

TVS Flat: more power in SMA Flat and SMB Flat at higher temperatures



TVS Flat series for industrial-grade applications

ST's transient voltage suppressors (TVS) are made to resist the stress levels specified in standards such as IEC 61000-4-x to meet all application requirements. Able to withstand 10/1000 μ s transient voltage surges and with power capability at 175 °C, they fit tough environments thanks to low power derating at high temperature. Manufactured on ST's upgraded production lines using robust and well-known silicon die leads to improved reliability for your applications.

KEY FEATURES

- Increased power density
- Lower cost per watt ratio
- Footprint compatible with SMA, SMB
- T_j (max.) = 175 °C
- 1 mm thickness

KEY BENEFITS

- Thinner applications
- No PCB redesign thanks to backward footprint compatibility with standard SMD package
- 600 W protection can be ensured with SMA Flat and SMB Flat packages instead of SMB package
- Automatic visual inspection compatible

KEY APPLICATIONS

- Motor control
 - Robots, drones, power tools, and e-bikes
- Telecommunications
 - Power line protection circuits
- SMPS
 - DC line, MOSFET and IGBT protection circuits
- Consumer
 - LNB circuits and power supplies

DIFFERENTIATION AND IMPROVEMENTS

Made for slim applications

SMA Flat and SMB Flat packages are rated 1 mm thick while SMA and SMB are about 2 mm.

High temperature capability

With a maximum T_j rating of 175 °C, both series are built to comply with harsh environments.

Low power derating at high temperature

- SMA4F: up to 200 W at 175°C
- SMA6F: up to 400 W at 175°C
- SMB6F: up to 470 W at 175°C

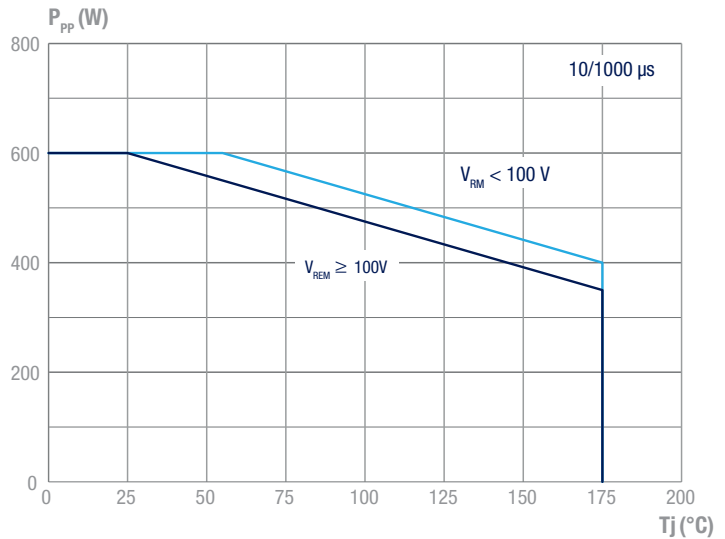
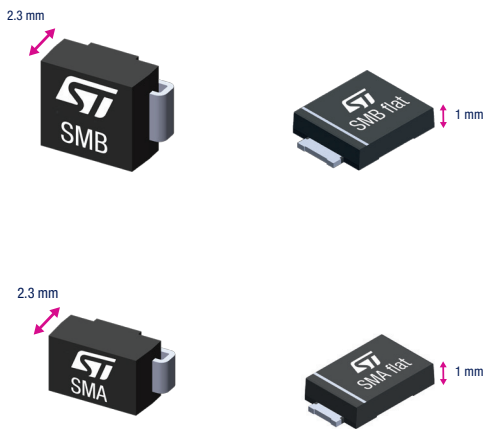
Increased power / size ratio

- By increasing power capability with SMA6F series : 600 W in SMA Flat instead of SMB

Low leakage

- Leakage current rated 5 times low than most of our competitors
- I_h specified at 85°C

MORE POWER IN THINNER PACKAGE



TVS FLAT RANGE

Industrial grade TVS	Stand of voltage range (V_{RM})	Breakdown voltage range (V_{BR})	10/1000 μ s surge capability (P_{PP})	8/20 μ s surge capability (P_{PP})	Package
SMA4FxxA	5 V to 188 V	6.8 V to 220 V	400 W	2.5 kW	SMA Flat
SMA6FxxA	5 V to 188 V	6.8 V to 220 V	600 W	4 kW	SMA Flat
SMB6FxxA	5 V to 188 V	6.8 V to 220 V	600 W	4 kW	SMB Flat

JOIN US ON:



© STMicroelectronics - September 2019 - Printed in United Kingdom - All rights reserved
The STMicroelectronics corporate logo is a registered trademark of the STMicroelectronics group of companies
All other names are the property of their respective owners

