

# MDE Semiconductor, Inc.

78-150 Calle Tampico, Unit 210, La Quinta, CA., USA 92253 Tel : 760-564-8656 • Fax : 760-564-2414  
 1-800-831-4881 [Email: sales@mdesemiconductor.com](mailto:sales@mdesemiconductor.com) Web: [www.mdesemiconductor.com](http://www.mdesemiconductor.com)

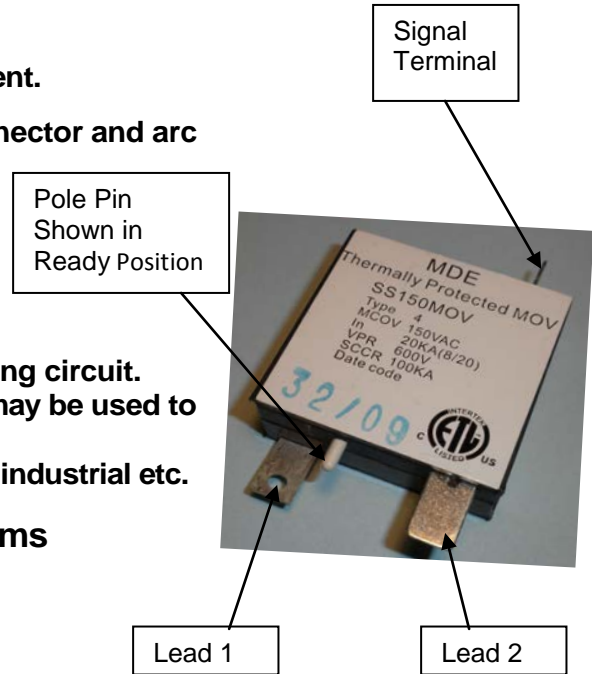
## SURGE SHIELD™ MOV

High Energy Thermally Protected SSMOV  
 VOLTAGE-150 to 550 Volts AC  
 Integrated Transient Surge Protector

### FEATURES

Surge Protective Device with thermal protection designed to open in the event of overheating due to an abnormal over-voltage, with High Fault Current.

- Quick response and MOV cutoff function with disconnecter and arc extinguishing device (Patent Pending).
- Wide operating temperature range (-40°C ~ 85°C).
- High surge current capability.
- Low leakage current.
- Two way failure indicator when SSxxxMOV has been disconnected from the circuit.
  1. The signal terminal can be connected to a monitoring circuit.
  2. The pole-pin provides a visual indication and/or may be used to operate an isolated external switch.
- Application in AC mains, service entrance, and heavy industrial etc.
- All products have a SCCR rating of 100 kA rms
- All products approved to UL1449 Ed 3, Type 4 tested to Type 1 or 2 and CSA



### Component for PCB Mounting

Type	Continuous MCOV		Max Peak Current	Test Current	Rating	Energy (2ms)	Varistor Voltage		Max Clamping Voltage	
	Vrms (V)	Vdc (V)	I <sub>max</sub> (kA)	I <sub>n</sub> (kA)	VPR rating	WTM (J)	V <sub>1mA</sub> (V)	ΔV <sub>1mA</sub> (%)	V <sub>C</sub> (V)	I <sub>p</sub> (A)
SS150MOV	150	200	50	20	600	360	240	±10	395	300
SS180MOV	180	225	50	20	600	390	270	±10	455	300
SS250MOV	250	320	50	20	900	490	390	±10	650	300
SS275MOV	275	350	50	20	900	550	430	±10	710	300
SS320MOV	320	415	50	20	1200	640	510	±10	850	300
SS420MOV	420	560	50	20	1500	910	680	±10	1120	300
SS510MOV	510	670	50	20	1500	940	820	±10	1350	300
SS550MOV	550	745	50	20	1500	960	910	±10	1500	300

