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# Fuji IGBT Module V Series 600V Family

## Technical Notes

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1	RBSOA, SCSOA	.....	MT5F24331
2	High Current Output Characteristics	.....	MT5F24332
3	Junction breakdown voltage $V_{CES}$ and junction temperature $T_j$	.....	MT5F24333
4	Dynamic avalanche voltage $V_{av}$ and $T_j$ characteristics	.....	MT5F24334
5	Short-circuit capacity	.....	MT5F24337

# - Fuji IGBT Module V Series 600V Family -

## RBSOA and SCSOA

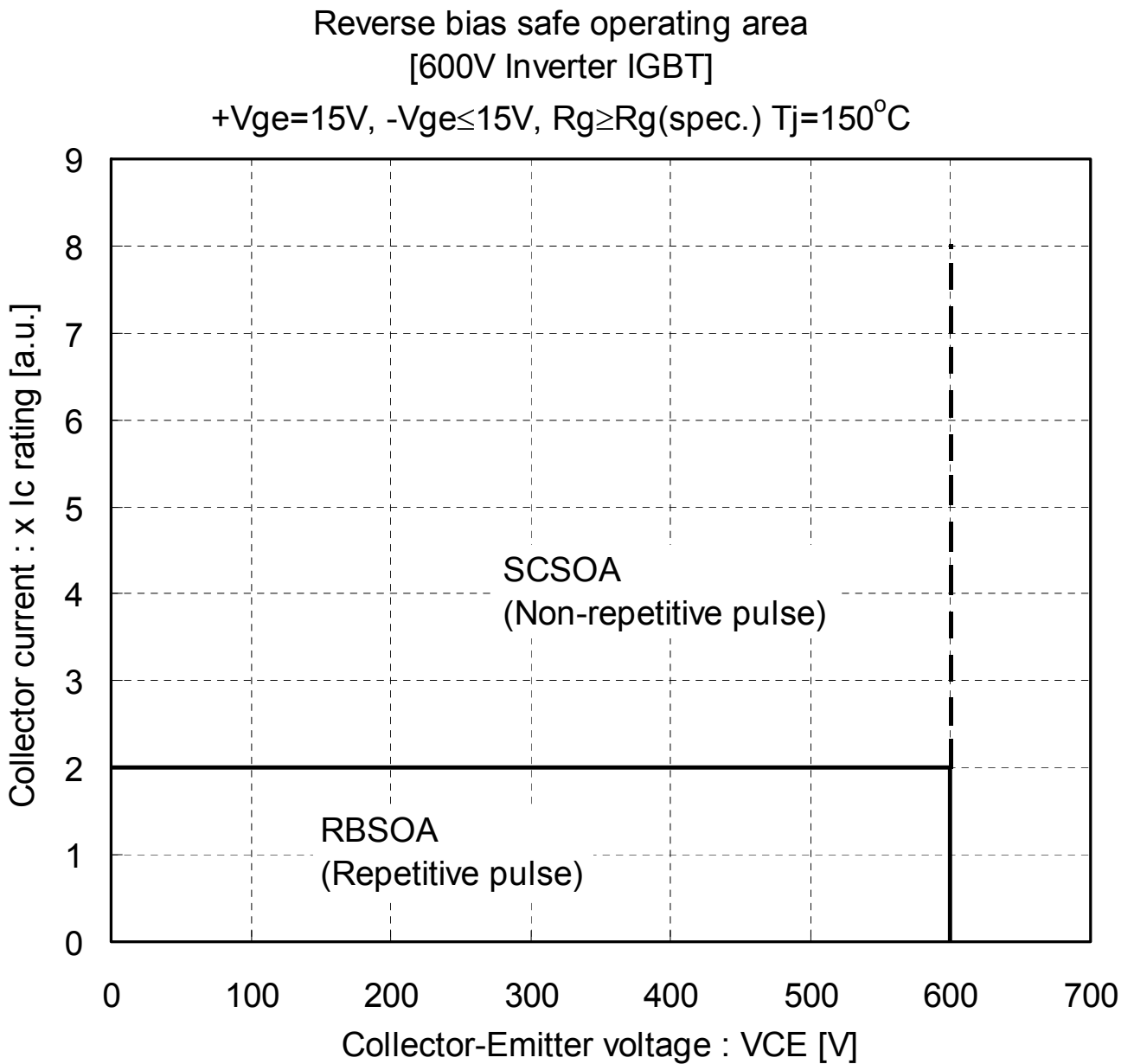


Fig. RBSOA and SCSOA

Technical data: MT5F24331

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## High current output characteristics

