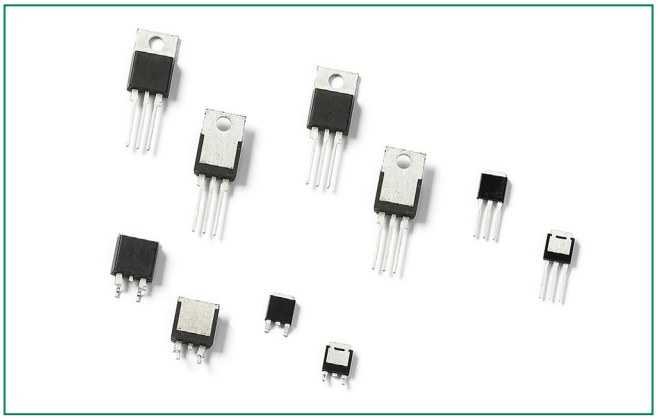
# Thyristors

## 8 Amp Sensitive & Standard SCRs

Littelfuse
Expertise Applied | Answers Delivered

## Sxx08xSx & Sxx08x Series

HF RoHS



### Agency Approval

| Agency | Agency File Number |
|---|---|
| | L Package: E71639 |

### Main Features

| Symbol | Value | Unit |
|---|---|---|
| $I_{T(RMS)}$ | 8 | A |
| $V_{DRM}/V_{RRM}$ | 400 to 1000 | V |
| $I_{GT}$ | 0.2 to 15 | mA |

### Additional Information

Datasheet | Resources | Samples

### Description

This Sxx08x SCR series is ideal for uni-directional switch applications such as phase control, heating, motor speed controls, converters/rectifiers and capacitive discharge ignitions.

These SCRs have a low gate current trigger level of 0.2 to 15 mA at approximately 1.5V, with a sensitive version of this series having a gate trigger current less than 500µA. The sensitive gate SCR version is easily triggered by sense coils, proximity switches, and microprocessors.

### Features & Benefits

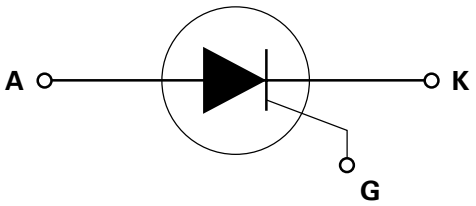
- Halogen Free and RoHS compliant
- Glass – passivated junctions
- Voltage capability up to 1000 V
- Surge capability up to 100 A at 60 Hz half cycle
- L - Package is UL recognized for 2500Vrms

### Applications

Typical applications are capacitive discharge systems for strobe lights, nailers, staplers and gas engine ignition. Also AC control & rectification for power tools, home/brown goods, white goods appliances and 2-wheeler rectifier/ battery regulators.

Internally constructed isolated packages are offered for ease of heat sinking with highest isolation voltage.

### Schematic Symbol





Revised: 01/16/18

## Absolute Maximum Ratings — Sensitive SCRs

| Symbol | Parameter | Test Conditions | | Value | Unit |
|---|---|---|---|---|---|
| $I_{T(RMS)}$ | RMS on-state current | Sxx08LSy | $T_C$ = 80°C | 8 | A |
| | | Sxx08RSy/Sxx08NSy<br>Sxx08DSy<br>Sxx08VSy | $T_C$ = 95°C | | |
| $I_{T(AV)}$ | Average on-state current | Sxx08LSy | $T_C$ = 80°C | 5.1 | A |
| | | Sxx08RSy/Sxx08NSy<br>Sxx08DSy<br>Sxx08VSy | $T_C$ = 95°C | | |
| $I_{TSM}$ | Peak non-repetitive surge current | single half cycle; f = 50Hz;<br>$T_J$ (initial) = 25°C | | 83 | A |
| | | single half cycle; f = 60Hz;<br>$T_J$ (initial) = 25°C | | 100 | |
| $I^2t$ | $I^2t$ Value for fusing | $t_p$ = 8.3 ms | | 41 | $A^2s$ |
| di/dt | Critical rate of rise of on-state current | f = 60 Hz ; $T_J$ = 110°C | | 70 | A/µs |
| $I_{GTM}$ | Peak gate current | $T_J$ = 110°C | | 1.6 | A |
| $P_{G(AV)}$ | Average gate power dissipation | $T_J$ = 110°C | | 0.4 | W |
| $T_{stg}$ | Storage temperature range | | | -40 to 150 | °C |
| $T_J$ | Operating junction temperature range | | | -40 to 110 | °C |

Note: xx = voltage, y = sensitivity

## Absolute Maximum Ratings — Standard SCRs

| Symbol | Parameter | Test Conditions | | Value | Unit |
|---|---|---|---|---|---|
| $I_{T(RMS)}$ | RMS on-state current | Sxx08L | $T_C$ = 100°C | 8 | A |
| | | Sxx08R/Sxx08N<br>Sxx08D<br>Sxx08V | $T_C$ = 110°C | | |
| $I_{T(AV)}$ | Average on-state current | Sxx08L | $T_C$ = 100°C | 5.1 | A |
| | | Sxx08R/Sxx08N<br>Sxx08D<br>Sxx08V | $T_C$ = 110°C | | |
| $I_{TSM}$ | Peak non-repetitive surge current | single half cycle; f = 50Hz;<br>$T_J$ (initial) = 25°C | | 83 | A |
| | | single half cycle; f = 60Hz;<br>$T_J$ (initial) = 25°C | | 100 | |
| $I^2t$ | $I^2t$ Value for fusing | $t_p$ = 8.3 ms | | 41 | $A^2s$ |
| di/dt | Critical rate-of-rise of on-state current | f = 60 Hz $T_J$ = 125°C | | 100 | A/µs |
| $I_{GM}$ | Peak gate current | $T_J$ = 125°C | | 2 | A |
| $P_{G(AV)}$ | Average gate power dissipation | $T_J$ = 125°C | | 0.5 | W |
| $T_{stg}$ | Storage temperature range | | | -40 to 150 | °C |
| $T_J$ | Operating junction temperature range | | | -40 to 125 | °C |

Note: xx = voltage

## Electrical Characteristics ($T_J$ = 25°C, unless otherwise specified) – Sensitive SCRs

| Symbol | Test Conditions | | Value | | | | Unit |
|---|---|---|---|---|---|---|---|
| | | | Sxx08xS1 | Sxx08xS2 | Sxx08xS3 | Sxx08x4 | |
| $I_{GT}$ | $V_D$ = 6V $R_L$ = 100 Ω | MAX. | 50 | 200 | 500 | 100 | µA |
| $V_{GT}$ | $V_D$ = 6V $R_L$ = 100 Ω | MAX. | 0.8 | | | | V |
| dv/dt | $V_D = V_{DRM}$; $R_{GK}$ = 1kΩ; $T_J$ = 110°C | TYP. | 8 | | | | V/µs |
| $V_{GD}$ | $V_D = V_{DRM}$ $R_L$ = 3.3 kΩ $T_J$ = 110°C | MIN. | 0.2 | | | | V |
| $V_{GRM}$ | $I_{GR}$ = 10µA | MIN. | 6 | | | | V |
| $I_H$ | $I_T$ = 20mA (initial) | MAX. | 4 | 6 | 8 | 5 | mA |
| $t_q$ | $I_T$=2A; $t_p$=50µs; dv/dt=5V/µs; di/dt=-30A/µs | MAX. | 75 | 50 | 45 | 60 | µs |
| $t_{gt}$ | $I_G$ = 2 x $I_{GT}$ PW = 15µs $I_T$ = 12A | TYP. | 3 | 4 | 5 | 4 | µs |

