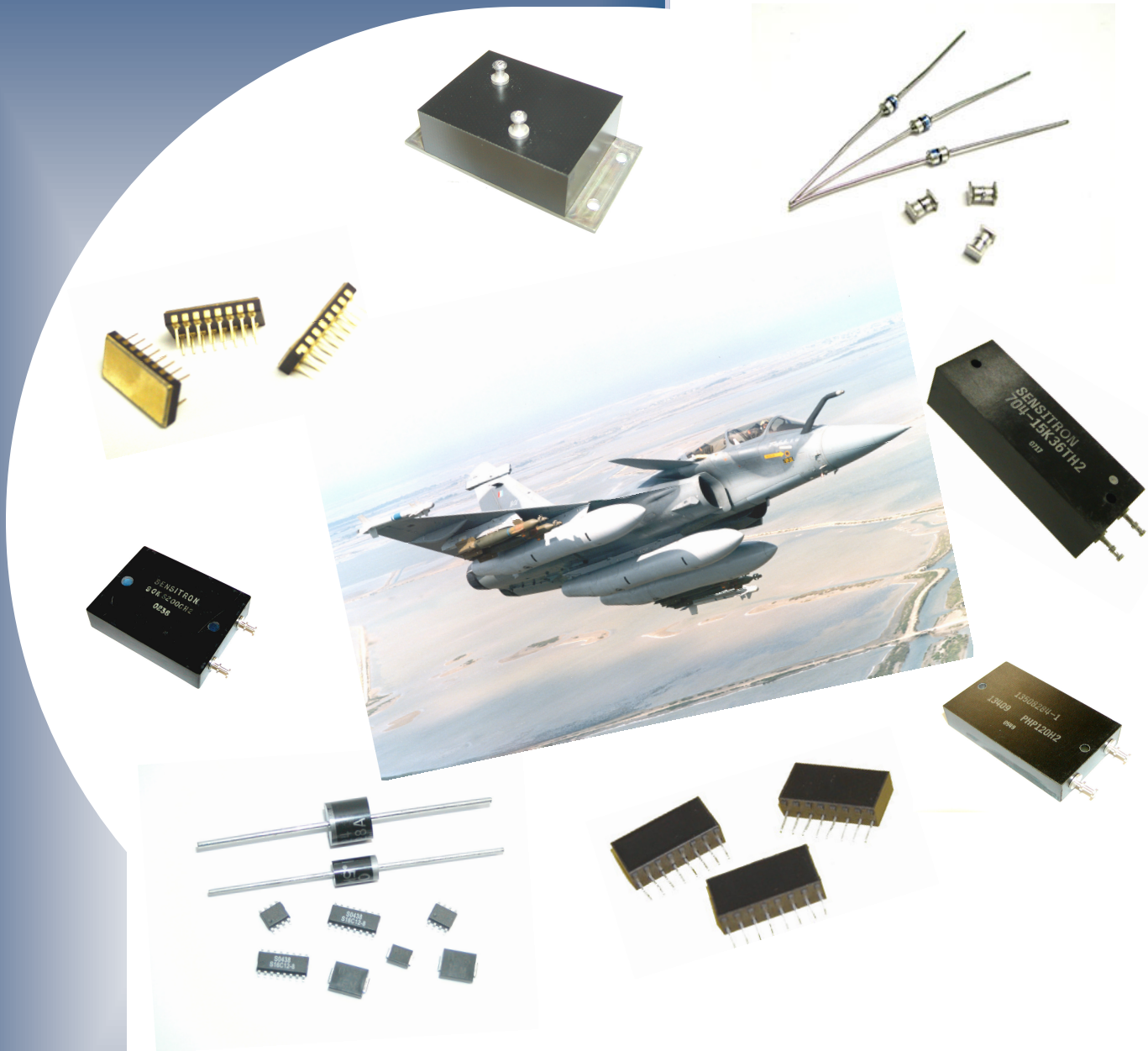


SENSITRON
SEMICONDUCTOR



Transient Voltage Suppressors

Sensitron · 221 West Industry Court · Deer Park, NY 11729-4681 ·
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152-0807

Transient Voltage Suppressors

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www.sensitron.com/tvsproducts.htm

Sensitron's Transient Voltage Suppressors Product Line includes:

- Hermetic TVS Diodes
- Lightning Protection
- Hermetic TVS Arrays
- TVS Modules
- Load Dump Protector
- Plastic Diodes and Arrays
- TVS Die

Sensitron's TVS's are characterized by:

- High Surge Capability
- Fast, Instantaneous Response Time
- Low Impedance

Sensitron's TVS Devices provide you with:

