



SOLID STATE DEVICES, INC

14849 Firestone Boulevard · La Mirada, CA 90638
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

Designer's Data Sheet

FEATURES:

- 79-1000 Volt Bidirectional
- Smaller than Microsemi 60KS200C Types
- Hermetically Sealed
- Meets all environmental requirements of MIL-S-19500
- Custom configurations available
- TX and TXV Screening Available

APPLICATIONS:

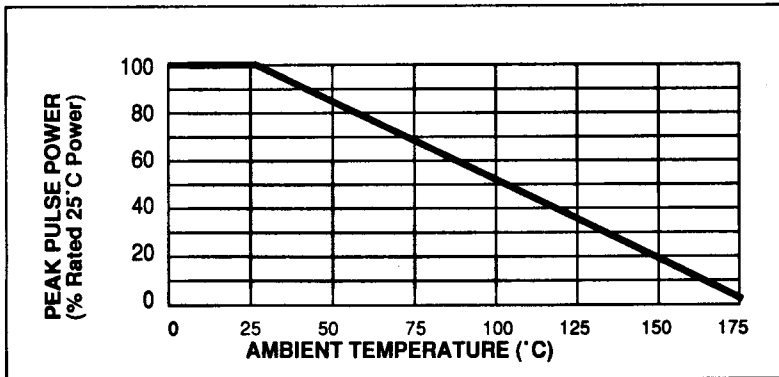
- Protection of Voltage Sensitive Components
- Protection Against Power Interruption
- Lightning Protection

MAXIMUM RATINGS

| CHARACTERISTICS | SYMBOL | VALUE | UNITS |
|--|--------|-----------------|-------|
| Stand Off Voltage | VRWM | 56-750 | V |
| Steady State Power Dissipation | Pd | 400 | W |
| Peak Pulse Power @ 1.0 msec | PPP | 60,000 | W |
| 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's Transient Suppressors offer standard Breakdown Voltage Tolerances of ± 10%(A) and ±5%(B). For other Voltages and Voltage Tolerances, contact SSDI's Marketing Department.

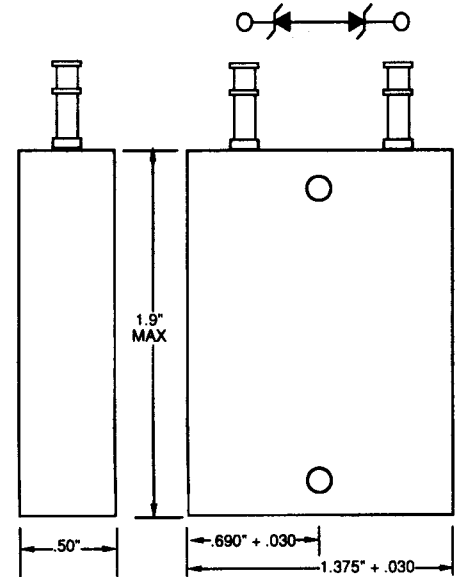
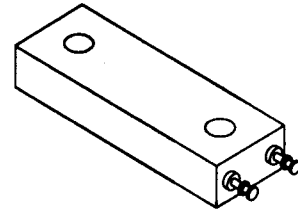
PEAK PULSE POWER VS. TEMPERATURE DERATING CURVE



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

STA60K79S
thru
STA60K1000S

60,000 WATTS
PEAK PULSE POWER
79 -1000 VOLTS
HIGH VOLTAGE
BIDIRECTIONAL TRANSIENT
VOLTAGE SUPPRESSOR



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

DATA SHEET #: T00014 A

RMD

STA60K79S thru STA60K1000S

PRELIMINARY DATA



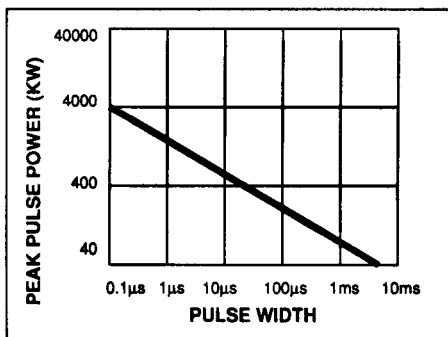
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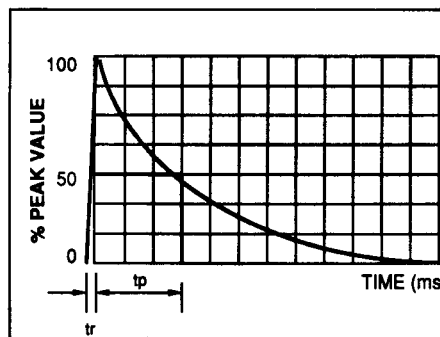
ELECTRICAL CHARACTERISTICS

