

AUTOMOTIVE-GRADE

Protections for CAN transceivers



Automotive-grade CAN protection devices simplify qualification and speed up time to market

ST offers a wide range of AEC-Q101 CAN protection devices for passenger cars (12 V batteries) or commercial vehicles (24 V batteries) covering fault-tolerant CAN, CAN-FD and even FlexRay communication protocols.

Our devices are housed in 3-lead SOT23 and SOT323 packages as well as in our new extra-small (1.1x1.0 mm) wettable flank 3-lead QFN (DFN1110) package allowing AOI (Automatic Optical Inspection).

KEY FEATURES

- Dual-line ESD and EOS protection
- Bidirectional devices
- Max pulse current: up to 5.5 A (8/20 μ s)
- Stand-off voltage: from 24 V up to 36 V
- Low leakage current: 100 nA max
- Compliant with:
 - ISO 7637-3a and 3b
 - ISO 10605 / IEC 61000-4-2: up to 30 kV air and contact
 - ISO 16750-2
 - AEC-Q101

KEY BENEFITS

ESD and EOS plug and play protection solutions for CAN transceivers already approved by various car makers

Enables high-density PCBs thanks to tiny, compact packages (SOT323-3L, QFN-3L 1.1x1.0 mm / DFN1110)

Design and layout flexibility with wide range of products with low capacitance

Cover most mission profiles with reliability tests performed at max $T_j = 175^\circ\text{C}$ for CAN-FD, Flexray and various voltages to fit car and truck requirements.

KEY APPLICATIONS

- CAN
- Flexray
- LIN
- Line capacitance compatible as well with USB 2.0 and IEEE 100BASE-T1

REASONS TO CHOOSE ESDCAN

Today's new domain-oriented or zonal E/E architectures combined with the multiplication of autonomous driving features has drastically increased the density of components on the boards. VCUs or domain controllers can now concentrate dozens of high-speed CAN links.

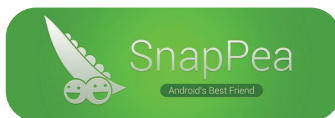
ST offers:

- A wide and flexible portfolio covering all the automotive standards and car makers specific requirements.
- Miniaturization thanks to the new small QFN-3L 1.1 x 1.0 mm package (DFN1110)
- A high immunity (low clamping voltage and high surge current) without compromising with the low capacitance.

ELECTRICAL PARAMETERS (T_{AMB} = 25 °C)

Order code	I _{RM} (µA)	V _{RM} (V)	V _{BR} (V) min	I _{PP} (8/20) (A) max	ISO 10605 (R=330 Ω, C=150pF) (kV)	C typ. pF	C max. pF	Package
ESDCAN24-2BLY	0,1	24	27	5,5	30	25	30	SOT23-3L
ESDCAN01-2BLY	0,1	24	25	5,5	30	26	30	SOT23-3L
ESDCAN04-2BLY	0,05	25,5	27,5	3,7	30	17	19	SOT23-3L
ESDCAN06-2BLY	0,1	35	38	3	30	13	15	SOT23-3L
ESDCAN02-2BWY	0,01	26,5	28,5	3	30	3	3,5	SOT323-3L
ESDCAN03-2BWY	0,01	24	26,5	3	30	3	3,5	SOT323-3L
ESDCAN04-2BWY	0,05	25,5	27,5	3	30	17	19	SOT323-3L
ESDCAN05-2BWY	0,1	36	38	3,7	30	3	3,5	SOT323-3L
ESDCAN06-2BWY	0,1	35	39	3,7	30	13	15	SOT323-3L
ESDCAN03-2BM3Y	0,05	24	28	3	15	3,3	3,6	QFN-3L 1.1 x 1.0

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