- Great design capability for very high transient energy on long transient energy pulses
- Strong engineering support
- Competitive pricing
- Reliable assembly / module capability

Hermetic Discrete TVS Diodes

Sensitron

www.sensitron.com/tvsproducts.htm

Transient Voltage Suppressors Diodes

- Hermetic
- Working Voltage: 9.1 to 152V
- Power: 500W, 1500W
- Protection Level: Unipolar, Bipolar



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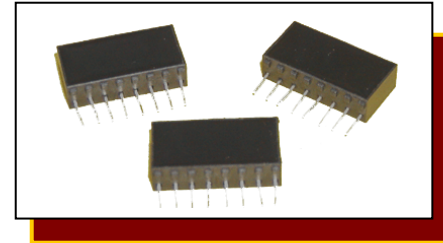
Lightning Strike Protection

Sensitron

www.sensitron.com/tvssils.asp

Features/Benefits:

- Non-hermetic single in-line package
- Working voltage up to 46V
- Clamping voltage up to 90V
- Long and short wave capable
- Low cost standard pitch packaging
- Qualified for several aircrafts
- Custom parts available, including different
 - dimensions
 - special lightning curves
 - other package designs, etc.
- **ABD 0007 Compliant**



Type	Protection	Working Volt V_{WM}	Leakage Current $I_L @ V_{WM}$	Capacitance	Short Wave Current	Long Wave Current	Clamp Volt $V_{CL} @$ both Waves
LSP11B-320	Bi-Directional	11V	10 uA	< 1900 pF	320A	150A	40V
LSP46U-320	Uni-Directional	46V	10 uA	N/A	320A	320A	85V
LSP43B-150	Bi-Directional	43V	10 uA	< 500 pF	150A	150A	65V
LSP43B-320	Bi-Directional	43V	10 uA	< 500 pF	320A	150A	90V

NEMP Protection also available

Hermetic TVS Arrays

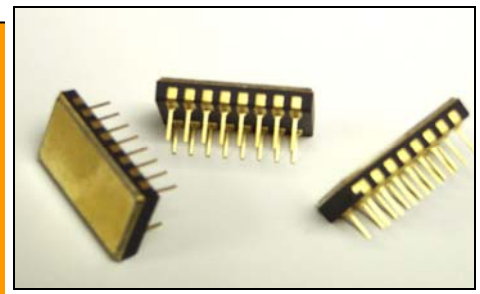
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DLZ Series

Features/Benefits

- 300W peak pulse power (8/20 μ s)
- ESD protection > 40KV
- Uni-directional or Bi-directional
- **MIL-STD-461 Compliant**



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TVS Modules

Sensitron

www.sensitron.com/tvsmodules.htm

MIL-STD-1275, Non-Hermetic

- Sensitron Part Number: **SEN-5282**
- MIL-STD-1275 Compliant

Application:

- +28V DC systems
- Allows the use of 55V high efficiency FET
- Increase system reliability through eliminating avalanche FET operation
- Clamping below 55V DC for both 100V and 250V pulse
- High pulse power capability



Part Number	Reverse Stand-Off Voltage V_{WM} (Volts)	Maximum Reverse Leakage @ V_{WM} I_D (μA)	Minimum Breakdown Voltage @ 10 mA $V_{(BR)}$ (Volts)	Maximum Clamping Voltage @ I_{PP} V_C (Volts)	Maximum Peak Pulse Current I_{PP} (Amps)
SEN-5282	33	25	36.7	49	120

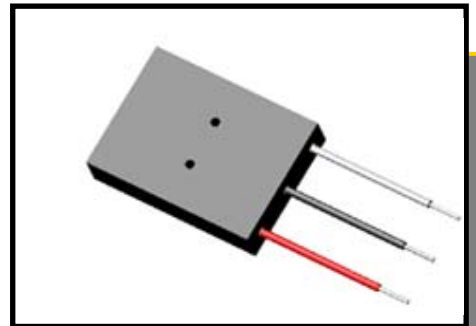
MIL-STD-1399

- **Single Phase System Application**
- Sensitron Part Number: **SEN-5425**
- MIL-STD-1399 Compliant

Features/Benefits:

- Direction connection to 120V AC single phase systems
- 460KW power handling capacity across L-N
- Clamping limit V_C

	I_{PP}	$V_{CL(max)}$
L-N	1200A	385V
N-G	200A	330V
L-G	200A	330V

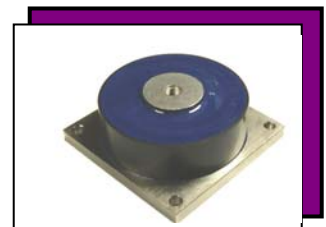


Hermetic Load Dump Protector, MIL-STD-1275

- Sensitron Part Number: **SCP-4188**
- MIL-STD-1275 Compliant

Features/Benefits:

