VISHAY

The DNA of tech.®

ESD Protection Diode For Automotive Ethernet Networks

Device Features Space-Saving DFN1006-2B Package With Wettable Flanks

ADVANTAGE

Optimized for automotive ethernet networks in compliance with OPEN Alliance 100Base-T1 and 1000Base-T1 specifications

KEY PRODUCT FEATURES

- ✓ 1-line bidirectional ESD protection
- ✓ ± 24 V working voltage and > 100 V trigger voltage
- ✓ Very low clamping voltage of 31 V typical at 1 A
- ✓ Low dynamic resistance of 0.4 Ω typical
- ✓ Low maximum capacitance of 2 pF
- ✓ AEC-Q101 qualified available

MARKETS AND APPLICATIONS

CONNECTIVITY

- Fixed infrastructure

CONSUMER

- Entertainment and appliances

MOBILITY

- Automotive
- Automotive electrification (e-Powertrain)
- Automotive intelligence (smart vehicles)
- Micro mobility
- Transportation

INDUSTRIAL

- Automation
- Industrial infrastructure
- Home and building controls

MEDICAL

- Medical instrumentation, monitoring, therapeutics

RESOURCES

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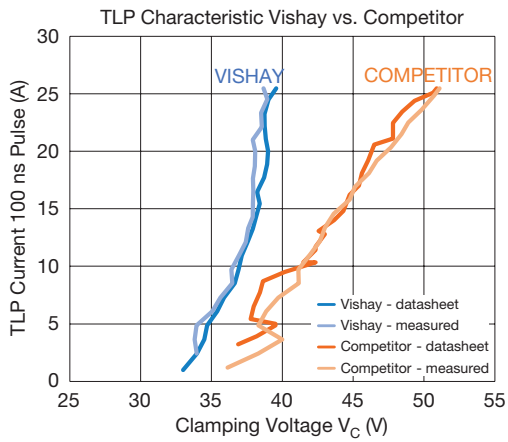
ADDITIONAL BENEFITS

- Provides transient protection for high speed data lines as per ISO 10605 and IEC 61000 4 2 at ± 15 kV (contact discharge) for 1000 pulses
- Supports automated optical inspection (AOI)
- Moisture sensitivity level (MSL) of 1 in accordance with J-STD-020
- UL 94 V-0 flammability rating

Test results acc. OPEN Alliance IEEE 1000BASE-T1 specification

Single Test	Result	Comment / Resulting Class
S-parameter	Pass	
Damage ESD	Pass	
ESD discharge current measurement / CMC saturation class I	Pass (1)	± 3 kV: Class III ± 5 kV: Class III ± 6 kV: Class III ± 7 kV: Class III ± 15 kV: Class III
RF clamping	Pass (1)	Class III



Note

(1) Result is Pass because the maximum defined limit class is fulfilled by the ESD suppression device

Snap-Back Behavior