



**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**

**STD5K**

**Screening**  
 — = Not Screened  
 TX = TX Level  
 TXV = TXV Level  
 S = S Level

**Polarity**  
 — = Normal (Anode to Stud)  
 R = Reverse (Cathode to Stud)

**Voltage**  
 5.0 – 110V

**Voltage Tolerance**  
 A = 10%  
 B = 5%

**STD5KA5.0 – STD5KA110**  
**STD5KB5.0 – STD5KB110**

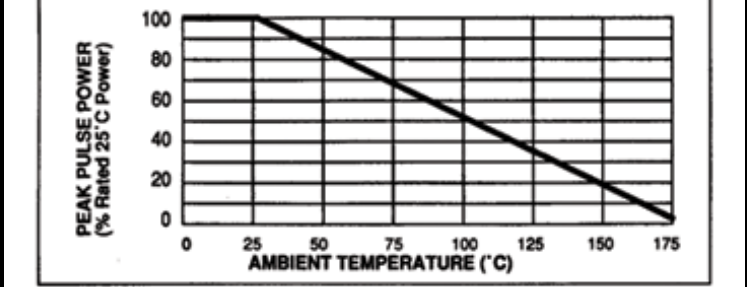
**5000 WATT**  
**5.0-110 VOLTS**  
**UNIDIRECTIONAL TRANSIENT**  
**VOLTAGE SUPPRESSOR**

- Features:**
- 5.0-110 Volt Unidirectional-Anode to Stud
  - Hermetically Sealed
  - Meets all environmental requirements of MIL-S-19500
  - Custom configurations available
  - Reverse polarity-cathod to stud (Add suffix "R")
  - TX, TXV, and Space Level screening available
- Applications:**
- Protection of voltage sensitive components
  - Protection against power interruption
  - Lightning protection

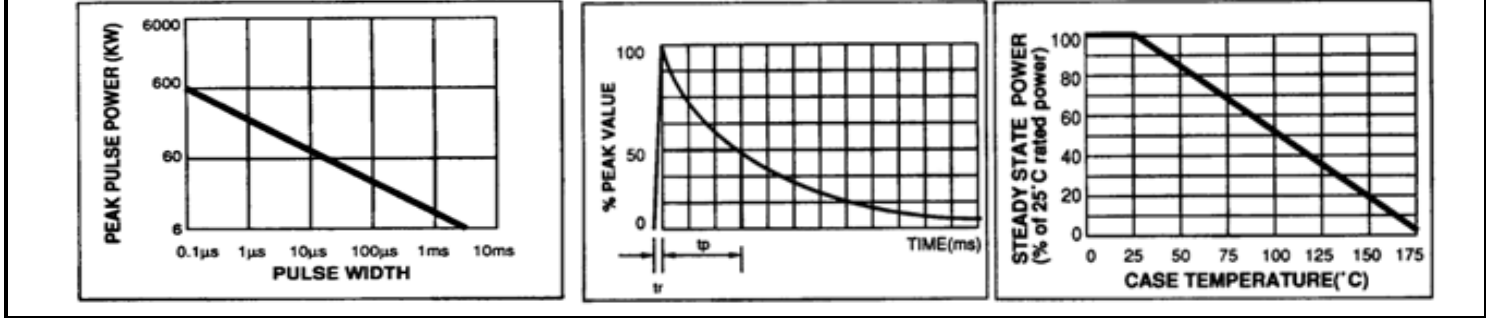
**Maximum Ratings**

Stand Off Voltage	$V_{RWM}$	5.0-110	Volts
Steady State Power Dissipation	$P_D$	8	Watts
Peak Pulse Power @ 1.0 msec	$P_{PP}$	5000	Watts
Forward Surge Current	$I_{FSM}$	400	Amps
Peak Pulse Power and Steady State Power Derating	SEE GRAPH		
Peak Pulse Power and Pulse Width	SEE GRAPH		
Operating and Storage Temperature	-55°C to +175°C		

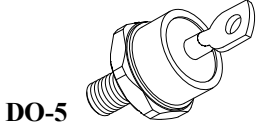
**PEAK PULSE POWER VS. TEMPERATURE DERATING CURVE**



**PEAK PULSE POWER VS. PULSE WIDTH      CURRENT PULSE WAVEFORM      STEADY STATE POWER DERATING**



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





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STD5KA5.0 – STD5KA110  
STD5KB5.0 – STD5KB110