- Maximum clamping voltage < 50 Volts
- 55°C to 150°C junction operating range
- Withstands up to 100 amps, 50ms pulsed



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TVS Modules

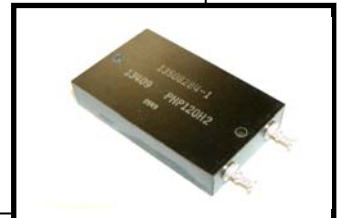
Sensitron

www.sensitron.com/tvsmodules.htm

PIP/PHP Series

Features/Benefits:

- **Equivalent Industry Part Numbers** – PHP8.4 ~ PHP500 & PIP8.4 ~ PIP500
- 7,500 and 15,000 Watts peak pulse power dissipation
- Available in ranges from 8.4 to 500 Volts
- Uni-directional protection
- Each device is 100% tested
- Designed for Hi-Reliability (PHP Series) and Commercial (PIP Series)
- **Meets Military Standards:**
 - DOD-STD-1389, MIL-STD-2036, MIL-STD-704 , MIL-PRF-STD-19500/507

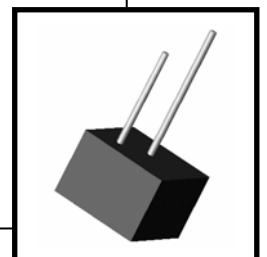


Part Number	Average RMS Voltage Volts AC	Reverse Stand-Off Voltage V_{WM} Volts DC	Min Breakdown Voltage $V_{(BR)}$ @ I_t Volts mA	Max Reverse Leakage @ V_{wm} I_D @ V_{WM} μA	Max Clamping Voltage V_C @ I_{PP} Volts dc	Max Peak Pulse Current I_{PP} Amps	Max Peak Pulse Power (I msec) P_P Kilowatts
PHP8.4	8.4	12.0	14 10	250	22	341	7.5
PHP24	24.0	34.0	40 10	250	67	112	7.5
PHP30	30.0	42.5	50 1.0	250	84	90	7.5
PHP60	60.0	85.0	100 1.0	250	167	90	15.0
PHP120	120.0	170.0	200 1.0	250	319	47	15.0
PHP206	208.0	295.0	347 1.0	250	536	28	15.0
PHP250	250.0	354.0	418 1.0	250	652	23	15.0
PHP440	440.0	623.0	735 1.0	250	1138	13.2	15.0
PHP500	500.0	708.0	835 1.0	250	1292	11.6	15.0
PIP8.4	8.4	12.0	14 10	250	22	341	7.5
PIP24	24.0	34.0	40 10	250	67	112	7.5
PIP30	30.0	42.5	50 1.0	250	84	90	7.5
PIP60	60.0	85.0	100 1.0	250	167	90	15.0
PIP120	120.0	170.0	200 1.0	250	319	47	15.0
PIP206	208.0	295.0	347 1.0	250	536	28	15.0
PIP250	250.0	354.0	418 1.0	250	652	23	15.0
PIP440	440.0	623.0	735 1.0	250	1138	13.2	15.0
PIP500	500.0	708.0	835 1.0	250	1292	11.6	15.0

SEN-5439/L

Features/Benefits:

- Transient Voltage Suppressor Array rated to 60KW for 10/1000 μsec
- Repetitive protection capability
 - Clamp voltage: 65V max @ 500A
 - Bi-directional protection
 - Fast response time
 - Add an "L" to the end of the part number for paralyne coating



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TVS Modules

Sensitron

www.sensitron.com/tvsmodules.htm

704-15K36 & 704-15K36T

Features/Benefits:

- **Equivalent Industry Standard Part Numbers** – 704-15K36 & 704-15K36T
- 15,000 Watts peak pulse power dissipation
- 28 Volt power supply protection
- Uni-directional protection
- Can be supplied with JAN/JANTX parts
- **Designed For MIL-STD-704**



Part Number	Reverse Stand-Off Voltage (Note 1) V_{WM} Volts	Max Reverse Leakage @ V_{WM} I_D μA	Min Breakdown Voltage @ 10 mA $V_{(BR)}$ Volts	Max Clamping Voltage @ I_{PP} V_C Volts	Max Peak Pulse Current I_{PP} Amps	Max Forward Voltage VF @ 8.3 msec. 100A Volts DC
704-15K36	31.5	100	36	51	300	3.0
704-15K36T	31.5	100	36	51	300	3.0