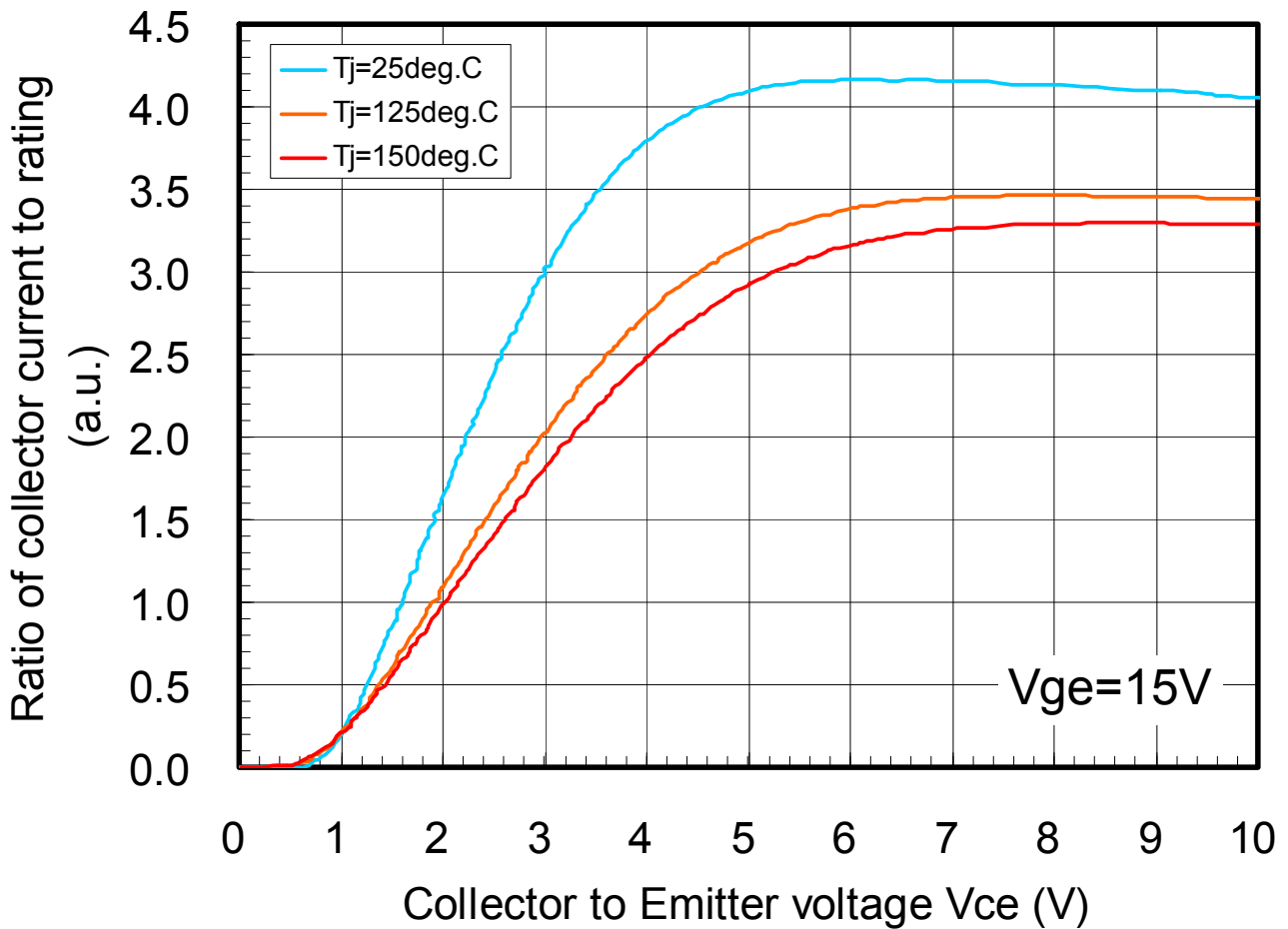
V series 600V product family

Conditions:  $T_j=25^{\circ}\text{C}$ ,  $125^{\circ}\text{C}$  and  $150^{\circ}\text{C}$

