



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638  
 Phone: (562) 404-4474 \* Fax: (562) 404-1773  
 ssdi@ssdi-power.com \* www.ssdi-power.com

## Designer's Data Sheet

### FEATURES:

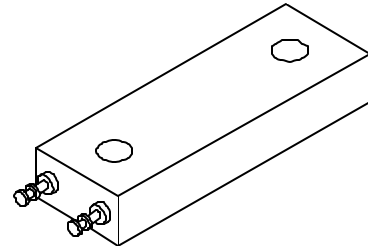
- 7.50-100 Volt Unidirectional
- Smaller than 704-15K35 and 704-15K36T types
- Hermetically Sealed
- Meets all environmental requirements of MIL-PRF-19500
- Custom Configurations Available
- TX and TXV Screening Available

### APPLICATIONS:

- Protection of Voltage Sensitive Components
- Protection Against Power Interruption
- Lightning Protection

## STA15K7.5P thru STA15K100P

**15,000 WATTS  
PEAK PULSE POWER  
7.5 – 100 VOLTS  
UNIDIRECTIONAL  
TRANSIENT VOLTAGE SUPPRESSOR**

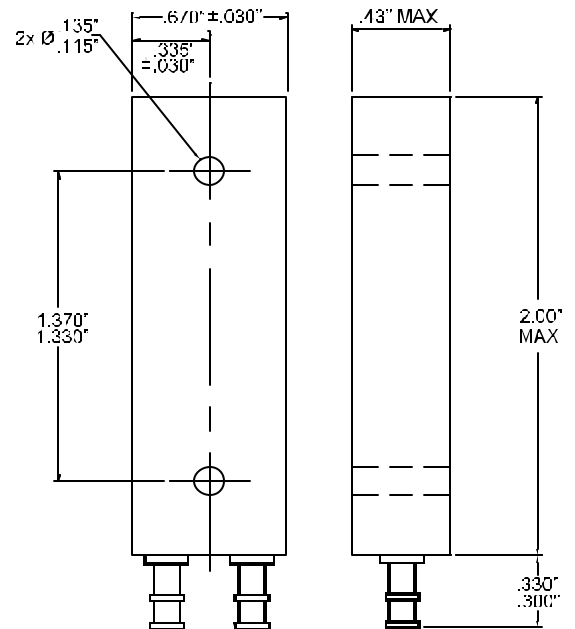


## Maximum Ratings

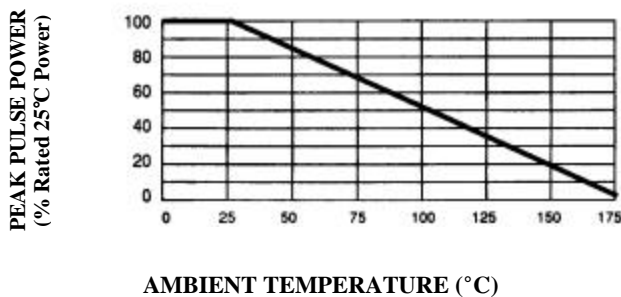
Stand Off Voltage	$V_{RWM}$	5.6-75	Volts
Steady State Power Dissipation	$P_D$	100	Watts
Peak Pulse Power @ 1.0 msec	$P_{PP}$	15,000	Watts
Peak Pulse Power and Steady State Power Derating	SEE GRAPH		
Peak Pulse Power and Pulse Width	SEE GRAPH		
Operating and Storage Temperature	-65°C to +175°C		

### Note:

SSDI Transient Suppressors offer standard Breakdown Voltage Tolerances of  $\pm 10\%$  (A) and  $\pm 5\%$  (B). For other Voltage and Voltage Tolerances, contact SSDI's Marketing Department



## PEAK PULSE POWER VS. TEMPERATURE DERATING CURVE



Package shown is standard configuration. SSDI can custom design your module with terminals that meet your unique design criteria. Additionally, SSDI can package these devices with an irregular footprint or offset mounting positions. This data sheet is meant to serve as an example of SSDI's Transient Protection Module Capabilities. For custom configurations, please contact SSDI's Marketing Department.

