



# SOLID STATE DEVICES, INC.

14830 Valley View Blvd \* La Mirada, Ca 90638  
 Phone: (562) 404-4474 \* Fax: (562) 404-1773

## Designer's Data Sheet

### FEATURES:

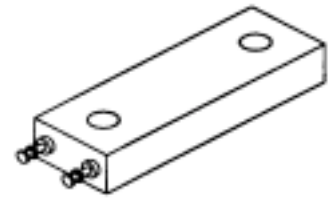
- 7.90-100 Volt Unidirectional
- Smaller than 704-15K36 and 704-15K36T Types
- Hermetically Sealed
- Meets all environmental requirements of MIL-PRF-19500
- Custom configurations available
- TX and TXV Screening Available

### APPLICATIONS:

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

## STA15K7.9 thru STA15K100

**15,000 WATTS  
 PEAK PULSE POWER  
 7.9 - 100 VOLTS  
 UNIDIRECTIONAL  
 TRANSIENT  
 VOLTAGE SUPPRESSOR**



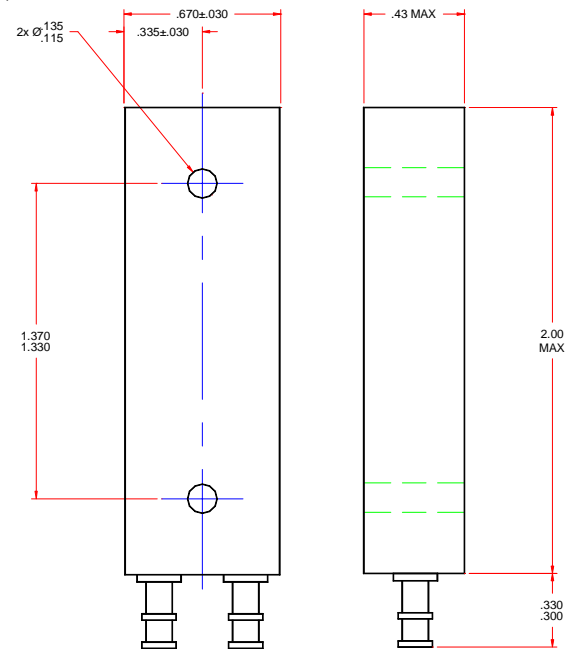
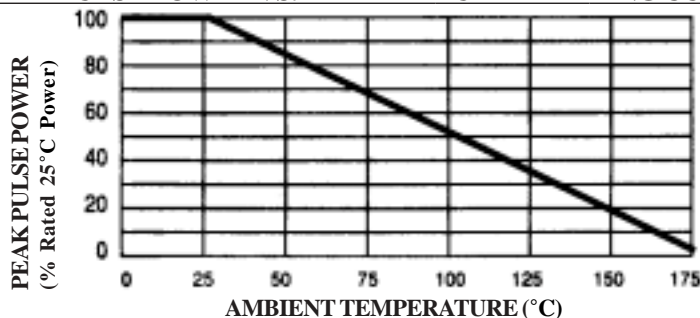
### MAXIMUM RATINGS

Stand Off Voltage	$V_{RWM}$	5.6-75	V
Steady State Power Dissipation	$P_D$	60	W
Peak Pulse Power @ 1.0 msec	$P_{PP}$	15,000	W
Peak Pulse Power and Steady State Power Derating	See Graph		
Peak Pulse Power and Pulse Width	See Graph		
Peak Pulse Power and Pulse Width	-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 #: T00004D**

# STA15K7.9 thru STA15K100



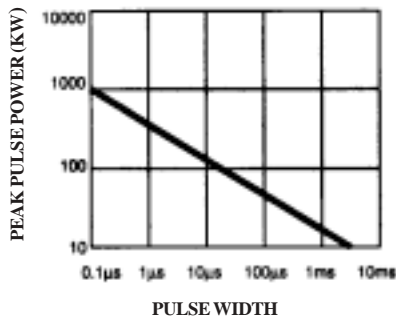
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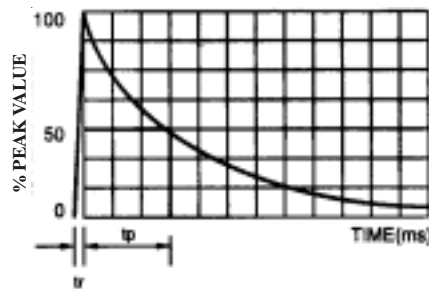
## Electrical Characteristics