| PART NUMBER | BREAK DOWN (note 1) | | MAX REVERSE STAND OFF | | PEAK PULSE CLAMPING | | MAXIMUM CONTINUOUS CURRENT (note 3) | DYNAMIC IMPEDANCE (note 3) | MAXIMUM TEMPERATURE COEFFICIENT |
|--|---------------------|--------------|-----------------------|-------------------------|---------------------|---------------------------|-------------------------------------|----------------------------|---------------------------------|
| | Nominal Voltage | Test Current | Voltage | Reverse Leakage Current | Voltage (max.) | @ Current tp=1ms (note 4) | | | |
| | | | | | | | | | |
| | Volts | mA | Volts | µA | Volts | A | A | Ω | %/°C |
| For 5% Voltage Tolerance specify "B" in place of "A" | | | | | | | | | |
| STA60K79S | 79 | 700 | 56 | 6000 | 145 | 512 | 5.00 | 2.75 | .03 |
| STA60K89S | 89 | 600 | 62 | 4800 | 150 | 480 | 4.60 | 3.00 | .03 |
| STA60K98S | 98 | 600 | 68 | 160 | 160 | 436 | 4.08 | 3.25 | .03 |
| STA60K107S | 107 | 500 | 75 | 80 | 175 | 400 | 3.80 | 3.75 | .05 |
| STA60K110S | 110 | 500 | 82 | 60 | 185 | 372 | 3.44 | 4.25 | .05 |
| STA60K127S | 127 | 400 | 91 | 40 | 195 | 348 | 3.08 | 4.50 | .05 |
| STA60K135S | 135 | 400 | 100 | 16 | 210 | 316 | 2.80 | 4.75 | .05 |
| STA60K150S | 150 | 300 | 110 | 8 | 230 | 272 | 2.40 | 4.75 | .05 |
| STA60K167S | 167 | 300 | 120 | 8 | 250 | 256 | 2.20 | 4.75 | .06 |
| STA60K180S | 180 | 260 | 130 | 8 | 270 | 228 | 2.00 | 5.00 | .06 |
| STA60K202S | 202 | 260 | 150 | 8 | 300 | 208 | 1.76 | 6.25 | .06 |
| STA60K226S | 226 | 200 | 160 | 8 | 335 | 188 | 1.56 | 7.00 | .06 |
| STA60K245S | 245 | 200 | 180 | 8 | 360 | 172 | 1.44 | 7.50 | .06 |
| STA60K279S | 279 | 200 | 200 | 8 | 400 | 156 | 1.24 | 9.50 | .06 |
| STA60K305S | 305 | 160 | 220 | 8 | 435 | 140 | 1.12 | 12.5 | .06 |
| STA60K340S | 340 | 160 | 240 | 8 | 470 | 128 | 1.04 | 17.5 | .06 |
| STA60K360S | 360 | 120 | 270 | 8 | 520 | 120 | 0.96 | 20.0 | .06 |
| STA60K390S | 390 | 120 | 300 | 8 | 550 | 108 | 0.84 | 25.0 | .06 |
| STA60K450S | 450 | 120 | 330 | 8 | 600 | 100 | 0.72 | 30.0 | .07 |
| STA60K490S | 490 | 100 | 360 | 8 | 650 | 92 | 0.70 | 35.0 | .07 |
| STA60K510S | 510 | 100 | 390 | 8 | 700 | 84 | 0.68 | 42.5 | .07 |
| STA60K570S | 570 | 80 | 430 | 8 | 780 | 76 | 0.64 | 47.5 | .07 |
| STA60K620S | 620 | 80 | 470 | 8 | 870 | 68 | 0.60 | 52.5 | .08 |
| STA60K680S | 680 | 80 | 510 | 8 | 930 | 64 | 0.52 | 57.5 | .08 |
| STA60K750S | 750 | 80 | 560 | 8 | 1033 | 56 | 0.48 | 65.0 | .08 |
| STA60K820S | 820 | 60 | 620 | 8 | 1135 | 52 | 0.44 | 77.5 | .08 |
| STA60K910S | 910 | 60 | 680 | 8 | 1265 | 48 | 0.40 | 107.5 | .08 |
| STA60K1000S | 1000 | 48 | 750 | 8 | 1385 | 44 | 0.36 | 120.0 | .09 |

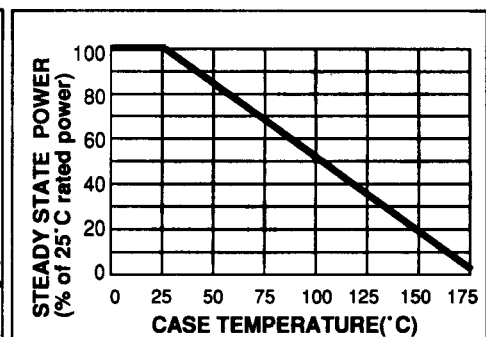
PEAK PULSE POWER VS. PULSE WIDTH



CURRENT PULSE WAVEFORM



STEADY STATE POWER DERATING



NOTES: For optional high reliability screening or higher nominal voltages, consult SSDI MARKETING Department.

- 1) All voltages are measured with an automated test set using a 35 msec test time. Longer or shorter test times will have a corresponding effect on the measured value due to heating effects.
- 2) 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.
- 3) Ratings based on 25°C Case temperature.
- 4) 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. (10µs X 1000µs waveform as defined by R.E.A.)