**NOTE:** All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

**DATA SHEET #: T00006C**

**DOC**



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**STA15K7.5P thru  
STA15K100P**

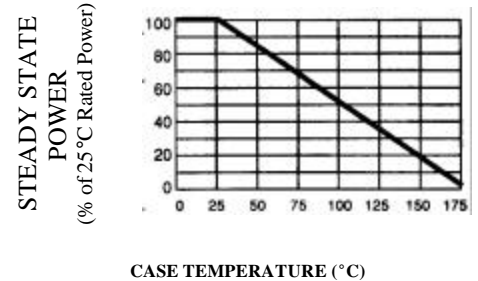
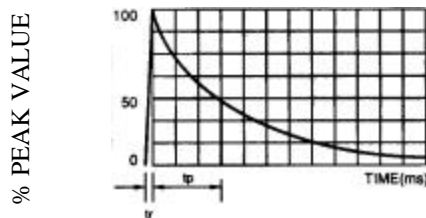
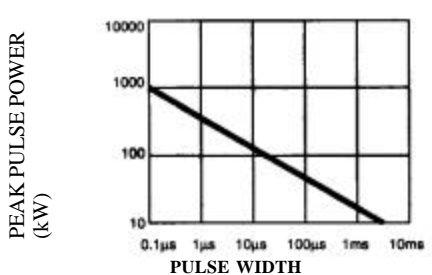
**ELECTRICAL CHARACTERISTICS**

Part Number (note 5)	Break Down (note 1)		Max Reverse Stand Off		Peak Pulse Clamping		Maximum Continuous Current (note 4)	Dynamic Impedance (note 2)	Max Temperature Coefficient
	Nominal Voltage	Test Current	Voltage	Reverse Leakage Current	Voltage (Max)	@ Current Tp=1ms (note 4)			
	V <sub>BR</sub>	@ I <sub>BRT</sub>	V <sub>RWM</sub>	I <sub>R</sub> @V <sub>RWM</sub>	V <sub>C</sub>	I <sub>PP</sub>			
	Volts	Amps	Volts	mA	Volts	Amps	Amps	Ohms	%/°C
STA15K7.5P	7.5	1.75	5.6	15.0	11.7	1280	12.5	0.07	.03
STA15K8.2P	8.2	1.50	6.2	12.0	12.5	1200	11.5	0.08	.03
STA15K9.1P	9.1	1.50	6.8	0.40	13.8	1090	10.2	0.09	.03
STA15K10P	10	1.25	7.5	0.20	15.0	1000	9.5	0.10	.05
STA15K11P	11	1.25	8.2	0.15	16.2	930	8.6	0.11	.05
STA15K12P	12	1.00	9.1	0.10	17.3	870	7.7	0.11	.05
STA15K13P	13	1.00	10	0.04	19.0	790	7.0	0.12	.05
STA15K15P	15	0.75	11	0.02	22.0	680	6.0	0.12	.05
STA15K16P	16	0.75	12	0.02	23.5	640	5.5	0.13	.06
STA15K18P	18	0.65	13	0.02	26.5	570	5.0	0.13	.06
STA15K20P	20	0.65	15	0.02	29.0	520	4.4	0.15	.06
STA15K22P	22	0.50	16	0.02	31.9	470	3.9	0.16	.06
STA15K24P	24	0.50	18	0.02	34.7	430	3.6	0.18	.06
STA15K27P	27	0.50	20	0.02	38.5	390	3.1	0.25	.06
STA15K30P	30	0.40	22	0.02	42.9	350	2.8	0.40	.06
STA15K33P	33	0.40	24	0.02	46.9	320	2.6	0.50	.06
STA15K36P	36	0.30	27	0.02	50.0	300	2.4	0.60	.06
STA15K39P	39	0.30	30	0.02	55.6	270	2.1	0.70	.06
STA15K43P	43	0.30	33	0.02	60.0	250	1.8	1.0	.06
STA15K47P	47	0.25	36	0.02	65.2	230	1.75	1.2	.07
STA15K51P	51	0.25	39	0.02	71.4	210	1.7	1.4	.07
STA15K56P	56	0.20	43	0.02	78.9	190	1.6	1.8	.07
STA15K62P	62	0.20	47	0.02	88.2	170	1.5	2.0	.07
STA15K68P	68	0.20	51	0.02	93.7	160	1.3	2.2	.08
STA15K75P	75	0.20	56	0.02	107.1	140	1.2	2.5	.08
STA15K82P	82	0.15	62	0.02	115.4	130	1.1	3.0	.08
STA15K91P	91	0.15	68	0.02	125.0	120	1.0	4.0	.08
STA15K100P	100	0.15	75	0.02	136.4	110	.9	4.5	.09

**PEAK PULSE POWER VS. PULSE WIDTH**

**CURRENT PULSE WAVEFORM**

**STEADY STATE POWER DERATING**



For optional high reliability screening or higher zener voltages, consult SSDI MARKETING Department.

**Notes:**

- All voltages are measured with automated test set using 35 msec test time. Longer or shorter test times will have a corresponding effect on the measured value due to heating effects.
- Dynamic impedance is derived from the AC voltage divided by the AC current with RMS value of 10% of DC test current superimposed on the test current.
- Ratings based on 25° C case temperature.
- Pulse width (tp) is defined as the time from rated peak pulse current IPP to the point where peak pulse current decayed to 50% of rated IPP. (10ms X 1000ms waveform as defined by R.E.A.)
- Part Number- For 5% Voltage Tolerance, specify "B" in place of "A"