$V_{ge}=15\text{V}$

Note:

This data shows the typical waveforms of chip characteristics. The effect of the internal resistance of the module is not included



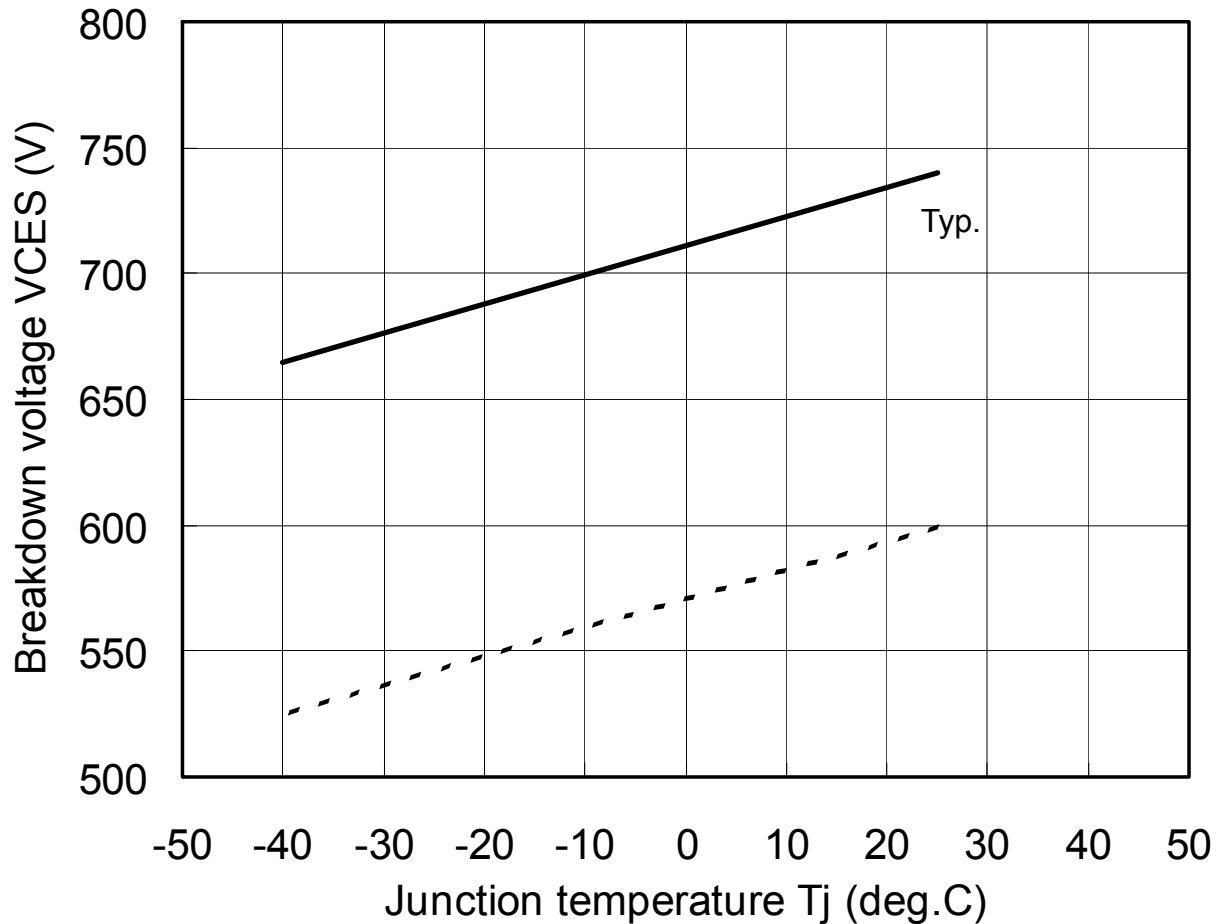
Technical data: MT5F24332

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## – Fuji IGBT Module V Series 600V Family –

Junction breakdown voltage  $V_{CES}$  and junction temperature  $T_j$

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Junction Temperature Dependence of Junction Breakdown Voltage

(same as 1200V)

Generally in semiconductor devices, when the temperature becomes lower, the lattice vibration within the silicon crystal decreases and the collision of carriers is suppressed. Therefore, impact ionization ratio increases and so the breakdown voltage of the semiconductor device becomes lower. Therefore, when you use the module at low temperature, take the breakdown voltage drop into account in design.

