



## New ESD Protection Diodes Available in SOD-523 Package

We've expanded our offering of ESD protection diodes in the SOD-523 package with the unidirectional VBUS05M1 with low capacitance and the bidirectional VCUT0714A. Both devices are available in AEC-Q101 qualified versions for automotive applications.

No.	Device Name / Ordering Code	Package	Type	V <sub>RWM</sub>	Capacitance
1	<a href="#">VBUS05M1-02V-G3-08</a>	SOD-523	Commercial	5.5 V	0.8 pF
2	<a href="#">VBUS05M1-02VHG3-08</a>	SOD-523	AEC-Q101	5.5 V	0.8 pF
3	<a href="#">VCUT0714A02V-G3-08</a>	SOD-523	Commercial	-7 V / +14 V	8.5 pF
4	<a href="#">VCUT0714A02VHG3-08</a>	SOD-523	AEC-Q101	-7 V / +14 V	8.5 pF

### Features:

- For bus port applications
- Compact SOD-523 package size
- Low package height < 0.75 mm
- Unidirectional (VBUS) and bidirectional (VCUT) ESD protection
- AEC-Q101 available
- Working range: 5.5 V (VBUS) and -7 V / +14 V (VCUT)
- Low leakage current < 0.1  $\mu$ A
- Low typical load capacitance C<sub>D</sub>: < 0.8 pF at 0 V (VBUS) and < 8.5 pF at 0 V (VCUT)
- ESD-protection in accordance with IEC 61000-4-2:
  - VBUS:  $\pm$  18 kV contact discharge;  $\pm$  18 kV air discharge
  - VCUT:  $\pm$  25 kV contact discharge;  $\pm$  30 kV air discharge
- Soldering can be checked by standard vision inspection (AOI = automated optical inspection)
- e3 – Sn = tin-plated leads

### Advantages:

- The new unidirectional VBUS05M1-02V and bidirectional VCUT0714A-02V are ESD protection diodes which clamp positive and negative overvoltage transients to ground



- Connected between the signal or data line and the ground, the devices offer a high isolation (low leakage current, small capacitance) within the specified working range of 0 V to 5.5 V (VBUS) and -7 V to +14 V (VCUT)
- Due to their short leads and small SOD-523 package, the line inductance is very low, allowing fast transients like ESD strikes to be clamped with minimal over - or under-shoots
- The lead frame is covered by Sn, which offers the best performance in soldering processes
- Leaded packages are preferred for all production processes where an optical inspection is requested

**Samples:**

- Available at Vishay Sample Service Center (VSSC).

**For more information, please visit:**

- VBUS05M1-02V-G3-08, [www.vishay.com/ppg?86127](http://www.vishay.com/ppg?86127)
- VBUS05M1-02VHG3-08, [www.vishay.com/ppg?86127](http://www.vishay.com/ppg?86127)
- VCUT0714A02V-G3-08, [www.vishay.com/ppg?86128](http://www.vishay.com/ppg?86128)
- VCUT0714A02VHG3-08, [www.vishay.com/ppg?86128](http://www.vishay.com/ppg?86128)

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