



# Applied Pulsed Power, Inc.™

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## Model S34M-6 Solid State Switch For Lithotripters

A solid state high voltage switch specifically designed for Lithotripters. This switch features:

- 32kV Peak Off-State Voltage
- 14kA Peak Non-Repetitive Current
- 10kA Ringing Discharge
- 30kA/ $\mu$ S Maximum di/dt



These solid state switches are designed specifically for Lithotripters, providing high di/dt at repetition rates of several hertz. Switches for 10kV to 30kV peak off-state voltages are available. Contact [sales@appliedpulsedpower.com](mailto:sales@appliedpulsedpower.com) for more information.

### Operational Ratings (T<sub>j</sub>=80°C, unless otherwise specified)

Peak Off-State Voltage	32000	Volts
Maximum DC Operating Voltage	24000	Volts
Peak Non-Repetitive Current	14000	Amps
Peak Repetitive Current (10 $\mu$ sec pulse)	10000	Amps
Maximum di/dt	30	kA/ $\mu$ Sec
Maximum RMS On-State Current (T <sub>j</sub> =120°C)	100	Amps
Operating Temperature Range	0 to 100	°C
Peak Rate of Reapplication of Off-State Voltage	1000	V/ $\mu$ Sec

### Trigger Characteristics

Trigger Voltage	15	Volts
Trigger Current	1	Amps
Trigger Isolation Voltage	30	kV

### Operational Characteristics

Maximum Leakage Current	(T <sub>j</sub> =25°C)	200	$\mu$ Amp
	(T <sub>j</sub> =80°C)	240	$\mu$ Amp
	(T <sub>j</sub> =120°C)	1000	$\mu$ Amp
Turn-On Delay		1.5	$\mu$ Sec
Dimensions		50 x 100 x 170	mm

Specifications May Change Without Notice

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# Model S34M Solid State Switch For Lithotripters

## Data Sheet

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Along with the S34-6, the model S34M series has 4 other voltage ranges as shown in the following selection guide. All of the S34M series have the same current ratings and trigger characteristics.

### Part Number Selection Guide

Part Number	Peak Off-State Voltage Rating	Maximum DC Voltage Rating	Switch Length	Maximum Thermal Dissipation	On-State Resistance	Parallel Balancing Resistance
S34M-2	10kV	8kV	3.5"	20W	20mΩ	44MΩ
S34M-3	15kV	12kV	4.5"	30W	30mΩ	66MΩ
S34M-4	20kV	16kV	5.5"	40W	40mΩ	88MΩ
S34M-5	25kV	20kV	6.5"	50W	50mΩ	110MΩ
S34M-6	30kV	24kV	7.5"	60W	60mΩ	132MΩ

### Switch Footprint

Width	3.5"
Height	2.5"

10-32 threaded mounting connections are located on the bottom of the switch 0.2" from the edges at each corner. These are electrically isolated from the switch but are not rated for high voltage isolation.

For short pulses the effective resistance will be dominated by turn-on losses. APP would be glad to assist in determining the effective resistance or turn-on losses our switch would have in your circuit. Please contact Howard D. Sanders, [hds@appliedpulsedpower.com](mailto:hds@appliedpulsedpower.com), for more information.

APP also provides complete pulsed power systems. Please contact Steven C. Glidden, [scg@appliedpulsedpower.com](mailto:scg@appliedpulsedpower.com), for more information.