Part Number	Break Down (note 1)		Max Reverse Stand Off		Peak Pulse Clamping		Maximum Continuous Current (note 3)	Maximum Temperature Coefficient
	Nominal Voltage	Test Current	Voltage	Reverse Leakage Current	Voltage (max)	@ Current tp=1ms (note 4)		
For 5% Voltage Tolerance specify "B" in place of A	$V_{BR}$	@ $I_{RBT}$	$V_{RWM}$	$I_R @ V_{RWM}$	$V_C$	$I_{PP}$	$I_{RM}$	TC
	Volts	A	Volts	mA	Volts	A	A	% / °C
STA15K7.9	7.9	1.75	5.6	16.500	11.7	1280	12.5	.03
STA15K8.9	8.9	1.50	6.2	13.200	12.5	1200	11.5	.03
STA15K9.8	9.8	1.50	6.8	00.440	13.8	1090	10.2	.03
STA15K10.7	10.7	1.25	7.5	00.220	15.0	1000	9.5	.05
STA15K11.0	11.0	1.25	8.2	00.165	16.2	930	8.6	.05
STA15K12.7	12.7	1.00	9.1	00.110	17.3	870	7.7	.05
STA15K13.5	13.5	1.00	10	00.044	19.0	790	7.0	.05
STA15K15.0	15.0	0.75	11	00.022	22.0	680	6.0	.05
STA15K16.7	16.7	0.75	12	00.022	23.5	640	5.5	.06
STA15K18.0	18.0	0.65	13	00.022	26.5	570	5.0	.06
STA15K20.2	20.2	0.65	15	00.022	29.0	520	4.4	.06
STA15K22.6	22.6	0.50	16	00.022	31.9	470	3.9	.06
STA15K24.5	24.5	0.50	18	00.022	34.7	430	3.6	.06
STA15K27.9	27.9	0.50	20	00.022	38.5	390	3.1	.06
STA15K30.5	30.5	0.40	22	00.022	42.9	350	2.8	.06
STA15K34	34.0	0.40	24	00.022	46.9	320	2.6	.06
STA15K36	36.0	0.30	27	00.022	50.0	300	2.4	.06
STA15K39	39.0	0.30	30	00.022	55.6	270	2.1	.06
STA15K45	45.0	0.30	33	00.022	60.0	250	1.8	.06
STA15K49	49.0	0.25	36	00.022	65.2	230	1.75	.07
STA15K51	51.0	0.25	39	00.022	71.4	210	1.7	.07
STA15K57	57.0	0.20	43	00.022	78.9	190	1.6	.07
STA15K62	62.0	0.20	47	00.022	88.2	170	1.5	.07
STA15K68	68.0	0.20	51	00.022	93.7	160	1.3	.08
STA15K75	75.0	0.20	56	00.022	107.1	140	1.2	.08
STA15K82	82.0	0.15	62	00.022	115.4	130	1.1	.08
STA15K91	91.0	0.15	68	00.022	125.0	120	1.0	.08
STA15K100	100.0	0.15	75	00.022	136.4	110	.09	.09

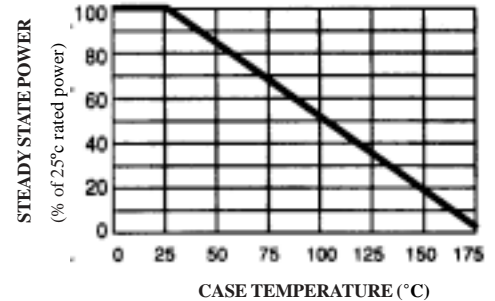
**PEAK PULSE POWER VS. PULSE WIDTH**



**CURRENT PULSE WAVEFORM**



**STEADY STATE POWER DERATING**



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

**Notes:**

1. 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.
2. Ratings based on 25° C case temperature.
3. 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.