

# SuperNine® RJ45 CAT 5e, TVS

## MIL-DTL-38999 Series III Type connectors

### TVS diode performance specifications and power selection



RJ45 CAT 5E AND 6A CONNECTORS

#### MIL-DTL-38999 Series III, TVS Diode, RJ45 CAT 5e and 6A Performance Specifications

Material and Finish	
<b>Shell/coupling Plating</b>	Complete list of options available in the Material and Finish Options portion of this section
<b>Contacts</b>	PC tails or solder cup: copper alloy, gold plated
<b>RJ45 coupler housing</b>	UL94V-0 compliant ABS or PPS
<b>Seals</b>	Fluorosilicone
<b>Shell Sizes</b>	17 and 19
Environmental / Mechanical Performance	
<b>Sealing</b>	IP68 mated condition, IP67 unmated condition
<b>Outgassing</b>	Mod Code 186S* Mod Code 928**
<b>Operating Temperature</b>	-20°C to +85°C
<b>Vibration</b>	20g's, 3 Axis, 10 - 2000Hz
<b>Mechanical Shock</b>	300 g's
<b>Backshell Interface</b>	MIL-DTL-38999 Designator H
<b>Mating Cycles</b>	500
RJ45 Cat 6A & 5e Electrical Specifications	

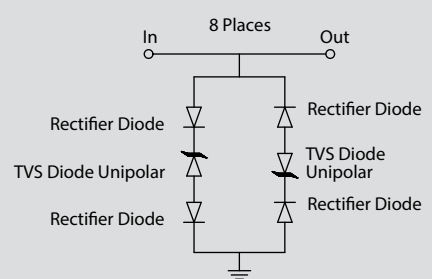
\* Meets outgassing requirements per ASTM E 595 and meets NASA screening requirements for level 1 highest reliability  
 \*\* Meets outgassing requirements per UL 94 V-0

#### MIL-DTL-38999 Series III, TVS Diode, RJ45 CAT 5e and 6A Performance Specifications

<b>Voltage Rating</b>	1000 Volts, Cat 5e
<b>Data Rate</b>	10BASE-T, 100BASE-TX, 1000BASE-T/1000BASE-TX
<b>Current Rating</b>	1.5 Amps, Cat 5e
<b>D.W.V.</b>	1000 VDC (700 VAC)
<b>Frequency</b>	100 MHz, Cat 5e
<b>Wiring</b>	Straight through
<b>Cabling Length</b>	100 Meters Max
<b>Shield Continuity</b>	Continuous Through Coupler and Grounded to the Shell

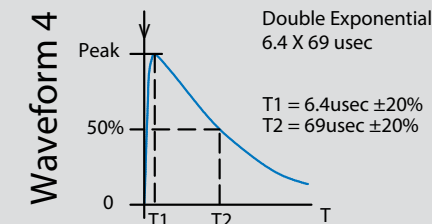
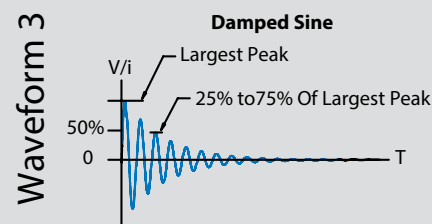
**TVS Electrical Specifications**  
 Each signal line has TVS diode protection per the electrical schematic in figure 1.

**FIGURE 1**



#### RTCA DO-160 Indirect Lightning Wavaset A Waveforms

RTCA DO-160 Waveform	Level	Open Circuit Voltage/ Short Circuit Voltage V/A
Waveform 3	1	100/4
	2	250/10
Waveform 4	1	50/10
	2	125/25



#### MIL-DTL-38999 Series III, TVS Diode, RJ45 CAT 5e and 6A Performance Specifications

<b>Peak pulse power (tp = 8/20us)</b>	600w
<b>Rated standoff voltage</b>	2.8V
<b>Minimum breakdown voltage</b>	3.0V @ 1mA
<b>Max clamping voltage (@ Ipp = 2A)</b>	5.5V
<b>Max clamping voltage (@ Ipp = 5A)</b>	8.5V
<b>Max clamping voltage (@ Ipp = 30A)</b>	21.0V
<b>Max leakage current</b>	2.0uA max @ 2.8V
<b>Typical junction capacitance</b>	10pF @ 0v, 1Mhz
<b>Polarity</b>	bipolar
<b>Compatible with IEC 61000-4-2 (ESD)</b>	air - 15kv, contact - 8kv
<b>Compatible with IEC 61000-4-4 (EFT)</b>	40A - 5/50ns
<b>Compatible with IEC 61000-4-5 (surge)</b>	24A, 8/20us - level 2 (line-gnd) & level 3 (line-line)

Meets indirect lightning strike requirements per DO-160, section 222 pin injection waveform set A2.