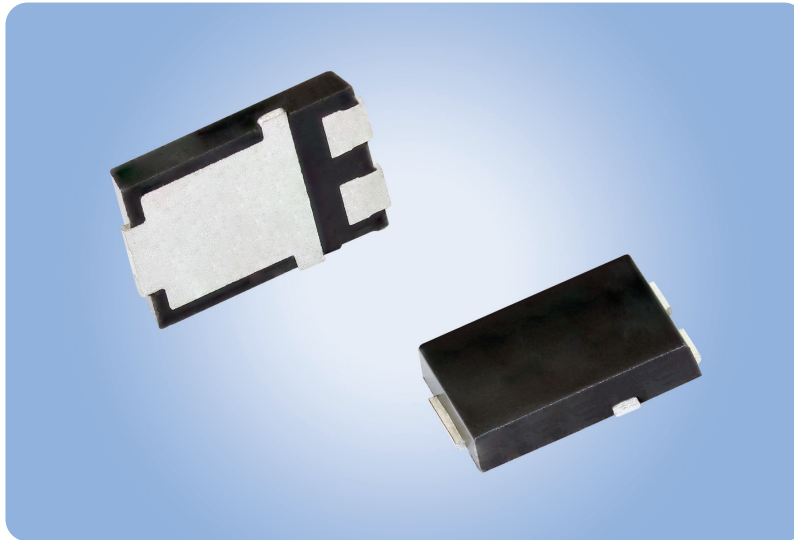


Low Profile Bidirectional 1500 W PAR® TVS Diodes Offer High Power Density to Save Board Space Bidirectional



KEY BENEFITS

- SMPC (TO-277A) package with low profile of 1.1 mm typical
 - 52 % lower profile and 38 % smaller footprint than traditional SMC package
- Features PAR® construction for a temperature range of -65 °C to +185 °C
- Breakdown voltages from 11 V to 36 V
- Excellent clamping capability from 15.6 V to 49.9 V
- Low leakage current
- Very fast response time
- Available in AEC-Q101 qualified versions

APPLICATIONS

- Protection of sensitive electronics in automotive, telecommunications, consumer electronics, and industrial equipment against electrostatic discharge (ESD) and voltage transients induced by inductive load switching and lightning

RESOURCES

- Datasheet: TPC11CA thru TPC36CA - www.vishay.com/ppg?87649
- For technical questions contact:
DiodesAmerica@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



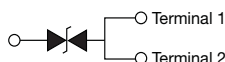
Surface-Mount PAR[®] Transient Voltage Suppressors

Bidirectional 1500 W TVS in TO-277 (SMPC) Package

eSMP[®] Series



SMPC (TO-277A)



DESIGN SUPPORT TOOLS

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PRIMARY CHARACTERISTICS

| | |
|---------------------------|-----------------|
| V_{WM} | 9.4 V to 30.8 V |
| V_{BR} (Bi-directional) | 11 V to 36 V |
| P_{PPM} | 1500 W |
| T_J max. | 185 °C |
| Polarity | Bidirectional |
| Package | SMPC (TO-277A) |

Note

- All electrical characteristics are only applicable when two identical polarity terminals are connected.

FEATURES

- Junction passivation optimized PAR[®] design
- $T_J = 185$ °C capability suitable for high reliability and automotive requirement
- Very low profile - typical height of 1.1 mm
- Ideal for automated placement
- Bidirectional
- Excellent clamping capability
- Low leakage current
- Very fast response time
- AEC-Q101 qualified
- Automotive ordering code: base P/NHM3
- Meet MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

TYPICAL APPLICATIONS

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for automotive, consumer, computer, industrial, and telecommunication.

MECHANICAL DATA

Case: SMPC (TO-277A)

Molding compound meets UL 94 V-0 flammability rating
Base P/NHM3 - halogen-free, RoHS-compliant, and AEC-Q101 qualified

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

HM3 suffix meets JESD 201 class 2 whisker test

Polarity: no marking on bi-directional types

MAXIMUM RATINGS ($T_A = 25$ °C, unless otherwise noted)

| PARAMETER | SYMBOL | VALUE | UNIT |
|---|----------------|----------------|------|
| Peak power dissipation with a 10/1000 μ s waveform ⁽¹⁾ | P_{PPM} | 1500 | W |
| Peak pulse current with a 10/1000 μ s waveform ⁽¹⁾ | I_{PPM} | See next table | A |
| Operating junction and storage temperature range | T_J, T_{STG} | -65 to +185 | °C |

Note

- ⁽¹⁾ Non-repetitive current pulse per fig.3 and derated above $T_A = 25$ °C

Revision: 14-Aug-2018