60KS200C, 90KS200C/90KS200

Features/Benefits:

- **Equivalent Industry Standard Part Numbers** – 60KS200C, 90KS200/C
- 60,000 & 90,000 Watts peak pulse power dissipation
- 200 Volt power supply protection
- Bi-directional protection

Protection Level:

- +200VDC operating; Tailored for 115VAC
- **Exceed MIL-STD704A and DOD-STD-1399 requirements**
- UL-94V0 Flammability Classification



Part Number	Reverse Stand-Off Voltage V_{WM} (Volts)	Max Reverse Leakage @ V_{WM} I_D (μA)	Min Breakdown Voltage @ 1 mA $V_{(BR)}$ (Volts)	Max Clamping Voltage @ I_{PP} V_C (Volts)	Max Peak Pulse Current I_{PP} (Amps)
60KS200C	180	10	200 ~ 225	335	180
90KS200C	180	0.5	200 ~ 225	280	180
90KS200	180	10	200 ~ 225	335	270

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Plastic TVS & TVS Arrays

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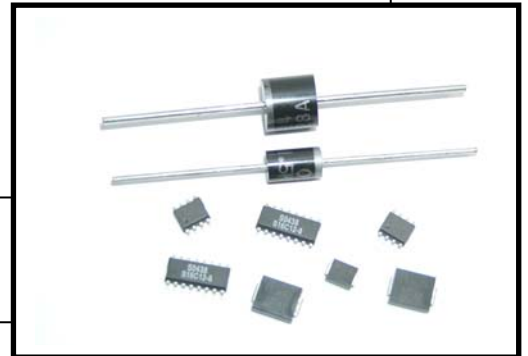
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Axial Leaded, P4KE, SA, P6KE, 1.5KE, 3KP, 5KP, 15KP, 20KP, and 30KP Series

- Power: 0.4kW – 30kW
- Voltage: 5.5 - 376 V

Surface Mount, SMAJ, SMBJ, SMCJ, and 3.0SMCJ Series

- Power: 0.4kW - 3kW
- Voltage: 5.0 - 170 V



Arrays

- Ppp = 300W to 500W, Vwm = 3.3 to 36V, C = 3pF to 25pF
- Unidirectional and Bidirectional, Clamping voltage 7 to 43 V
- (Ultra) Low Capacitance 3 & 5 pF
- Protects up to 8 lines

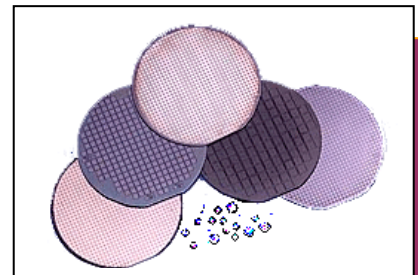
TVS Glass Passivated Die

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TVS Glass Passivated Die

- Available in 500W or 1500W
- Uni-directional configuration
- Permits mounting on printed circuit boards
- Available in 90 mils hex and 125 mils hex



Many of Sensitron's Transient Voltage Suppressors:

- Exceed MIL-STD-1275
- Exceed MIL-STD-1399
- MIL-STD-2036
- Exceed MIL-STD704/A and DOD-STD-1399 requirements
- Meet UL-94V0 Flammability Classification

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FEATURED PRODUCT



DC BRUSHLESS 3-PHASE DSP MOTOR CONTROL

Sensitron's Sensorless DC Brushless 3-Phase DSP Motor Controller is a complete motor control system. Sensitron's DSP controllers are rated at 600V, 70A suitable for motors up to 6KW operating off the 270V dc bus [more...](#)

▶▶▶ IN THE NEWS

July 2007- Sensitron now offers **extended range** Solid State Power Controller Modules (SPDPXXD28ER Series) which are designed to operate without any heatsink requirements. [more...](#)

June 2007- Sensitron's Brushless 3-Phase DSP Motor Controller is a complete motor control system. Rated at 600V, 70A suitable for motors up to 6KW operating off the 270V [more...](#)
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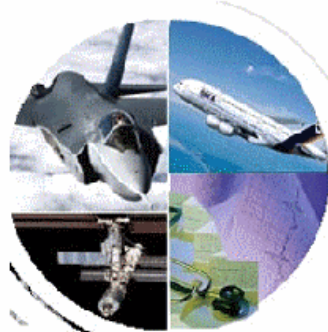
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MOSFETs / MOSFET Modules
New! Rad Tolerant MOSFETs
Amplifiers
New! Rad Tolerant Voltage Regulators
Voltage Regulators

▶▶▶▶▶ DIE PRODUCTS

PARAMETRIC TREE

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