

DESCRIPTION

The SESMCxx is a standard capacitance transient voltage suppressor array, designed to protect applications such as portable electronics and SMART phones. It is rated at 350 Watts for an 8/20μs waveshape.

The SESMCxx meets IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements. At higher operating frequencies or faster edge rates, insertion loss and signal integrity are a major concern. The SESMCxx offers a low leakage current in a miniature SOT-23 package.

FEATURES

- >350 Watts Peak Pulse Power per Line (tp=8/20μs)
- >Ultra low leakage: uA level
- >Operating voltage: 3.3V,5V,8V,12V,15V,18V,24V,36V
- >Low clamping voltage
- >Weight: 8.0mg

APPLICATIONS

- >USB 2.0 power and data line
- >Set-top box and digital TV
- >Digital video interface (DVI)
- >Notebook Computers
- >SIM Ports
- >10/100 Ethernet

IEC COMPATIBILITY

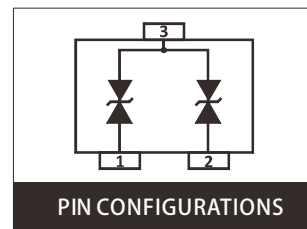
- >IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)-3.3~18V
- >IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)-24~36V
- >IEC61000-4-4 (EFT) 40A (5/50ns)
- >IEC61000-4-5 (Lightning) 24A (8/20μs)

MAXIMUM RATINGS @ 25° C UNLESS OTHERWISE SPECIFIED

| PARAMETER | SYMBOL | VALUE | UNIT |
|---------------------------------------|--------|--------------|-------|
| Peak Pulse Power (tp=8/20μs waveform) | PPP | 350 | Watts |
| Lead Soldering Temperature | TL | 260(10 sec.) | °C |
| Operating Temperature Range | TJ | -55~125 | °C |
| Storage Temperature Range | TSTG | -55~150 | °C |

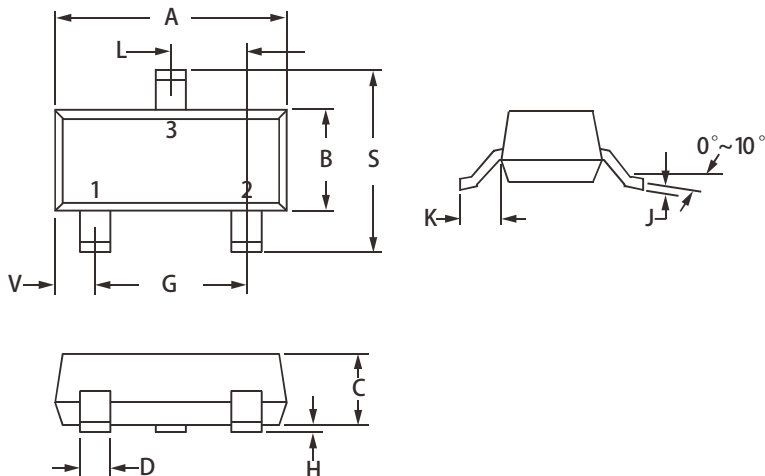
ELECTRICAL CHARACTERISTICS PER LINE @ 25° C UNLESS OTHERWISE SPECIFIED

| PART NUMBER | DEVICE MARKING | VRWM (V) Max. | VBR (V) Min. | IT (mA) | Vc @1A Max. | Vc | | Ir (uA) Max. | CT (pF) Typ. |
|-------------|----------------|---------------------|--------------------|------------|-------------------|------|------|--------------------|--------------------|
| | | | | | | Max. | @A | | |
| SESMC33 | C03 | 3.3 | 4.0 | 1 | 7.0 | 10.5 | 20.0 | 40 | 220 |
| SESMC05 | C05 | 5.0 | 6.0 | 1 | 9.8 | 18.0 | 17.0 | 10 | 150 |
| SESMC08 | C08 | 8.0 | 8.5 | 1 | 13.4 | 24.0 | 12.0 | 1 | 75 |
| SESMC12 | C12 | 12.0 | 13.3 | 1 | 19.0 | 32.0 | 11.0 | 1 | 65 |
| SESMC15 | C15 | 15.0 | 16.7 | 1 | 24.0 | 38.0 | 10.0 | 1 | 60 |
| SESMC18 | C18 | 18.0 | 20.0 | 1 | 29.0 | 45.0 | 9.0 | 1 | 55 |
| SESMC24 | C24 | 24.0 | 26.7 | 1 | 43.0 | 52.0 | 7.0 | 1 | 40 |
| SESMC36 | C36 | 36.0 | 40.0 | 1 | 60.0 | 75.0 | 5.0 | 1 | 15 |



SOT-23 PACKAGE INFORMATION

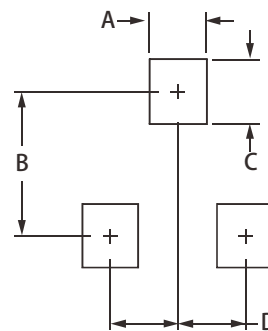
| OUTLINE DIMENSIONS | | | | |
|--------------------|-------------|-------|--------|-------|
| DIM | MILLIMETERS | | INCHES | |
| | MIN | MAX | MIN | MAX |
| A | 2.80 | 3.04 | 0.110 | 0.120 |
| B | 1.20 | 1.40 | 0.047 | 0.055 |
| C | 0.89 | 1.11 | 0.035 | 0.044 |
| D | 0.37 | 0.50 | 0.015 | 0.020 |
| G | 1.78 | 2.04 | 0.070 | 0.081 |
| H | 0.013 | 0.100 | 0.001 | 0.004 |
| J | 0.085 | 0.177 | 0.003 | 0.007 |
| K | 0.45 | 0.60 | 0.018 | 0.024 |
| L | 0.89 | 1.02 | 0.035 | 0.040 |
| S | 2.10 | 2.50 | 0.083 | 0.098 |
| V | 0.45 | 0.60 | 0.018 | 0.024 |