Note: xx = voltage x = package

## Electrical Characteristics ($T_J$ = 25°C, unless otherwise specified) – Standard SCRs

| Symbol | Test Conditions | | | Value | Unit |
|---|---|---|---|---|---|
| | | | | Sxx08x | |
| $I_{GT}$ | $V_D$ = 12V $R_L$ = 60 Ω | | MAX. | 15 | mA |
| $V_{GT}$ | $V_D$ = 12V $R_L$ = 60 Ω | | MAX. | 1.5 | V |
| dv/dt | $V_D = V_{DRM}$; gate open; $T_J$ = 100°C | 400V | MIN. | 350 | V/µs |
| | | 600V | | 300 | |
| | | 800V | | 250 | |
| | | 1000V | | 100 | |
| | $V_D = V_{DRM}$; gate open; $T_J$ = 125°C | 400V | | 250 | |
| | | 600V | | 225 | |
| | | 800V | | 200 | |
| $V_{GD}$ | $V_D = V_{DRM}$ $R_L$ = 3.3 kΩ $T_J$ = 125°C | | MIN. | 0.2 | V |
| $I_H$ | $I_T$ = 200mA (initial) | | MAX. | 30 | mA |
| $t_q$ | $I_T$=2A; $t_p$=50µs; dv/dt=5V/µs; di/dt=-30A/µs | | MAX. | 35 | µs |
| $t_{gt}$ | $I_G$ = 2 x $I_{GT}$ PW = 15µs $I_T$ = 16A | | TYP. | 2 | µs |

Note: xx = voltage x = package

## Static Characteristics

| Symbol | Test Conditions | | | | | Value | Unit |
|---|---|---|---|---|---|---|---|
| $V_{TM}$ | $I_T$ = 16A; $t_p$ = 380 µs | | | | MAX. | 1.6 | V |
| $I_{DRM}$ / $I_{RRM}$ | $V_{DRM} = V_{RRM}$ | Sxx08xyy | $T_J$ = 25°C | 400 - 600V | MAX. | 5 | µA |
| | | | $T_J$ = 110°C | 400 - 600V | | 250 | |
| | | Sxx08x | $T_J$ = 25°C | 400 - 800V | | 10 | |
| | | | | 1000V | | 20 | |
| | | | $T_J$ = 100°C | 400 - 800V | | 200 | |
| | | | | 1000V | | 3000 | |
| | | | $T_J$ = 125°C | 400 - 800V | | 500 | |

Note: xx = voltage, x = package, yy = sensitivity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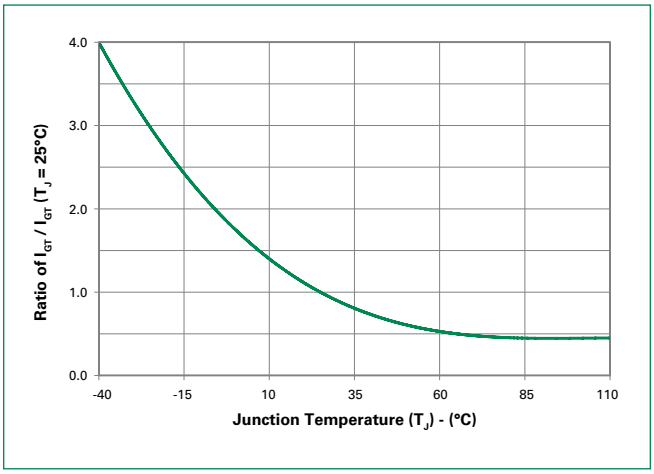
## Thermal Resistances

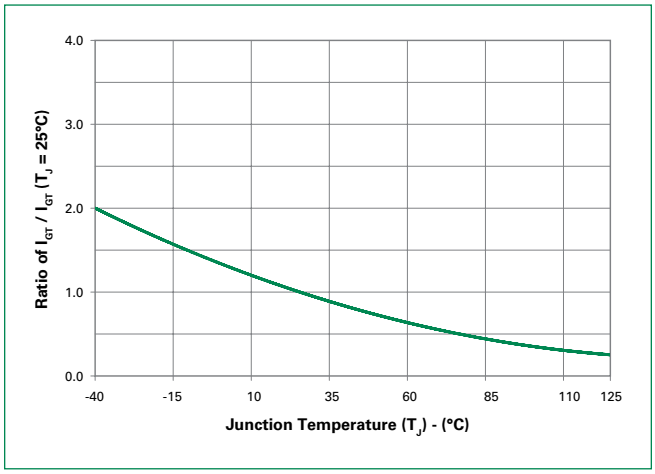
| Symbol | Parameter | | Value | Unit |
|---|---|---|---|---|
| $R_{\theta(J-C)}$ | Junction to case (AC) | Sxx08RSy / Sxx08NSy | 1.8 | °C/W |
| | | Sxx08LSy | 3.4 | |
| | | Sxx08VSy | 2.1 | |
| | | Sxx08DSy | 1.5 | |
| | | Sxx08R / S xx08N | 1.8 | |
| | | Sxx08L | 3.4 | |
| | | Sxx08V | 2.0 | |
| | | Sxx08D | 1.5 | |
| $R_{\theta(J-A)}$ | Junction to ambient | Sxx08RSy | 40 | °C/W |
| | | Sxx08LSy | 65 | |
| | | Sxx08VSy | 85 | |
| | | Sxx08R | 40 | |
| | | Sxx08L | 50 | |
| | | Sxx08V | 70 | |

