

Short circuit capability and SCSOA

Small IPM X series P633A Package

A short circuit capability dependency on control circuit voltage V_{CC} is shown in the document.

Conditions: $V_{P-N(*)}=400V$, $T_{vj}=125^{\circ}C$, non-repetitive pulse

The definition of short circuit current I_{SC} and short circuit capability t_{SC} are shown in Fig.1. In the case of 6MBP15XSD060-50, the IGBT can be safely shut down with t_{SC} less than $3.2\mu s$ at $V_{CCL}=V_{CCH}=V_{B(*)}=16.5V$, and the I_{SC} is 8 times the rated current. The SCSOA varies depending on the input voltage V_{DC} , control voltage V_{CC} , junction temperature T_{vj} , etc. Please be careful to design with a suitable margin. Each page shows data for each product.

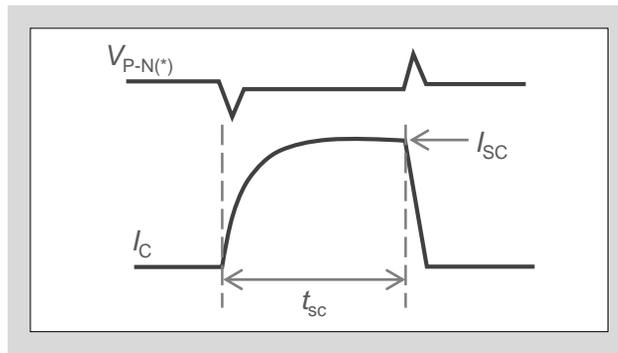


Fig.1 Definition of I_{SC} and t_{SC}

Type name: 6MBP15XSD060-50, 6MBP15XSF060-50

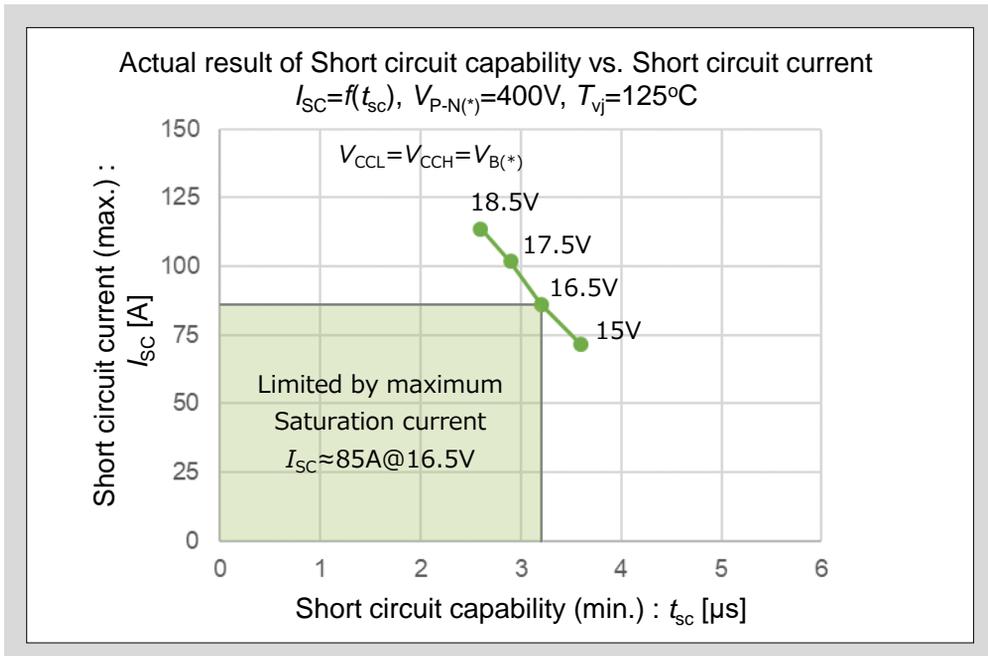


Fig.2 6MBP15XSD(F)060-50 Short circuit capability and SCSOA

Type name : 6MBP20XSD060-50, 6MBP20XSF060-50

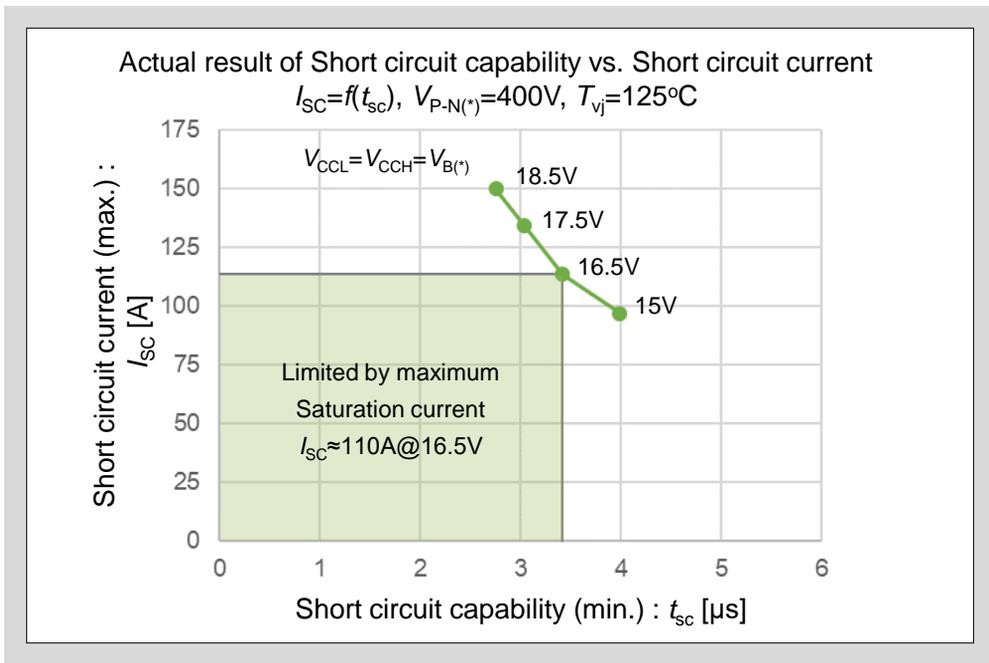


Fig.3 6MBP20XSD(F)060-50 Short circuit capability and SCSOA

Type name : 6MBP30XSD060-50, 6MBP30XSF060-50

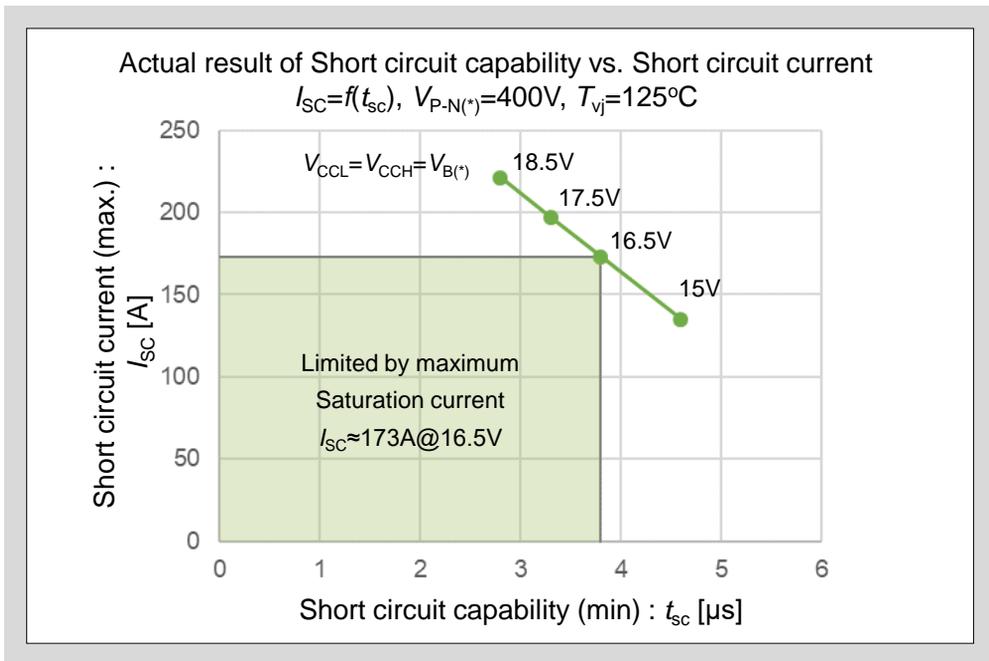


Fig.4 6MBP30XSD(F)060-50 Short circuit capability and SCSOA

Type name : 6MBP35XSD060-50, 6MBP35XSF060-50

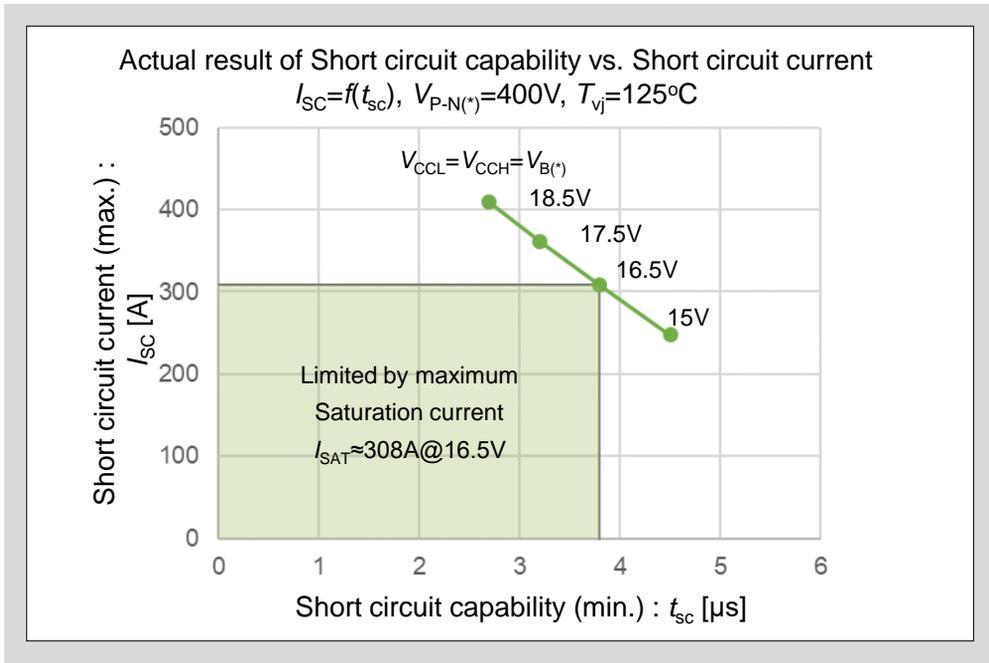


Fig.5 6MBP35XSD(F)060-50 Short circuit capability and SCSOA

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