution

Parallel connection application (Von classification)

Applicable types: 2MBI300UC-120, 2MBI300UD-120, 2MBI300UE-120, 2MBI450UE-120

Spec.	V _{CE(sat)} rank	V _F rank	Current Imbalance rate (Derating rate for parallel connection)
Standard	0.5V	0.5V	20% maximum
Selection (-03)	0.3V 1-rank	0.25 – 0.3V 4-rank	13% maximum

The standard part can be used to parallel connection application with 20% of current imbalance rate. If lower current imbalance rate is necessary, selection version (-03 at end of type number) is recommended. In this case, same rank device must be used to same arm of inverter leg.