Note: xx = voltage, y = sensitivity

### Figure 1: Normalized DC Gate Trigger Current vs. Junction Temperature (Sensitive SCR)




### Figure 2: Normalized DC Gate Trigger Current vs. Junction Temperature (Standard SCR)





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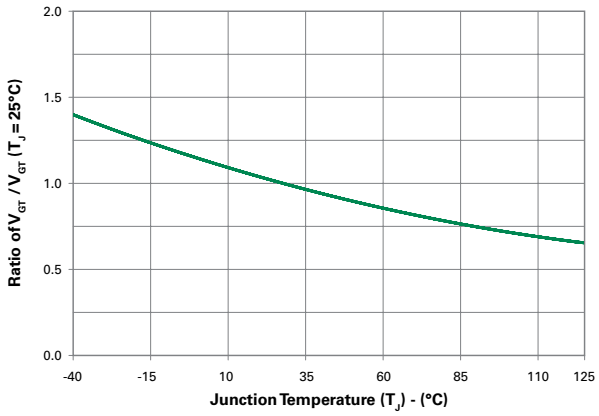
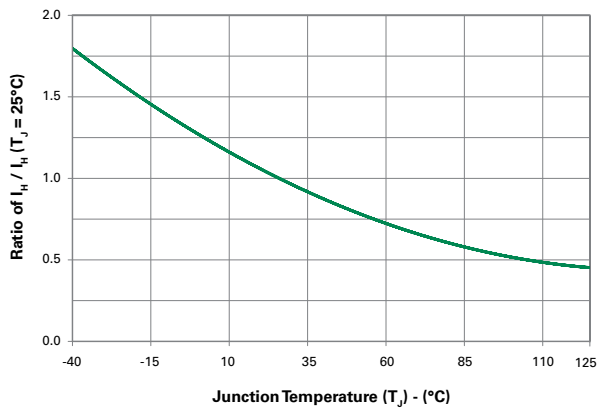
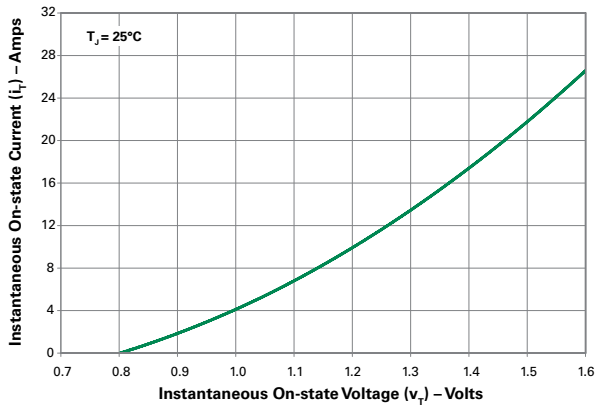
## Figure 3: Normalized DC Gate Trigger Voltage vs. Junction Temperature



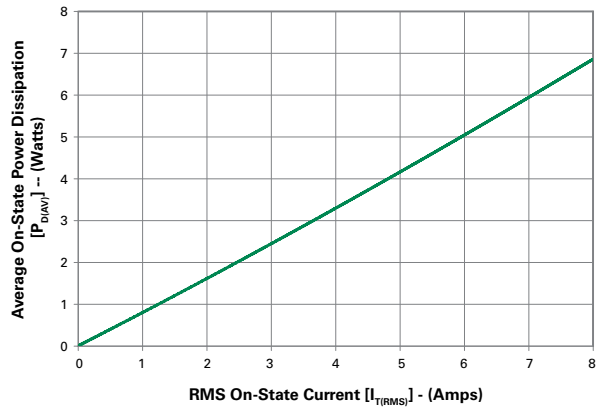

## Figure 4: Normalized DC Holding Current vs. Junction Temperature



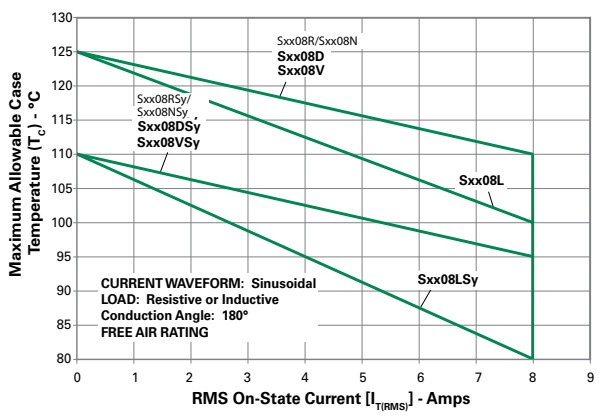

## Figure 5: On-State Current vs. On-State Voltage (Typical)



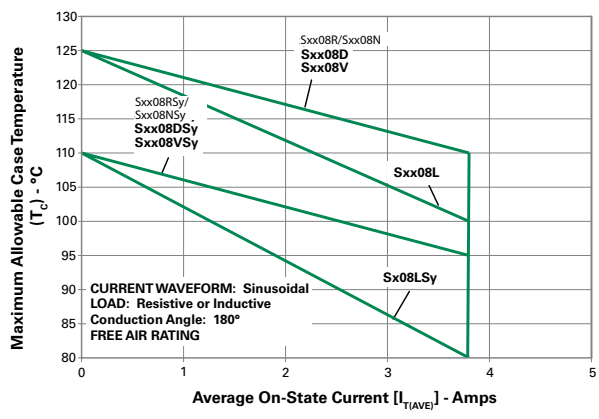

## Figure 6: Power Dissipation (Typical) vs. RMS On-State Current




## Figure 7: Maximum Allowable Case Temperature vs. RMS On-State Current




## Figure 8: Maximum Allowable Case Temperature vs. Average On-State Current





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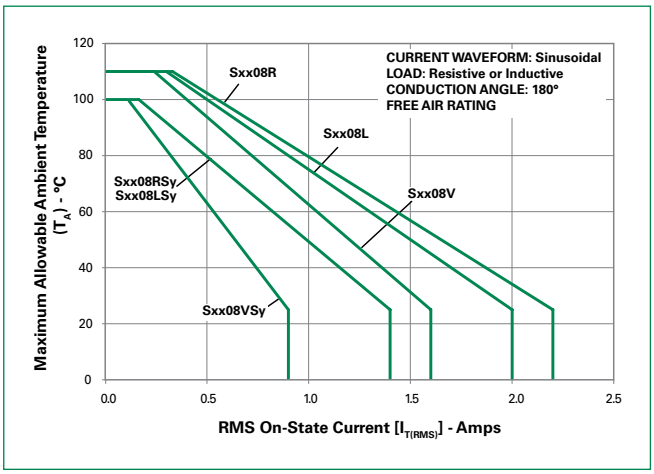
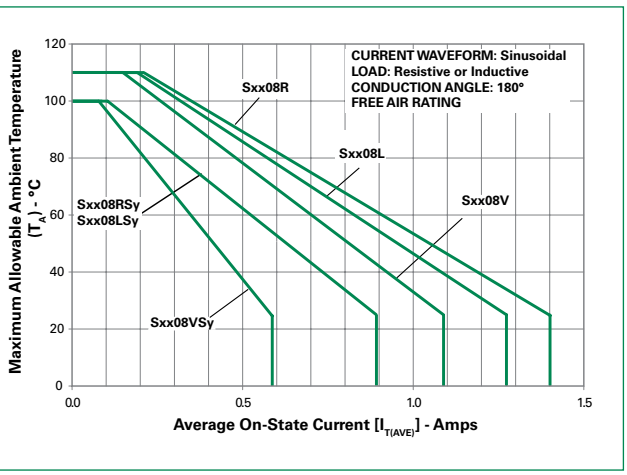
## Figure 9: Maximum Allowable Ambient Temperature vs. RMS On-State Current