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# - Fuji IGBT Module V Series 600V Family -

## Dynamic avalanche voltage $V_{av}$ and $T_j$ characteristics

Typename: 2MBI450VN-060-50

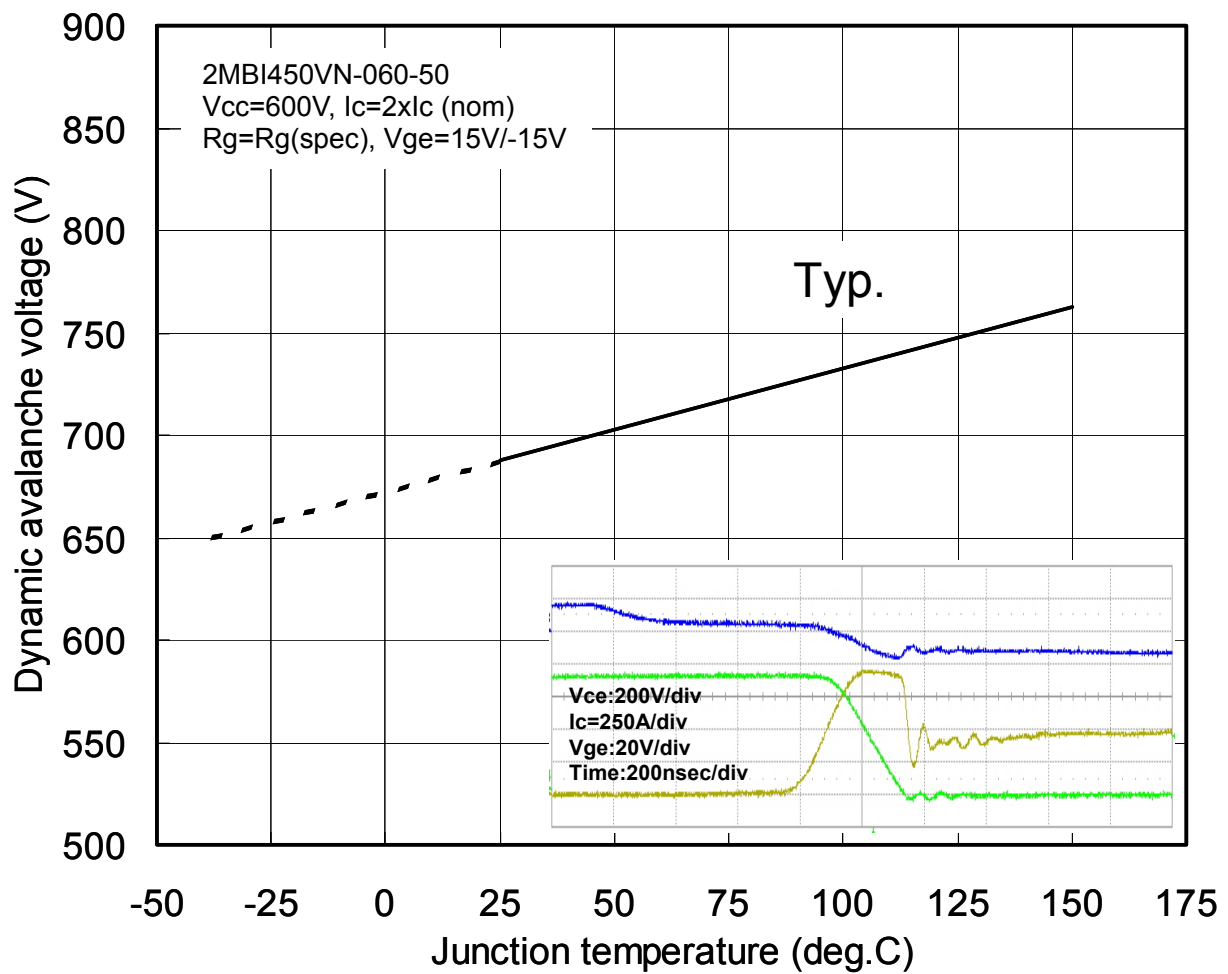


Fig. Dynamic Avalanche Voltage ( $V_{av}$ ) as function of  $T_j$

