ESDA8P30-1T2

Tiny Transient Voltage Suppressor for Power Delivery Protection

Industry's smallest power-dense ESD & EOS protection IC for USB Type-C ports

Designed to protect 5V USB charging circuits and improve device robustness and lifetime, the ESDA8P30-1T2 can absorb up to 30 A peak pulse current while providing a very low clamping voltage.
Even during strongest transient events (IEC61000-4-2 ESD and IEC-61000-4-5 surges), this single line TVS diode ensures that the 5V VBUS and the CC lines will never face more than 12V overvoltage.
Its small size and low leakage current make it ideal for applications where high power TVS and board space saving is required.

KEY FEATURES

- High integration and power density: 300 W in 0402 package
- 7.3 V breakdown voltage
- 30 A I_{PP} 8/20 µs capability
- Small, thin package: 10 x 0.6 x 0.4 mm

KEY BENEFITS

- Minimizes the required PCB area
- Highest housed I_{PP} in the market, embedded in a 1.6 x 0.6 mm package
- High protection efficiency thanks to its very small clamping voltage and tiny 0402 package

KEY APPLICATIONS

- Smartphones
- Tablets
- IoT devices
- Wearables
- Drones
- Handheld multimedia devices

3 REASONS TO ADOPT THE ESDA8P30-1T2

Robustness:

The ESDA8P30-1T2 can absorb up to 30 A peak pulse current while always keeping the clamping voltage versus operational voltage ratio below 2.
For instance, your 5 V USB circuit will never face more than a 12 V overvoltage even during strongest transient events (IEC61000-4-2 ESD and IEC61000-4-5 surges).

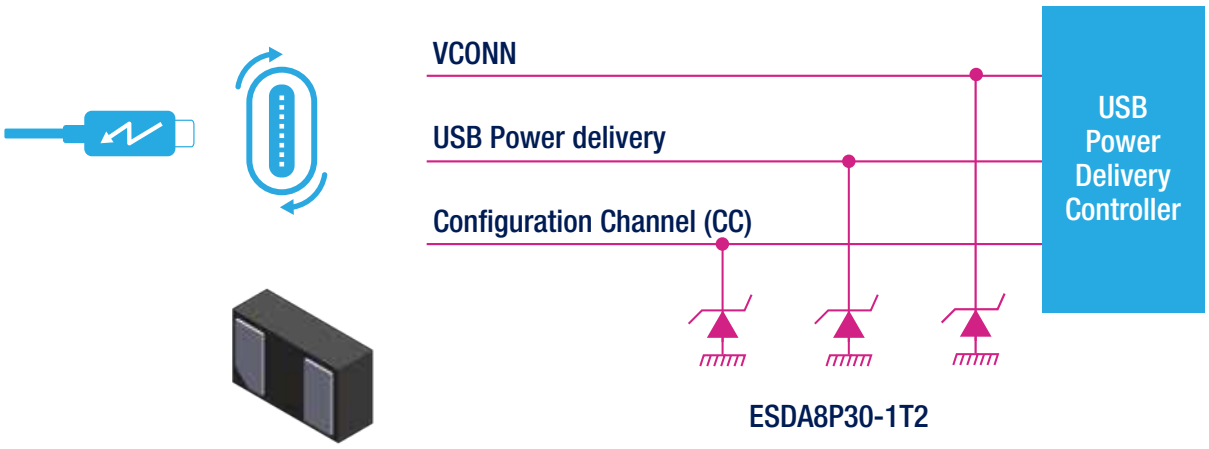
Discretion:

The ESDA8P30-1T2 saves space on PCBs so that you can integrate more functions or further miniaturize your device. Housed in a 1.0 x 0.6 mm SOD882T package, the maximum thickness of 0.40 mm is ideal for your thin devices.

Simplicity:

With a leakage current as low as 0.3 µA at 25°C the device has no impact on the autonomy of battery-powered devices.

BLOCK DIAGRAM



PRODUCT TABLE

Part Number	Stand-off voltage (VRM)	Peak pulse current (I_{PP} 8/20 µs)	Peak pulse power (8/20 µs)	Package
ESDA8P30-1T2	6.3 V	30 A	300 W	SOD882T