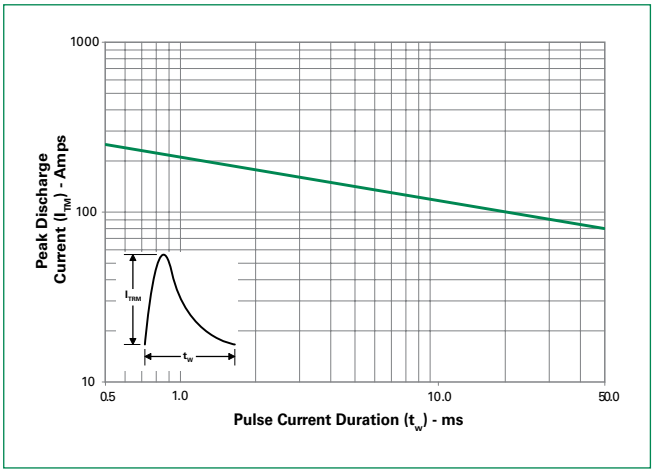



Note: xx = voltage, y = sensitivity

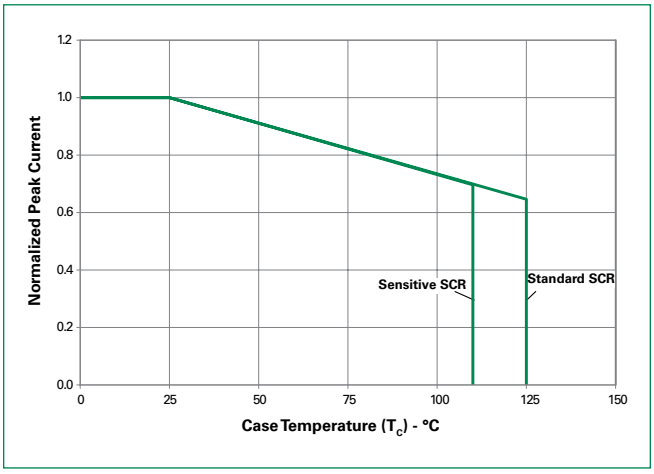
## Figure 10: Maximum Allowable Ambient Temperature vs. Average On-State Current



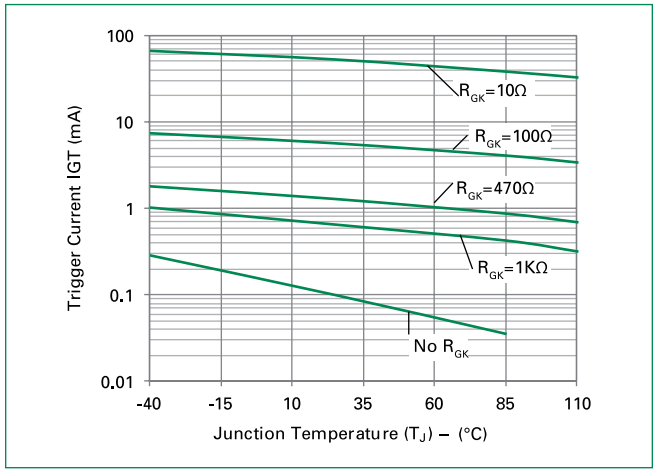

## Figure 11: Peak Capacitor Discharge Current



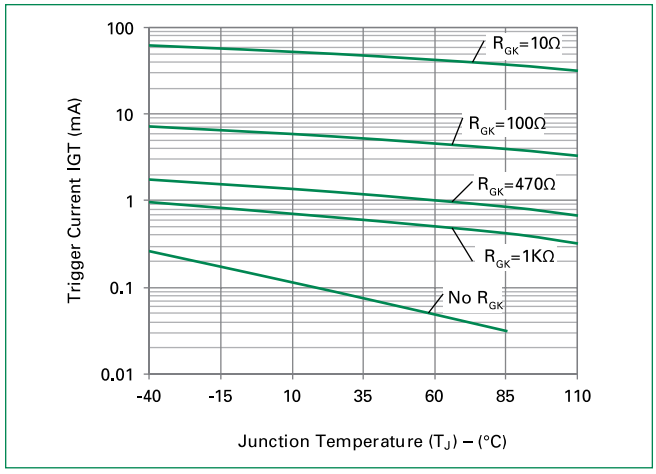

## Figure 12: Peak Capacitor Discharge Current Derating




## Figure 13-1: Typical DC Gate Trigger Current with $R_{GK}$ vs. Junction Temperature for S6008xS2




## Figure 13-2: Typical DC Gate Trigger Current with $R_{GK}$ vs. Junction Temperature for S6008xS3





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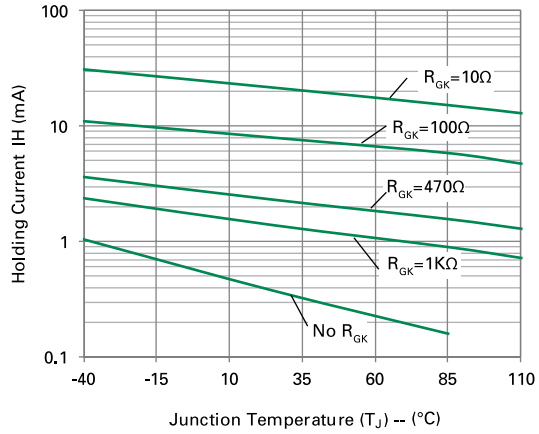
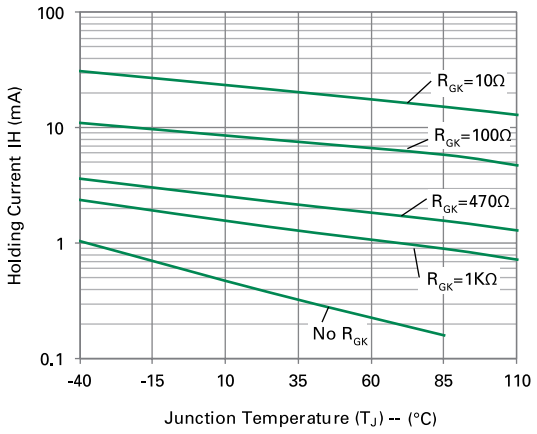
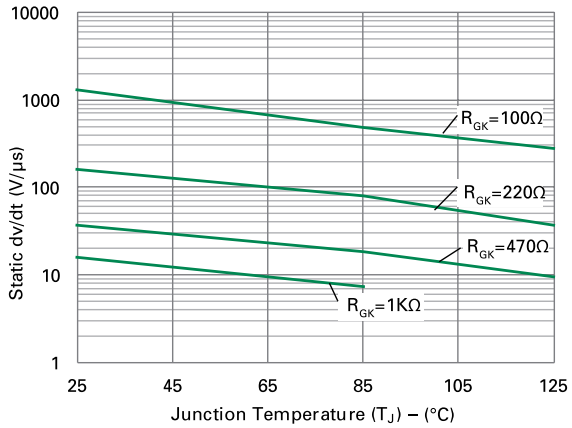
### Figure 14-1: Typical DC Holding Current with $R_{GK}$ vs. Junction Temperature for S6008xS2



