

# 24 V XClampR™ TVS in SMC and DO-218AB Packages Deliver Industry's Lowest Clamping Ratios With High Power Dissipation and High Temperature Reliability

## Product Benefits:

- Low clamping voltage
  - Down to 24 V maximum in the SMC (DO-214AB)
  - Down to 26 V maximum in the DO-218AB
- High peak pulse power dissipation
  - 180 A at 10/1000  $\mu$ s, which is equivalent to the 7 kW power rating of conventional TVS in the SMC (DO-214AB)
  - 120 A and 180 A at 10/10 000  $\mu$ s, which is equivalent to the 4.6 kW and 7 kW power rating of conventional TVS, respectively, in the DO-218AB
- Wide operating temperature range of -55 °C to +175 °C
- Suitable for high reliability applications
  - Available in AEC-Q101 qualified versions
  - Extremely stable breakdown voltage from 26.7 V to 29.5 V over their entire operating temperature range
- RoHS-compliant and halogen-free
- Moisture sensitivity level (MSL) of 1 in accordance with J-STD-020, LF maximum peak of 245 °C



## Market Applications:

- Automotive load dump protection and signal line protection in industrial robot arms and telecom systems

## The News:

Vishay Intertechnology introduces three new series of 24 V surface-mount XClampR™ transient voltage suppressors (TVS) that offer high peak pulse power dissipation equivalent to the 7 kW of conventional TVS at 10/1000  $\mu$ s in the SMC (DO-214AB) package and /10 000  $\mu$ s in the DO-218AB. The bidirectional devices deliver high power density over a wide operating temperature range of -55 °C to +175 °C for automotive, telecom, and industrial applications.

- Designed to protect sensitive electronic equipment against voltage transients induced by inductive load switching and lightning
- With their low clamping voltages, the XClampR TVS offer low clamping ratios ( $V_C/V_{BR}$ ) of < 1, enabling high peak pulse currents in the SMC and DO-218AB packages
- For applications with stand-off voltages greater than 24 V — such as 48 V belt starter (BSG) and integrated starter (ISG) generators in mild hybrid electric vehicles (HEV) — the devices can be paired in series with a standard TVS

## The Key Specifications:

Part number	XLD5A24CA	XLD8A24CA	XMC7K24CA
Max. working stand-off voltage	24 V		
Breakdown voltage	26.7 V to 29.5 V		
Max. clamping voltage	26 V	26 V	24 V
Peak pulse power (10/1000 $\mu$ s)	7700 W <sup>(1)</sup>	11 000 W <sup>(1)</sup>	7000 W <sup>(1)</sup>



## NEW PRODUCT INFORMATION



Product Group: Vishay General Semiconductor, Diodes / June 2022

Peak pulse current (10/1000 $\mu$ s)	200 A	300 A	180 A
Peak pulse power (10/10 000 $\mu$ s)	4600 W <sup>(1)</sup>	7000 W <sup>(1)</sup>	1100 W <sup>(1)</sup>
Peak pulse current (10/10 000 $\mu$ s)	120 A	180 A	30 A
Max. reverse leakage current	1.0 $\mu$ A		
Max. operating junction temperature	+175 °C		
Polarity	Bidirectional		
Package	DO-218AB	DO-218AB	SMC (DO-214AB)

(1) Equivalent I<sub>PPM</sub> with conventional TVS

### Availability:

Samples and production quantities of the XClampR TVS are available now, with lead times of 12 weeks.

To access the product datasheets on the Vishay Website, go to

<http://www.vishay.com/ppg?87199> (XLD5A24CA)

<http://www.vishay.com/ppg?87200> (XLD8A24CA)

<http://www.vishay.com/ppg?87023> (XMC7K24CA)

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