ELECTRICAL CHARACTERISTICS

Part Number	Breakdown Voltage $V_{BR}$ (note 1)			Reverse Stand Off Voltage	Maximum Reverse Leakage Current	Maximum Peak Pulse Current	Maximum Clamping Voltage @ $I_{PPM}$ (Note 2)	Max Temperature Coefficient
	Min $V_{BR}$	Max $V_{BR}$	@ $I_T$ mA	$V_{WM}$ Volts	$I_R@V_{WM}$ $I_D(\mu A)$	$I_{PPM}$ Amps	$V_C$ Volts	$V_{BR}$ %/°C
STD5KA5.0	6.4	7.30	50	5.0	2000	520	9.6	0.057
STD5KB5.0	6.4	7.00	50	5.0	2000	543	9.2	0.057
STD5KA6.0	6.67	8.15	50	6.0	5000	439	11.4	0.061
STD5KB6.0	6.67	7.37	50	6.0	5000	485	10.3	0.061
STD5KA7.0	7.78	9.51	50	7.0	1000	378	13.3	0.068
STD5KB7.0	7.78	8.6	50	7.0	1000	417	12.0	0.068
STD5KA8.0	8.89	10.9	5.0	8.0	150	333	15.0	0.075
STD5KB8.0	8.89	9.83	5.0	8.0	150	367	13.6	0.075
STD5KA9.0	10.0	12.2	5.0	9.0	20.0	295	16.9	0.081
STD5KB9.0	10.0	11.1	5.0	9.0	20.0	325	15.4	0.081
STD5KA10	11.1	13.6	5.0	10.0	15.0	266	18.8	0.084
STD5KB10	11.1	12.3	5.0	10.0	15.0	294	17.0	0.084
STD5KA12	13.3	16.3	5.0	12.0	10.0	227	22.0	0.088
STD5KB12	13.3	14.7	5.0	12.0	10.0	251	19.9	0.088
STD5KA14	15.6	19.1	5.0	14.0	10.0	194	25.8	0.092
STD5KB14	15.6	17.2	5.0	14.0	10.0	215	23.2	0.092
STD5KA16	17.8	21.8	5.0	16.0	10.0	176	28.8	0.096
STD5KB16	17.8	19.7	5.0	16.0	10.0	176	28.8	0.096
STD5KA18	20.0	24.4	5.0	18.0	10.0	155	32.2	0.098
STD5KB18	20.0	22.1	5.0	18.0	10.0	172	29.2	0.098
STD5KA20	22.2	27.1	5.0	20.0	10.0	139	35.8	0.099
STD5KB20	22.2	24.5	5.0	20.0	10.0	154	32.4	0.099
STD5KA22	24.4	29.8	5.0	22.0	10.0	127	39.4	0.100
STD5KB22	24.4	26.9	5.0	22.0	10.0	141	35.5	0.100
STD5KA24	26.7	32.6	5.0	24.0	10.0	116	43.0	0.101
STD5KB24	26.7	29.5	5.0	24.0	10.0	128	38.9	0.101
STD5KA26	28.9	35.3	5.0	26.0	10.0	107	46.6	0.101
STD5KB26	28.9	31.9	5.0	26.0	10.0	119	42.1	0.101
STD5KA28	31.1	38.0	5.0	28.0	10.0	99	50.1	0.102
STD5KB28	31.1	34.4	5.0	28.0	10.0	110	45.4	0.102
STD5KA30	33.3	40.7	5.0	30.0	10.0	93	53.5	0.103
STD5KB30	33.3	36.8	5.0	30.0	10.0	103	48.4	0.103
STD5KA33	36.7	44.9	5.0	33.0	10.0	85	59.0	0.104
STD5KB33	36.7	40.6	5.0	33.0	10.0	94	53.3	0.104
STD5KA36	40.0	48.9	5.0	36.0	10.0	78	64.3	0.104
STD5KB36	40.0	44.2	5.0	36.0	10.0	85	58.1	0.104
STD5KA40	44.4	54.3	5.0	40.0	10.0	70	71.4	0.105
STD5KB40	44.4	49.1	5.0	40.0	10.0	78	64.5	0.105
STD5KA43	47.8	58.4	5.0	43.0	10.0	65	76.7	0.105
STD5KB43	47.8	52.8	5.0	43.0	10.0	72	69.4	0.105
STD5KA45	50.0	61.1	5.0	45.0	10.0	62	80.3	0.106
STD5KB45	50.0	55.3	5.0	45.0	10.0	69	72.7	0.106
STD5KA48	53.3	65.2	5.0	48.0	10.0	58	85.5	0.106
STD5KB48	53.3	58.9	5.0	48.0	10.0	65	77.4	0.106

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

Notes:

- $V_{BR}$  measured after  $I_T$  applied for 300 ms.  $I_T$  = Square Wave Pulse or equivalent.
- Surge Current waveform per "Current Pulse Waveform" graph and Derate per "Peak Pulse Power vs. Temperature Derating Curve" graph.

