



SEMTECH PROTECTION

SHIELD PROTECTION – October 2020

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SHIELD PROTECTION products are TVS solutions optimized to specific data interfaces.



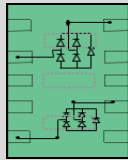
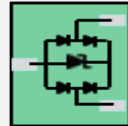
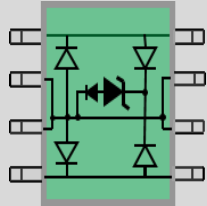
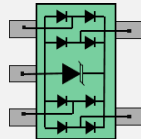
The Shield series of TVS devices have been tested to safeguard the latest silicon transceivers for their respective interfaces and enable the design community with faster time to market.



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ETHERNET SHIELD



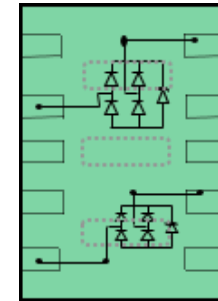
Semtech TVS Device	V _{rw}	Transient Thresholds	C _j	Device configuration & dimensions
RClamp3374N (Gigabit Ethernet)	3.3V	IEC 61000-4-2 (ESD) ±30kV (Air), ±30kV(Contact) IEC 61000-4-5 (Surge) 40A (8/20μs)	3pF	Pkg dimensions: 3.0 x 2.0 x 0.6mm 
RClamp0512TQ (10/100, Gigabit, and 2.5GbE Ethernet)	5V	IEC 61000-4-2 (ESD) ±30kV (Air), ±30kV(Contact) IEC 61000-4-5 (Surge) 20A (8/20μs)	1.2pF	Pkg dimensions: 1.0 x 0.6 x 0.4mm 
RClamp2502L (Gigabit Ethernet)	2.5V	IEC 61000-4-2 (ESD) ±15kV (Air), ±8kV(Contact) IEC 61000-4-5 (Surge) 40A (8/20μs)	5pF (max)	Pkg dimensions: 5.0 x 6.0 x 1.5mm 
RClamp3354S (10/100 Ethernet)	3.3V	IEC 61000-4-2 (ESD) ±30kV (Air), ±30kV(Contact) IEC 61000-4-5 (Surge) 25A (8/20μs)	3.8pF	Pkg dimensions: 5.0 x 6.0 x 1.5mm 

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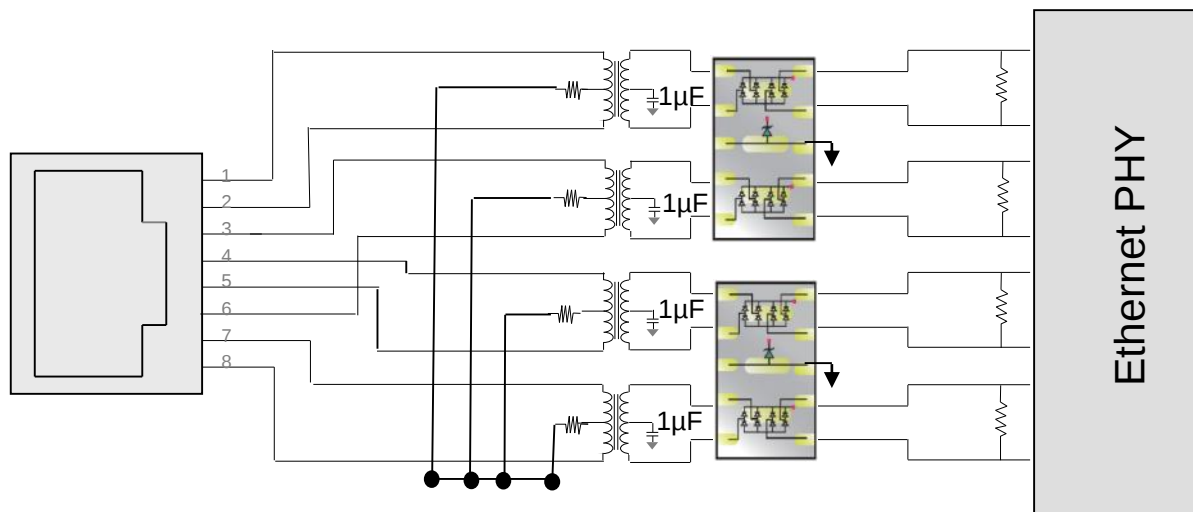