# **MDE Semiconductor, Inc.**

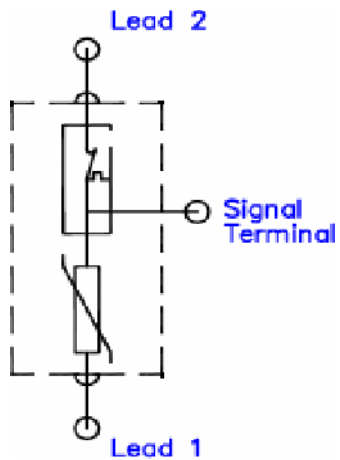
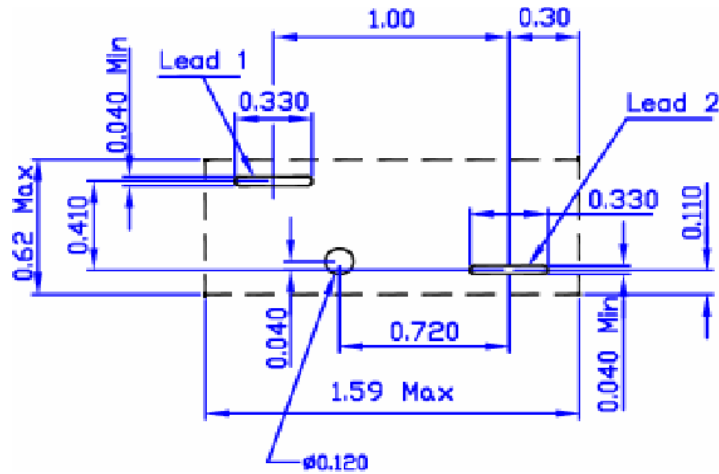
78-150 Calle Tampico, Unit 210, La Quinta, CA., USA 92253 Tel : 760-564-8656 • Fax : 760-564-2414  
1-800-831-4881 Email: [sales@mdesemiconductor.com](mailto:sales@mdesemiconductor.com) Web: [www.mdesemiconductor.com](http://www.mdesemiconductor.com)