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

DATA SHEET #: T00030B

DOC



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**STD5KA5.0 – STD5KA110**  
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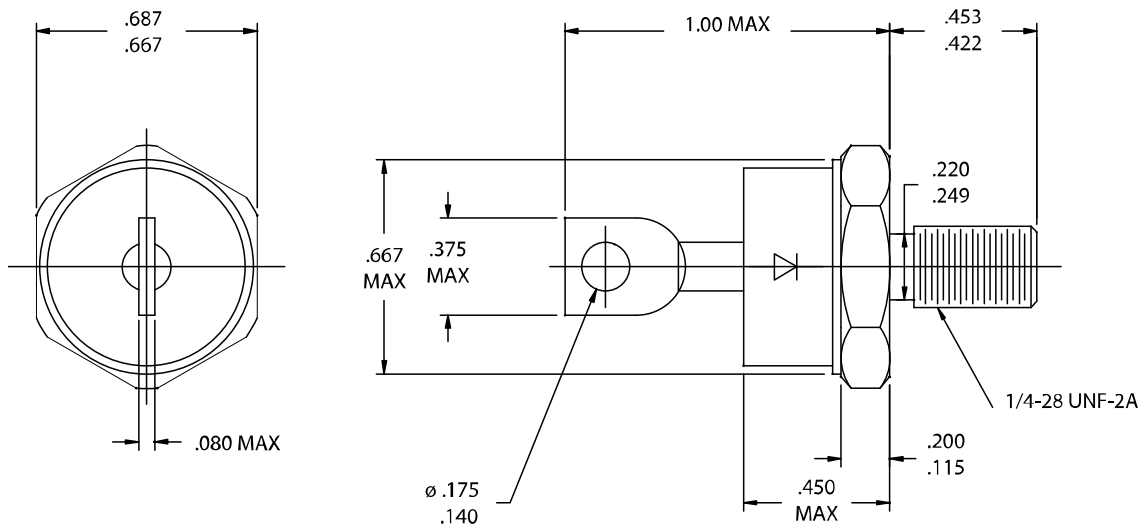
**ELECTRICAL CHARACTERISTICS**

Part Number	Breakdown Voltage $V_{BR}$ (note 1)			Reverse Stand Off Voltage $V_{WM}$	Maximum Reverse Leakage Current $I_{R@V_{WM}}$	Maximum Peak Pulse Current $I_{PPM}$	Maximum Clamping Voltage @ $I_{PPM}$ (note 2) $V_C$	Max Temperature Coefficient $V_{BR}$
	Min $V_{BR}$	Max $V_{BR}$	@ $I_T$ mA					
For 5% Voltage Tolerance specify "B" in place of "A"								
				Volts	$I_D(\mu A)$	Amps	Volts	%/°C
STD5KA51	56.1	69.3	5.0	51.0	10.0	55	91.1	0.107
STD5KB51	56.7	62.7	5.0	51.0	10.0	61	82.4	0.107
STD5KA54	60.0	73.3	5.0	54.0	10.0	52	96.3	0.107
STD5KB54	60.0	66.3	5.0	54.0	10.0	57	87.1	0.107
STD5KA58	64.4	78.7	5.0	58.0	10.0	49	103	0.107
STD5KB58	64.4	71.2	5.0	58.0	10.0	53	94	0.107
STD5KA60	66.7	81.5	5.0	60.0	10.0	47	107	0.108
STD5KB60	66.7	73.7	5.0	60.0	10.0	52	97	0.108
STD5KA64	71.1	96.9	5.0	64.0	10.0	44	114	0.108
STD5KB64	71.1	78.6	5.0	64.0	10.0	49	103	0.108
STD5KA70	77.6	95.1	5.0	70.0	10.0	40	125	0.108
STD5KB70	77.8	86.0	5.0	70.0	10.0	44	113	0.108
STD5KA75	83.3	102	5.0	75.0	10.0	37	134	0.108
STD5KB75	83.3	92.1	5.0	75.0	10.0	41	121	0.108
STD5KA78	86.7	106.0	5.0	78.0	10.0	36	126	0.108
STD5KB78	86.7	95.8	5.0	78.0	10.0	40	126	0.108
STD5KA85	94.9	115	5.0	85.0	10.0	33	151	0.110
STD5KB85	94.4	104	5.0	85.0	10.0	36	137	0.110
STD5KA90	100	122	5.0	90.0	10.0	31	160	0.110
STD5KB90	100	111	5.0	90.0	10.0	34	146	0.110
STD5KA100	111	136	5.0	100	10.0	28	179	0.110
STD5KB100	111	123	5.0	100	10.0	31	162	0.110
STD5KA110	122	149	5.0	110	10.0	26	196	0.112
STD5KB110	122	135	5.0	110	10.0	28	177	0.112

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- Surge Current waveform per "Current Pulse Waveform" graph and Derate per "Peak Pulse Power vs. Temperature Derating Curve" graph.



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