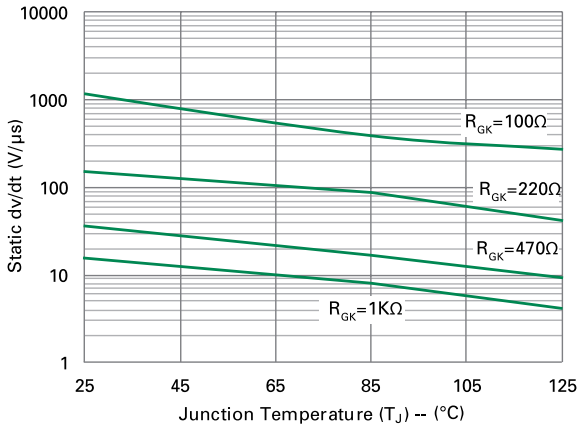

### Figure 14-1: Typical DC Holding Current with $R_{GK}$ vs. Junction Temperature for S6008xS3



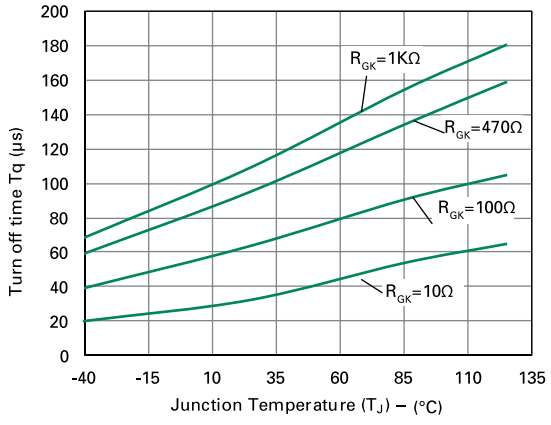

### Figure 15-1: Typical Static dv/dt with $R_{GK}$ vs. Junction Temperature for S6008xS2



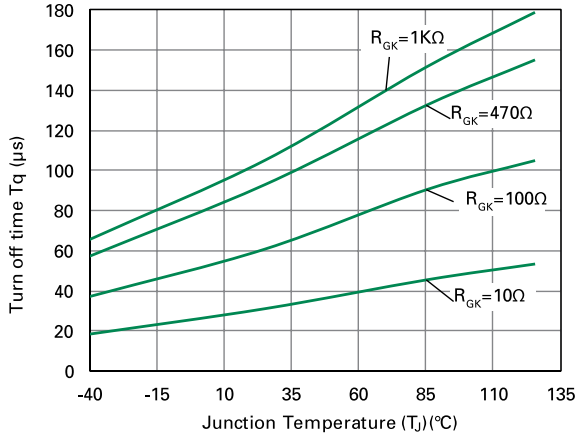

### Figure 15-2: Typical Static dv/dt with $R_{GK}$ vs. Junction Temperature for S6008xS3




### Figure 16-1: Typical turn off time with $R_{GK}$ vs. Junction Temperature for S6008xS2




### Figure 16-2: Typical DC Gate Trigger Current with $R_{GK}$ vs. Junction Temperature for S6008xS3





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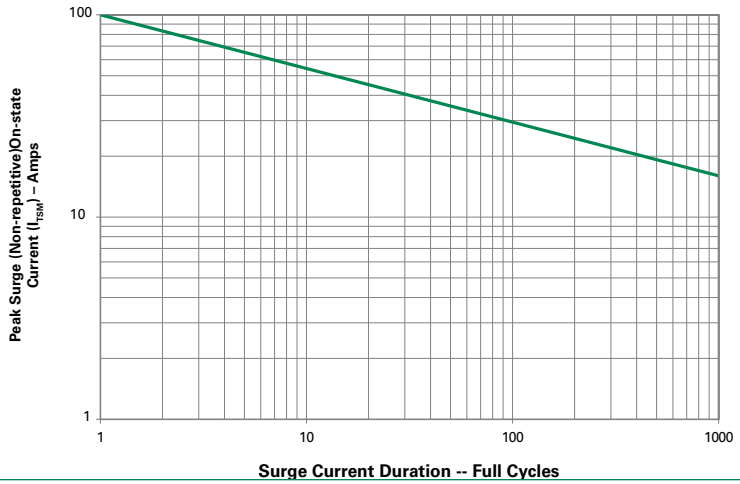
## Figure 17: Surge Peak On-State Current vs. Number of Cycles

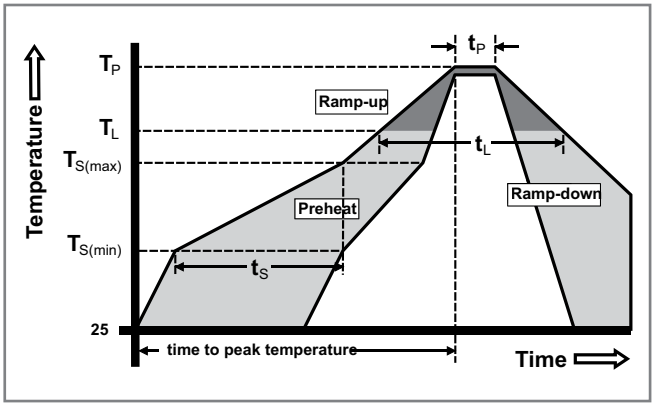



SUPPLY FREQUENCY: 60 Hz Sinusoidal
LOAD: Resistive
RMS On-State Current: [$I_{T(RMS)}$]: Maximum Rated Value at Specified Case Temperature

Notes:
1. Gate control may be lost during and immediately following surge current interval.
2. Overload may not be repeated until junction temperature has returned to steady-state rated value.

## Soldering Parameters

| Reflow Condition | | Pb – Free assembly |
|---|---|---|
| Pre Heat | -Temperature Min ($T_{s(min)}$) | 150°C |
| | -Temperature Max ($T_{s(max)}$) | 200°C |
| | -Time (min to max) ($t_s$) | 60 – 180 secs |
| Average ramp up rate (Liquidus Temp) ($T_L$) to peak | | 5°C/second max |
| $T_{S(max)}$ to $T_L$ - Ramp-up Rate | | 5°C/second max |
| Reflow | -Temperature ($T_L$) (Liquidus) | 217°C |
| | -Temperature ($t_L$) | 60 – 150 seconds |
| Peak Temperature ($T_P$) | | $260^{+0/-5}$ °C |
| Time within 5°C of actual peak Temperature ($t_p$) | | 20 – 40 seconds |
| Ramp-down Rate | | 5°C/second max |
| Time 25°C to peak Temperature ($T_P$) | | 8 minutes Max. |
| Do not exceed | | 280°C |



## Physical Specifications

| | |
|---|---|
| **Terminal Finish** | 100% Matte Tin-plated |
| **Body Material** | UL recognized epoxy meeting flammability rating 94V-0 |
| **Lead Material** | Copper Alloy |

## Design Considerations

Careful selection of the correct component for the application's operating parameters and environment will go a long way toward extending the operating life of the Thyristor. Good design practice should limit the maximum continuous current through the main terminals to 75% of the component rating. Other ways to ensure long life for a power discrete semiconductor are proper heat sinking and selection of voltage ratings for worst case conditions. Overheating, overvoltage (including dv/dt), and surge currents are the main killers of semiconductors. Correct mounting, soldering, and forming of the leads also help protect against component damage.