RCLAMP3374N

- 3.3V Working Voltage
- Low Capacitance: **1.7pF i/o to i/o**
- Routing possible on one signal layer
- Low-clamping voltage performance
- High Surge Rating: **40A Ipp (8x20μs)**



RClamp3374N

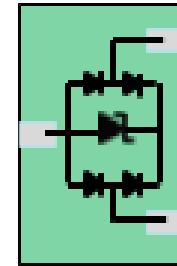


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RCLAMP0512TQ – 10/100, GbE, 2.5GbE

- 5V Working Voltage
- Low Capacitance: 1.1pF i/o to i/o
- Routing possible on one signal layer
- Low-clamping voltage performance
- High Surge Rating: 20A Ipp (8x20μs)
- AEC-Q100 Qualified for Automotive Apps



RClamp0512TQ

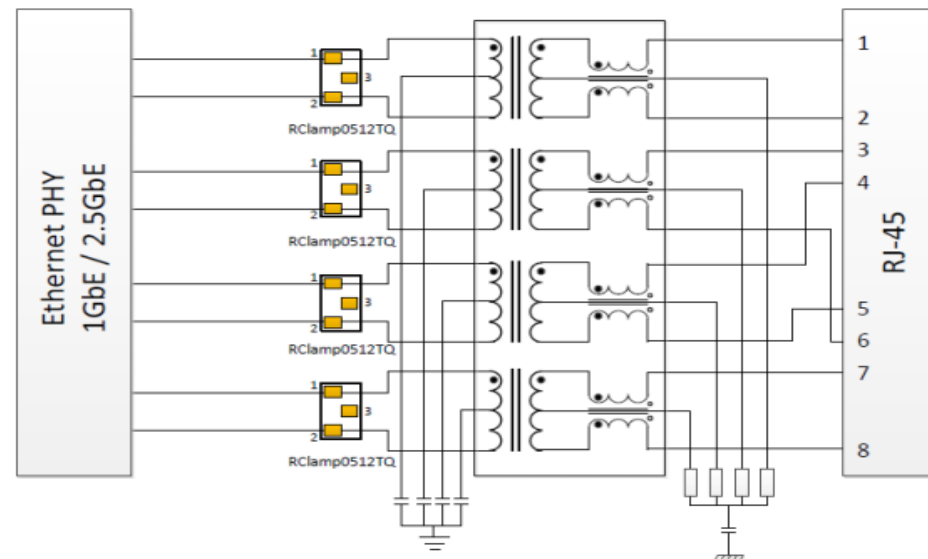


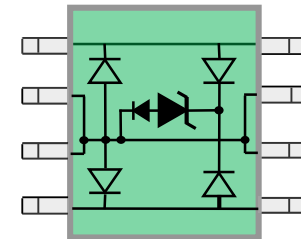
Figure 1 - 1GbE / 2.5GbE Protection Circuit

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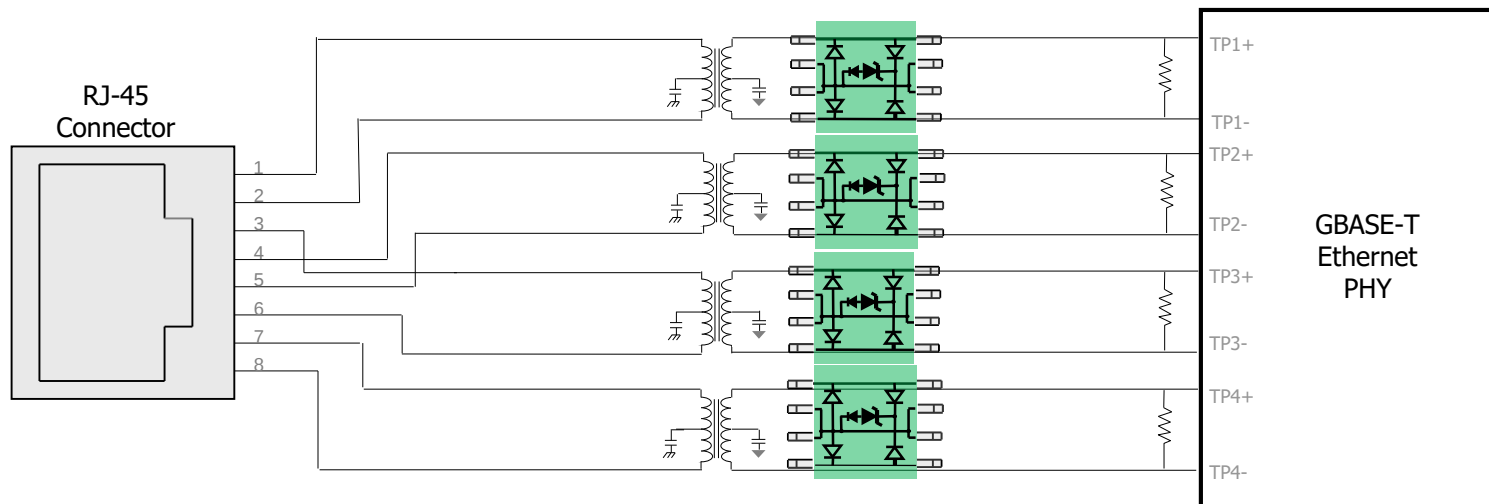