NOTES

- Controlling dimension: inches.
- Dimensions are exclusive of mold flash and metal burrs.

| PAD LAYOUT DIMENSIONS | | | | |
|-----------------------|-------------|------|--------|-------|
| DIM | MILLIMETERS | | INCHES | |
| | MIN | MAX | MIN | MAX |
| A | 0.71 | 0.97 | 0.028 | 0.038 |
| B | 1.88 | 2.13 | 0.074 | 0.084 |
| C | 0.71 | 0.97 | 0.028 | 0.038 |
| D | 0.81 | 1.07 | 0.032 | 0.042 |

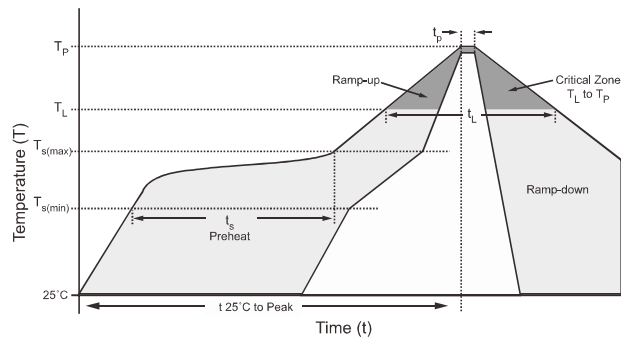


NOTES

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SOLDERING PARAMETERS

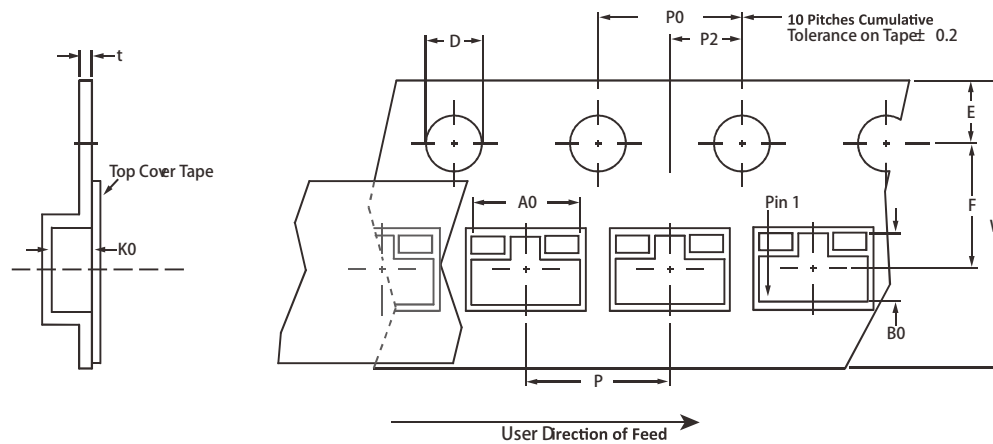
| Reflow Condition | | Lead-free assembly |
|---|-----------------------------|--------------------|
| Pre Heat | Temperature Min (Ts(min)) | 150°C |
| | Temperature Max (Ts(max)) | 200°C |
| | Time (min to max) (ts) | 60 – 180 secs |
| Average ramp up rate (Liquidus Temp (TL) to peak) | | 3°C/second max |
| Ts(max) to TL - Ramp-up Rate | | 3°C/second max |
| Reflow | Temperature (TL) (Liquidus) | 217°C |
| | Time (min to max) (ts) | 60 – 150 seconds |
| Peak Temperature (TP) | | 260°C |
| Time within 5°C of actual peak Temperature (tp) | | 20 – 40 seconds |
| Ramp-down Rate | | 6°C/second max |
| Time 25°C to peak Temperature (TP) | | 8 minutes Max. |
| Do not exceed | | 260°C |



ENVIRONMENTAL CHARACTERISTICS

| Testing Items | Technical Standards |
|-------------------------------------|--|
| High Temperature Reverse Bias Test | Temperature:150±3℃;Bias=80%V _{DRM} ;Time:168H |
| High Temperature Life Test | Temperature:150℃;Time:168H |
| High-Low Temperature Cycle Test | Temperature:From -40℃ to 150℃;Dwell Time:30min,10-100 Cycles |
| High Temperature&High Humidity Test | Temperature:85℃.Humidity:85%; Time:168H |
| Pressure Cooker Test | Temperature:121℃,2 atm.Humidity:100%; Time:24H To 168H |
| Resistance Of Soldering Heat | Temperature:260±5℃;Time Of Dip Soldering:10s,3 Times |

TAPE AND REEL



| SPECIFICATIONS | | | | | | | | | | | | |
|---|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------|
| REEL DIA. | TAPE WIDTH | A0 | B0 | K0 | D | E | F | W | P0 | P2 | P | tmax |
| 178mm (7") | 8mm | 3.15 ± 0.10 | 2.77 ± 0.10 | 1.30 ± 0.10 | 1.55 ± 0.10 | 1.75 ± 0.10 | 3.50 ± 0.05 | 8.00 ± 0.30 | 4.00 ± 0.10 | 2.00 ± 0.05 | 4.00 ± 0.10 | 0.228 |
| NOTES 1. Dimensions are in millimeters. 2. Surface mount product is taped and reeled in accordance with EIA-481. | | | | | | | | | | | | |

ORDERING INFORMATION

| Part Number | Component Package | QTY/Reel | Reel Size |
|-------------|-------------------|----------|-----------|
| SESMCXX | SOT-23 | 3000PCS | 7" |

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