## Environmental Specifications

| Test | Specifications and Conditions |
|---|---|
| **AC Blocking** | MIL-STD-750, M-1040, Cond A Applied Peak AC voltage @ 125°C for 1008 hours |
| **Temperature Cycling** | MIL-STD-750, M-1051, 100 cycles; -40°C to +150°C; 15-min dwell-time |
| **Temperature/ Humidity** | EIA / JEDEC, JESD22-A101 1008 hours; 320V - DC: 85°C; 85% rel humidity |
| **High Temp Storage** | MIL-STD-750, M-1031, 1008 hours; 150°C |
| **Low-Temp Storage** | 1008 hours; -40°C |
| **Resistance to Solder Heat** | MIL-STD-750 Method 2031 |
| **Solderability** | ANSI/J-STD-002, category 3, Test A |
| **Lead Bend** | MIL-STD-750, M-2036 Cond E |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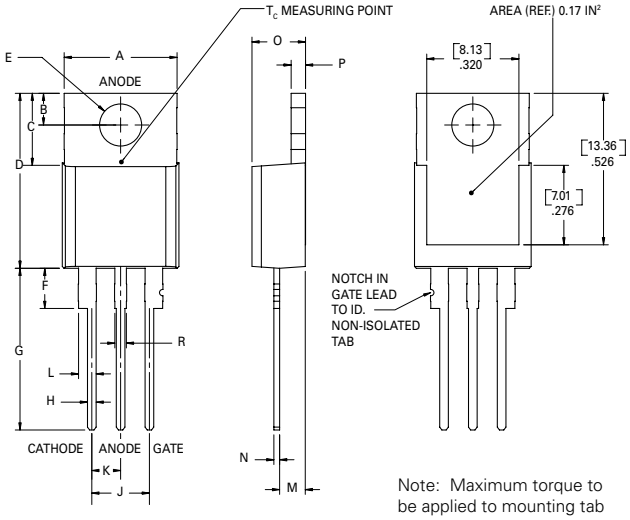
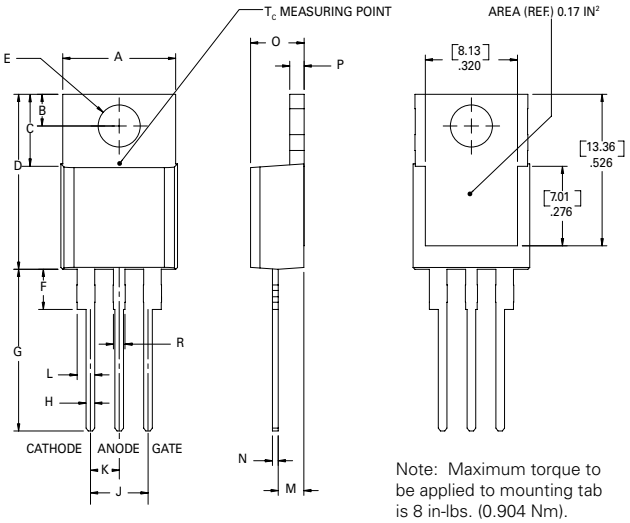
## Dimensions — TO-220AB (R-Package) — Non-Isolated Mounting Tab Common with Center Lead




Note: Maximum torque to be applied to mounting tab is 8 in-lbs. (0.904 Nm).

| Dimension | Inches | | Millimeters | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 0.380 | 0.420 | 9.65 | 10.67 |
| B | 0.105 | 0.115 | 2.67 | 2.92 |
| C | 0.230 | 0.250 | 5.84 | 6.35 |
| D | 0.590 | 0.620 | 14.99 | 15.75 |
| E | 0.142 | 0.147 | 3.61 | 3.73 |
| F | 0.110 | 0.130 | 2.79 | 3.30 |
| G | 0.540 | 0.575 | 13.72 | 14.61 |
| H | 0.025 | 0.035 | 0.64 | 0.89 |
| J | 0.195 | 0.205 | 4.95 | 5.21 |
| K | 0.095 | 0.105 | 2.41 | 2.67 |
| L | 0.060 | 0.075 | 1.52 | 1.91 |
| M | 0.085 | 0.095 | 2.16 | 2.41 |
| N | 0.018 | 0.024 | 0.46 | 0.61 |
| O | 0.178 | 0.188 | 4.52 | 4.78 |
| P | 0.045 | 0.060 | 1.14 | 1.52 |
| R | 0.038 | 0.048 | 0.97 | 1.22 |

## Dimensions — TO-220AB (L-Package) — Isolated Mounting Tab

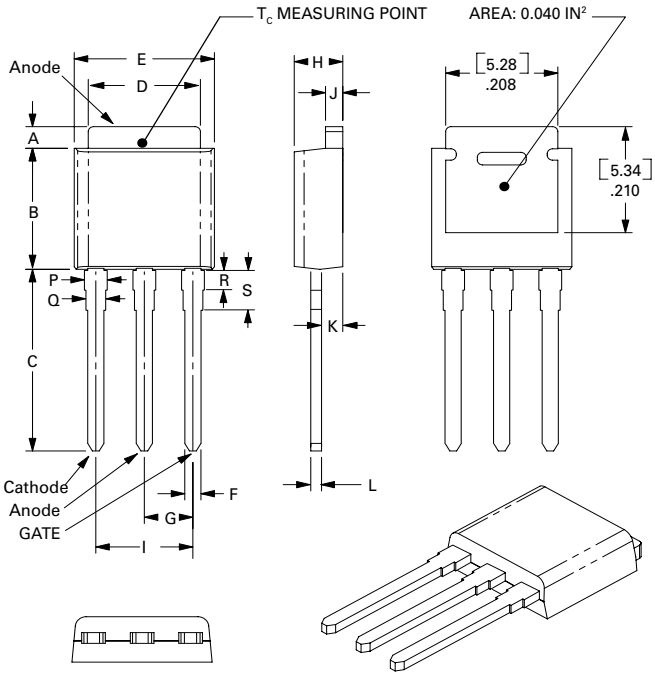



Note: Maximum torque to be applied to mounting tab is 8 in-lbs. (0.904 Nm).