RCLAMP2502L – Gigabit Ethernet

- 2.5V Working Voltage
- Low Capacitance: 5pF max
- High Surge Rating: 40A Ipp (8x20us)
- Flow-through trace routing



RClamp2502L

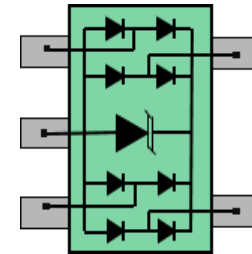


SEMTECH PROTECTION ETHERNET SHIELD

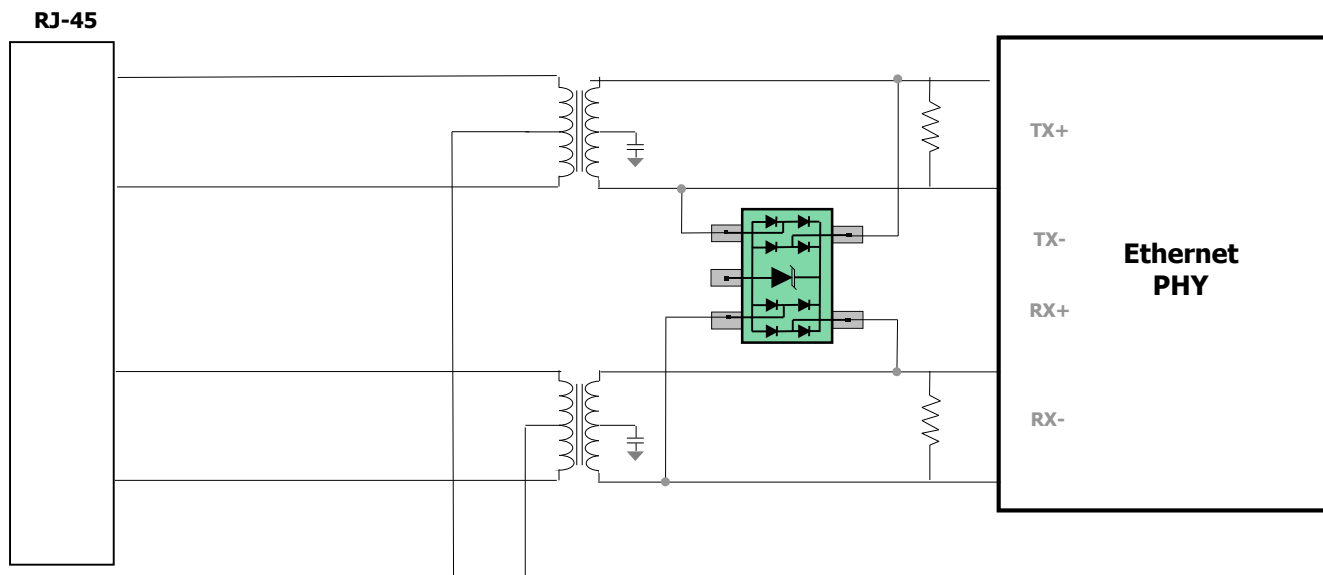


RCLAMP3354S – 10/100 Ethernet

- 3.3V Working Voltage
- 4-line protection
- Surge Immunity: 25A (8x20 μ s)
- Low-clamping voltage
- Industry Standard SOT-23 Package



RClamp3354S



TVS Protection for 10/100 Ethernet Interface



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