---

## **SURGE SHIELD™ MOV**

**High Energy Thermally Protected SSMOV**  
**VOLTAGE-150 TO 550 Volts AC**  
**Integrated Transient Surge Protector**

---



Dimensions in inches

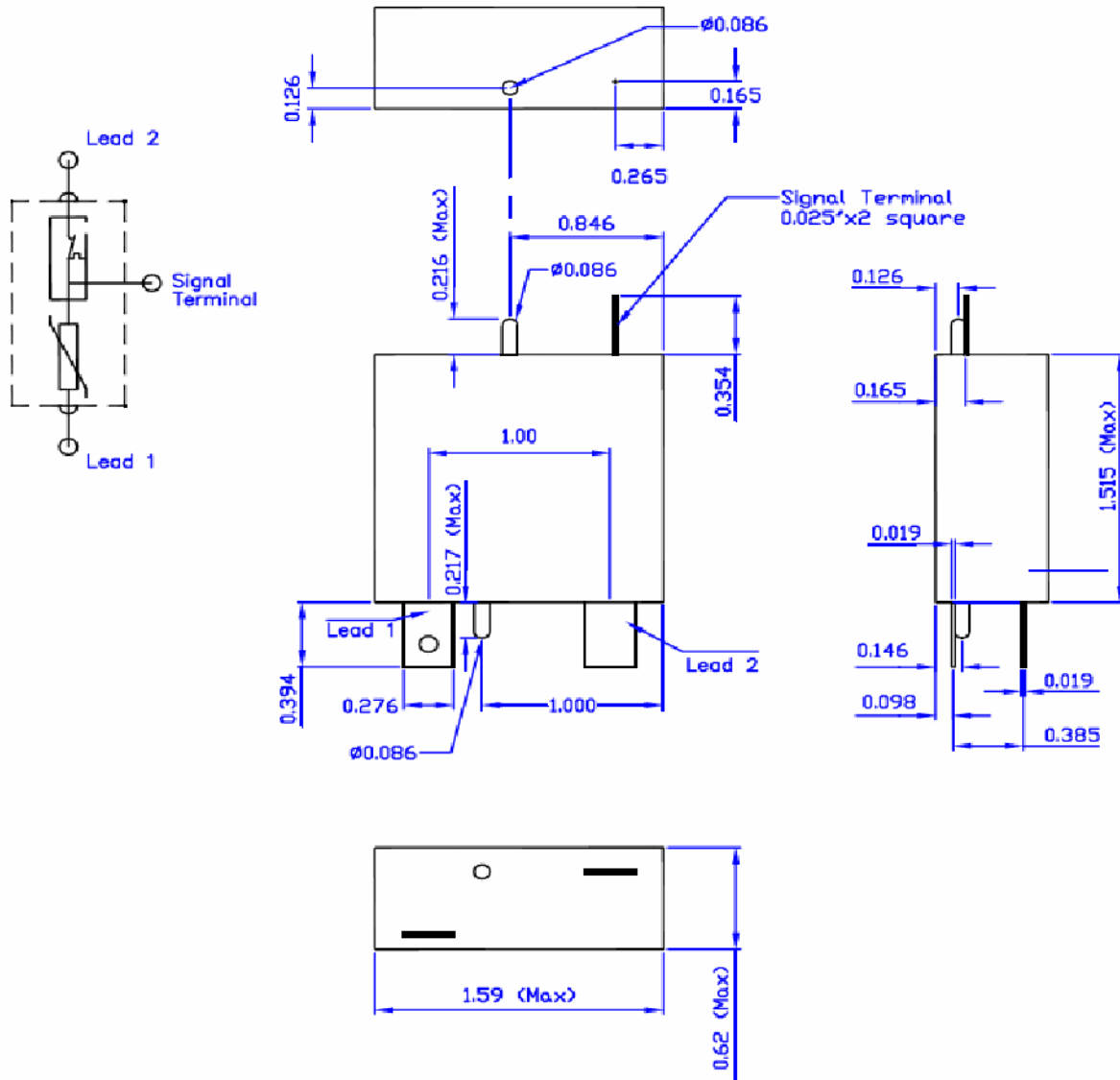
**SSxxx MOV PCB  
Layout**

# ***MDE Semiconductor, Inc.***

78-150 Calle Tampico, Unit 210, La Quinta, CA., USA 92253 Tel : 760-564-8656 • Fax : 760-564-2414  
1-800-831-4881 Email: [sales@mdesemiconductor.com](mailto:sales@mdesemiconductor.com) Web: [www.mdesemiconductor.com](http://www.mdesemiconductor.com)

## **SURGE SHIELD™ MOV**

**High Energy Thermally Protected SSMOV**  
**VOLTAGE-150 TO 550 Volts AC**  
**Integrated Transient Surge Protector**



Dimensions In Inches

**SSxxx MOV**  
**Mechanical Layout**

# **MDE Semiconductor, Inc.**

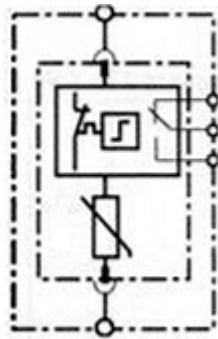
78-150 Calle Tampico, Unit 210, La Quinta, CA., USA 92253 Tel : 760-564-8656 • Fax : 760-564-2414  
 1-800-831-4881 [Email: sales@mdesemiconductor.com](mailto:sales@mdesemiconductor.com) Web: [www.mdesemiconductor.com](http://www.mdesemiconductor.com)