| Dimension | Inches | | Millimeters | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 0.380 | 0.420 | 9.65 | 10.67 |
| B | 0.105 | 0.115 | 2.67 | 2.92 |
| C | 0.230 | 0.250 | 5.84 | 6.35 |
| D | 0.590 | 0.620 | 14.99 | 15.75 |
| E | 0.142 | 0.147 | 3.61 | 3.73 |
| F | 0.110 | 0.130 | 2.79 | 3.30 |
| G | 0.540 | 0.575 | 13.72 | 14.61 |
| H | 0.025 | 0.035 | 0.64 | 0.89 |
| J | 0.195 | 0.205 | 4.95 | 5.21 |
| K | 0.095 | 0.105 | 2.41 | 2.67 |
| L | 0.060 | 0.075 | 1.52 | 1.91 |
| M | 0.085 | 0.095 | 2.16 | 2.41 |
| N | 0.018 | 0.024 | 0.46 | 0.61 |
| O | 0.178 | 0.188 | 4.52 | 4.78 |
| P | 0.045 | 0.060 | 1.14 | 1.52 |
| R | 0.038 | 0.048 | 0.97 | 1.22 |

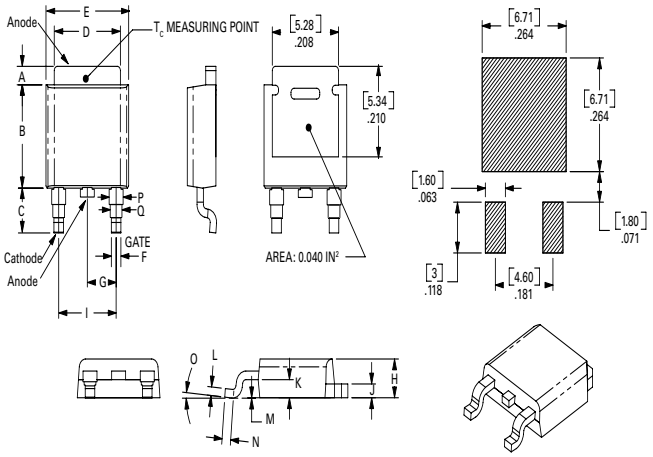

Revised: 01/16/18

## Dimensions — TO-251AA (V/I-Package) — V/I-PAK Through Hole




| Dimension | Inches | | | Millimeters | | |
|---|---|---|---|---|---|---|
| | Min | Typ | Max | Min | Typ | Max |
| A | 0.037 | 0.040 | 0.043 | 0.94 | 1.01 | 1.09 |
| B | 0.235 | 0.242 | 0.245 | 5.97 | 6.15 | 6.22 |
| C | 0.350 | 0.361 | 0.375 | 8.89 | 9.18 | 9.53 |
| D | 0.205 | 0.208 | 0.213 | 5.21 | 5.29 | 5.41 |
| E | 0.255 | 0.262 | 0.265 | 6.48 | 6.66 | 6.73 |
| F | 0.027 | 0.031 | 0.033 | 0.69 | 0.80 | 0.84 |
| G | 0.087 | 0.090 | 0.093 | 2.21 | 2.28 | 2.36 |
| H | 0.085 | 0.092 | 0.095 | 2.16 | 2.34 | 2.41 |
| I | 0.176 | 0.180 | 0.184 | 4.47 | 4.57 | 4.67 |
| J | 0.018 | 0.020 | 0.023 | 0.46 | 0.51 | 0.58 |
| K | 0.035 | 0.037 | 0.039 | 0.90 | 0.95 | 1.00 |
| L | 0.018 | 0.020 | 0.023 | 0.46 | 0.52 | 0.58 |
| P | 0.042 | 0.047 | 0.052 | 1.06 | 1.20 | 1.32 |
| Q | 0.034 | 0.039 | 0.044 | 0.86 | 1.00 | 1.11 |
| R | 0.034 | 0.039 | 0.044 | 0.86 | 1.00 | 1.11 |
| S | 0.074 | 0.079 | 0.084 | 1.86 | 2.00 | 2.11 |

## Dimensions — TO-252AA (D-Package) — D-PAK Surface Mount




| Dimension | Inches | | | Millimeters | | |
|---|---|---|---|---|---|---|
| | Min | Typ | Max | Min | Typ | Max |
| A | 0.037 | 0.040 | 0.043 | 0.94 | 1.01 | 1.09 |
| B | 0.235 | 0.243 | 0.245 | 5.97 | 6.16 | 6.22 |
| C | 0.106 | 0.108 | 0.113 | 2.69 | 2.74 | 2.87 |
| D | 0.205 | 0.208 | 0.213 | 5.21 | 5.29 | 5.41 |
| E | 0.255 | 0.262 | 0.265 | 6.48 | 6.65 | 6.73 |
| F | 0.027 | 0.031 | 0.033 | 0.69 | 0.80 | 0.84 |
| G | 0.087 | 0.090 | 0.093 | 2.21 | 2.28 | 2.36 |
| H | 0.085 | 0.092 | 0.095 | 2.16 | 2.33 | 2.41 |
| I | 0.176 | 0.179 | 0.184 | 4.47 | 4.55 | 4.67 |
| J | 0.018 | 0.020 | 0.023 | 0.46 | 0.51 | 0.58 |
| K | 0.035 | 0.037 | 0.039 | 0.90 | 0.95 | 1.00 |
| L | 0.018 | 0.020 | 0.023 | 0.46 | 0.51 | 0.58 |
| M | 0.000 | 0.000 | 0.004 | 0.00 | 0.00 | 0.10 |
| N | 0.021 | 0.026 | 0.027 | 0.53 | 0.67 | 0.69 |
| O | 0° | 0° | 5° | 0° | 0° | 5° |
| P | 0.042 | 0.047 | 0.052 | 1.06 | 1.20 | 1.32 |
| Q | 0.034 | 0.039 | 0.044 | 0.86 | 1.00 | 1.11 |


Revised: 01/16/18

# Thyristors

## 8 Amp Sensitive & Standard SCRs

### Product Selector

| Part Number | Voltage | | | | Gate Sensitivity | Type | Package |
|---|---|---|---|---|---|---|---|
| | 400V | 600V | 800V | 1000V | | | |
| Sxx08RS2 | X | X | | | 0.2mA | Sensitive SCR | TO-220R |
| Sxx08LS2 | X | X | | | 0.2mA | Sensitive SCR | TO-220L |
| Sxx08VS2 | X | X | | | 0.2mA | Sensitive SCR | TO-251 |
| Sxx08DS2 | X | X | | | 0.2mA | Sensitive SCR | TO-252 |
| Sxx08RS3 | X | X | | | 0.5mA | Sensitive SCR | TO-220R |
| Sxx08LS3 | X | X | | | 0.5mA | Sensitive SCR | TO-220L |
| Sxx08VS3 | X | X | | | 0.5mA | Sensitive SCR | TO-251 |
| Sxx08DS3 | X | X | | | 0.5mA | Sensitive SCR | TO-252 |
| Sxx08R | X | X | X | X | 15mA | Standard SCR | TO-220R |
| Sxx08L | X | X | X | X | 15mA | Standard SCR | TO-220L |
| Sxx08V | X | X | X | X | 15mA | Standard SCR | TO-251 |
| Sxx08D | X | X | X | X | 15mA | Standard SCR | TO-252 |
| Sxx08NS2 | X | X | | | 0.2mA | Sensitive SCR | TO-263 |
| Sxx08NS3 | X | X | | | 0.5mA | Sensitive SCR | TO-263 |
| Sxx08N | X | X | X | X | 15mA | Standard SCR | TO-263 |
| Sxx08DS1 | | X | | | 50µA | Sensitive SCR | TO-252 |
| Sxx08DS4 | | X | | | 100µA | Sensitive SCR | TO-252 |