Technical data: MT5F24334

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## Short-circuit capacity

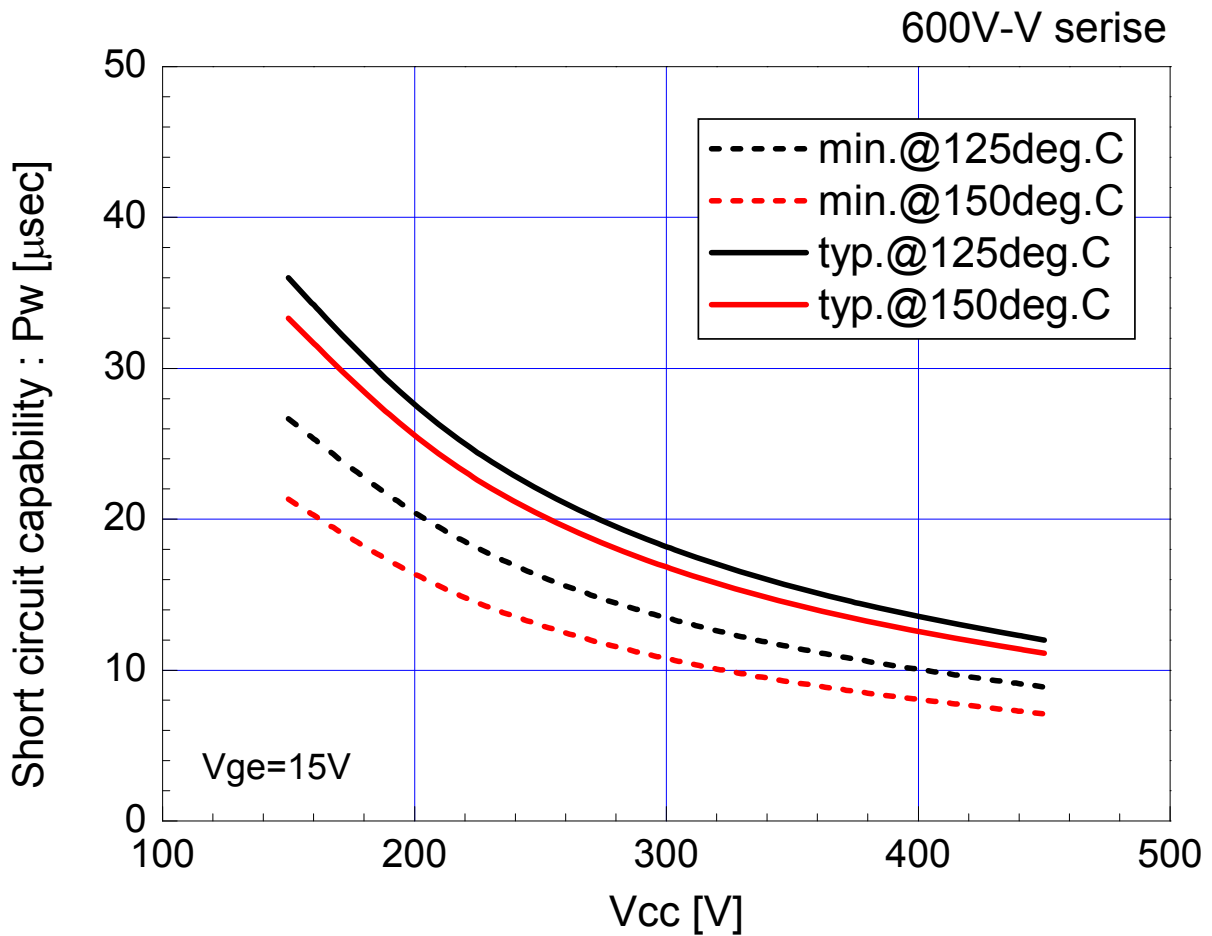


Fig. Relation between applied voltage and short-circuit capacity (600V Family)

Technical data: MT5F24337

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