## **SURGE SHIELD™ MOV**

**High Energy Thermally Protected SSMOV**  
**VOLTAGE-150 TO 550 Volts AC**  
**Integrated Transient Surge Protector**

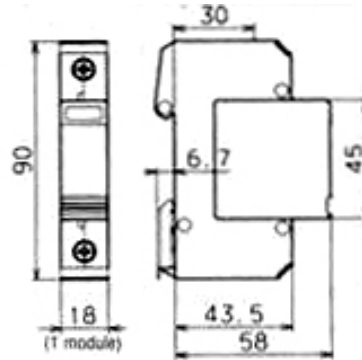
### Component for DIN Rail Applications

Type	Continuous MCOV		Max Peak Current	Test Current	Rating	Energy (2ms)	Varistor Voltage		Max Clamping Voltage	
	Vrms (V)	Vdc (V)	I <sub>max</sub> (kA)	I <sub>n</sub> (kA)	VPR rating	WTM (J)	V <sub>1mA</sub> (V)	ΔV <sub>1mA</sub> (%)	V <sub>C</sub> (V)	I <sub>p</sub> (A)
SS150DIN	150	200	50	20	600	360	240	±10	395	300
SS180DIN	180	225	50	20	600	390	270	±10	455	300
SS250DIN	250	320	50	20	900	490	390	±10	650	300
SS275DIN	275	350	50	20	900	550	430	±10	710	300
SS320DIN	320	415	50	20	1200	640	510	±10	850	300
SS420DIN	420	560	50	20	1500	910	680	±10	1120	300
SS550DIN	550	745	50	20	1500	960	910	±10	1500	300



**Dry Contact  
Form C**

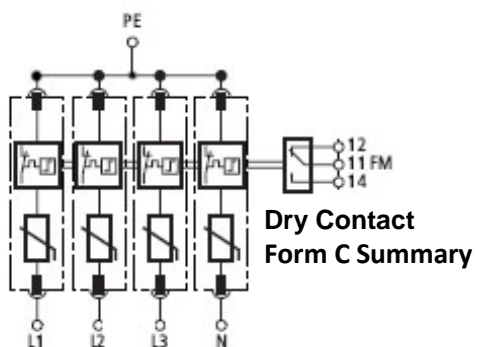
Typical SSxxxDIN Product layout  
 Single Component DIN Assembly  
 35 mm DIN Rail



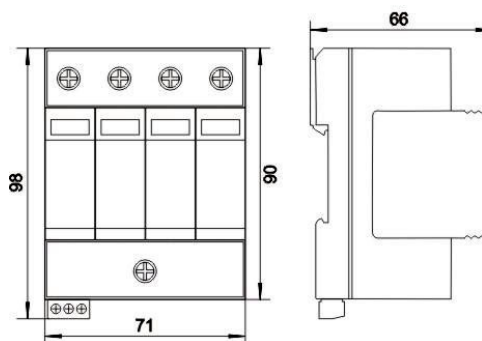
**Dimensions in mm**  
 Each Pole has an indicator  
 Green is Operational  
 Red is Replace

## Components in a 4 DIN Rail Enclosure for 3 Phase Applications

Type	Continuous MCOV		Max Peak Current	Test Current	Rating	Energy (2ms)	Varistor Voltage		Max Clamping Voltage	
	Vrms (V)	Vdc (V)	I <sub>max</sub> (kA)	I <sub>n</sub> (kA)	VPR ratio	WTM (J)	V <sub>1mA</sub> (V)	ΔV <sub>1mA</sub> (%)	V <sub>C</sub> (V)	I <sub>p</sub> (A)
D4-SS150DIN	150	200	50	20	600	360	240	±10	395	300
D4-SS180DIN	180	225	50	20	600	390	270	±10	455	300
D4-SS250DIN	250	320	50	20	900	490	390	±10	650	300
D4-SS275DIN	275	350	50	20	900	550	430	±10	710	300
D4-SS320DIN	320	415	50	20	1200	640	510	±10	850	300
D4-SS420DIN	420	560	50	20	1500	910	680	±10	1120	300
D4-SS550DIN	550	745	50	20	1500	960	910	±10	1500	300



Typical D4-SSxxxDIN Product Layout  
3 Phase DIN Component Assembly  
35 mm DIN rail



Dimensions in mm  
Each Pole has an indicator  
Green is Operational  
Red is Replace

### Operating Characteristics – All DIN Products

Operating Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +100 °C
Dielectric withstand	≥ 2500V (AC)
Insulation Resistance	≥ 10 Mohm
Response Time	≤ 25nS