Note: xx = Voltage/10

### Packing Options

| Part Number | Marking | Weight | Packing Mode | Base Quantity |
|---|---|---|---|---|
| Sxx08L/RyyTP | Sxx08L/Ryy | 2.2 g | Tube | 500 (50 per tube) |
| Sxx08DyyTP | Sxx08Dyy | 0.3 g | Tube | 750 (75 per tube) |
| Sxx08DyyRP | Sxx08Dyy | 0.3 g | Embossed Carrier | 2500 |
| Sxx08VyyTP | Sxx08Vyy | 0.4 g | Tube | 750 (75 per tube) |
| Sxx08L/RTP | Sxx08L/R | 2.2 g | Tube | 500 (50 per tube) |
| Sxx08DTP | Sxx08D | 0.3 g | Tube | 750 (75 per tube) |
| Sxx08DRP | Sxx08D | 0.3 g | Embossed Carrier | 2500 |
| Sxx08NyyTP | Sxx08Nyy | 1.6g | Tube | 500 (50 per tube) |
| Sxx08NyyRP | Sxx08Nyy | 1.6g | Embossed Carrier | 500 |
| Sxx08VyyNTP | Sxx08N | 1.6g | Tube | 500 (50 per tube) |
| Sxx08NTP | Sxx08N | 1.6g | Embossed Carrier | 500 |
| Sxx08NRP | Sxx08V | 0.4 g | Tube | 750 (75 per tube) |

Note: xx = Voltage/10; yy = Sensitivity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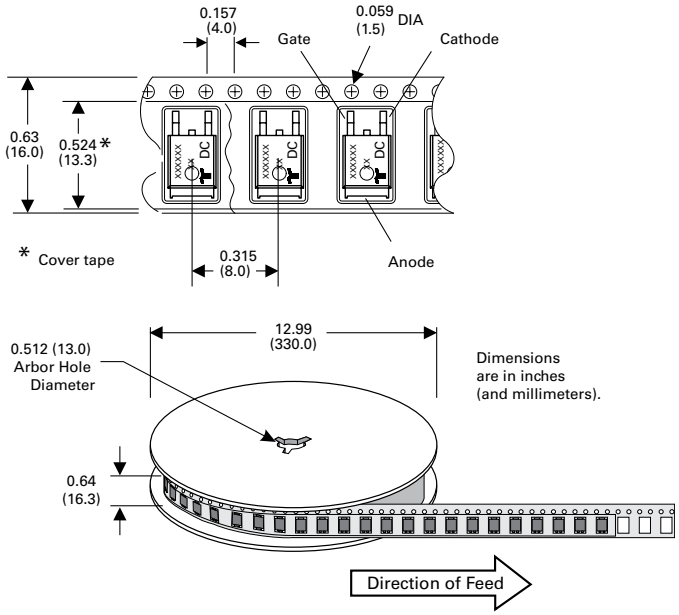
## TO-252 Embossed Carrier Reel Pack (RP) Specifications

### Meets all EIA-481-2 Standards




## Part Numbering System

S 60 08 L S2 56

COMPONENT TYPE
S: SCR

**VOLTAGE RATING**
40: 400V
60: 600V
80: 800V
K0: 1000V

**CURRENT RATING**
08: 8A

**PACKAGE TYPE**
L: TO-220 Isolated
R: TO-220 Non-Isolated
V: TO-251 (V/I-Pak)
D: TO-252 (D-Pak)
N: TO-263 ($D^2PAK$)

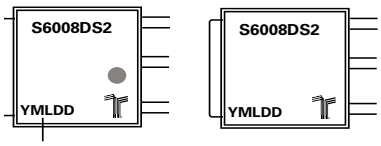
**SENSITIVITY & TYPE**

| Sensitive SCR: | Standard SCR: |
|---|---|
| S1: 50µA | {blank} 15mA |
| S2: 200µA | |
| S3: 500µA | |
| S4: 100µA | |

**LEAD FORM DIMENSIONS**
xx: Lead Form Option

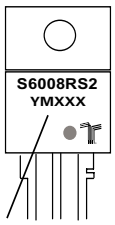
## Part Marking System

TO-251AA - (V Package)
TO-252AA - (D Package)




Date Code Marking
Y:Year Code
M: Month Code
L: Location Code
DD: Calendar Code

TO-263 AA (N Package)
TO-220 AB - (L and R Package)




Date Code Marking
Y:Year Code
M: Month Code
XXX: Lot Trace Code


Revised: 01/16/18

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Littelfuse:

S4008LS2TP S2008R S4008F1 S6008DS3RP S4008DS3RP S6008R67 SK008L S8008DRP S4008DS3TP S6008DRP S6008R67TP S4008DS2TP S6008VS3TP S8008V S6008L65 S4008VS2TP S4008VTP S6008RS3 S6008R_ S8008VTP S4008LS2 S6008L56 S2008VS2TP S6008V S2008DS3TP S6008R S2008VTP S6008L53 S4008VS3 S6008DS3TP S2008LS3 S6008L S6008FS21 S4008DS2RP S4008DRP S8008R S4008R S6008LS2 S8008L S4008V SK008DTP SK008R S2008DS3RP S4008LS2_ S6008L_ S6008L58 S2008F12 S2008R55 S2008V S4008LS3 S6008LS3 S4008L S8008DTP S6008DTP S2008DS2RP S2008VS3TP S2008L S4008VS2 S6008VS3 SK008DRP S6008VS2TP S6008DS2RP S6008VTP SK008V S4008DTP S2008VS3 SK008VTP S6008LTP S6008VS2 S4008FS31 S2008DRP S6008DS2TP S2008DS2TP S2008VS2 S2008LS2 S6008LS2TP S4008RS2 S6008RS3TP SK008RTP SK008LTP S4008RS2TP S4008LTP S4008LS3TP S6008LS3TP S8008RTP S6008RTP S4008RTP S8008LTP S6008RS2TP S6008NS2TP S6008NS3TP S6008NTP S8008NTP S4008NS2TP S4008NS3TP S4008NTP S4008NS2RP S4008NRP S6008NRP S6008DS4RP