

KCXXXCS Series 10KA Transient Voltage Suppressor

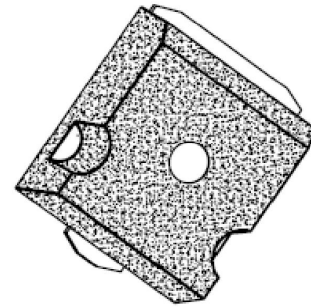
KCXXXCS Series

Description

The KCXXXCS series of high current bi-directional transient suppressors are designed for A.C.line protection and high power DC bus clamping applications.They provide a clamping voltage lower than the avalanche voltage.any voltage rise due to increased current conduction is contained to a minimum , Providing the best possible protection level.They can also be connected in series and/or parallel to create very high capacity protecyion solutions.

Description

- ◆ Halogen-free
- ◆ Bi-directional
- ◆ Low slope resistance
- ◆ Very low clamping voltage
- ◆ Sharp breakdown voltage
- ◆ RoHS compliant
- ◆ Glass passivated junction
- ◆ High power TVS with compact design in surface Mount package
plastic package has underwriters laboratory f lammability 94V-0P
- ◆ Ideal for automatic pick and place assembly and reflow process to reduce the manufacturing cost And increase the soldering quality compared to axial leads package



SMT0-218Tab



Bi-directional

Symbol

Absolute Maximum Ratings (T_A = 25°C RH=45%-75% nless otherwise specified)

| Parameter | Symbol | Value | Unit |
|--|------------------|-------------|------|
| Peak current rating per 8/20μs IEC 61000-4-5 | I _{PP} | 10 | KA |
| Operating junction temperature range | T _J | -55 to +125 | °C |
| Operating storage temperature range | T _{STG} | -55 to +150 | °C |

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Electrical Characteristics (T_A=25°C)

| Part Number | V _R | V _{BR@I_T} | | I _T | I _{R@V_R} | V _{C@I_{PP}} | I _{PP} ^① |
|-------------|----------------|-------------------------------|--------|----------------|------------------------------|-------------------------------|------------------------------|
| | | Min(V) | Max(V) | | | | |
| KC-036CS | 36 | 39 | 46 | 10 | 10 | 98 | 10000 |
| KC-058CS | 58 | 64 | 70 | 10 | 10 | 110 | 10000 |
| KC-066CS | 66 | 72 | 80 | 10 | 10 | 120 | 10000 |
| KC-076CS | 76 | 85 | 95 | 10 | 10 | 140 | 10000 |

① Surge waveform: 8/20μs

V_R: Stand-off voltage -- Maximum voltage that can be applied

V_{BR}: Breakdown voltage

V_C: Clamping voltage -- Peak voltage measured across the suppressor at a specified I_{PP}

I_R: Reverse leakage current

Ratings And V-I Characteristics (T_A = 25°C unless otherwise noted)

FIG.1: V- I curve characteristics (Bi-directional)

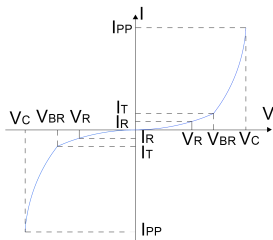


FIG.2: Typical V_{BR} vs. junction temperature

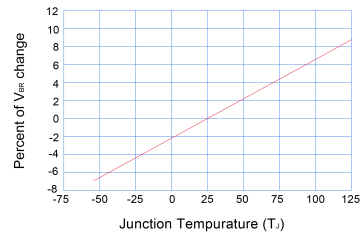


FIG.3: Pulse waveform

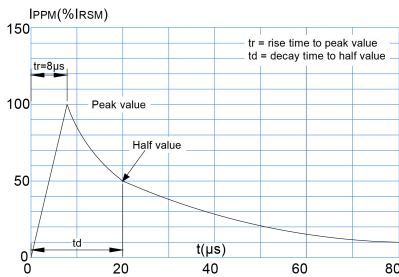
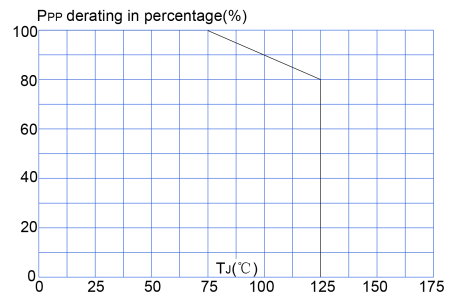


FIG.4: Pulse derating curve

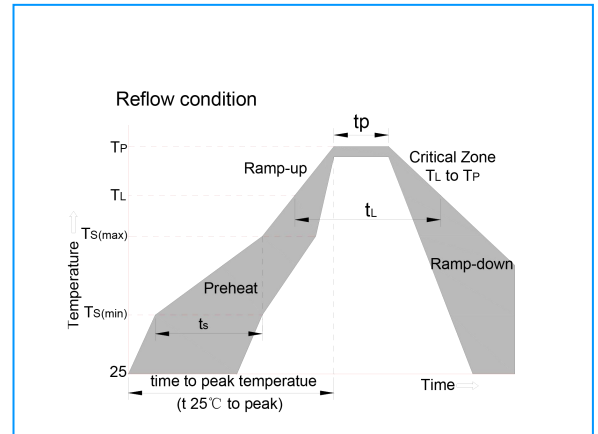


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Soldering Parameters

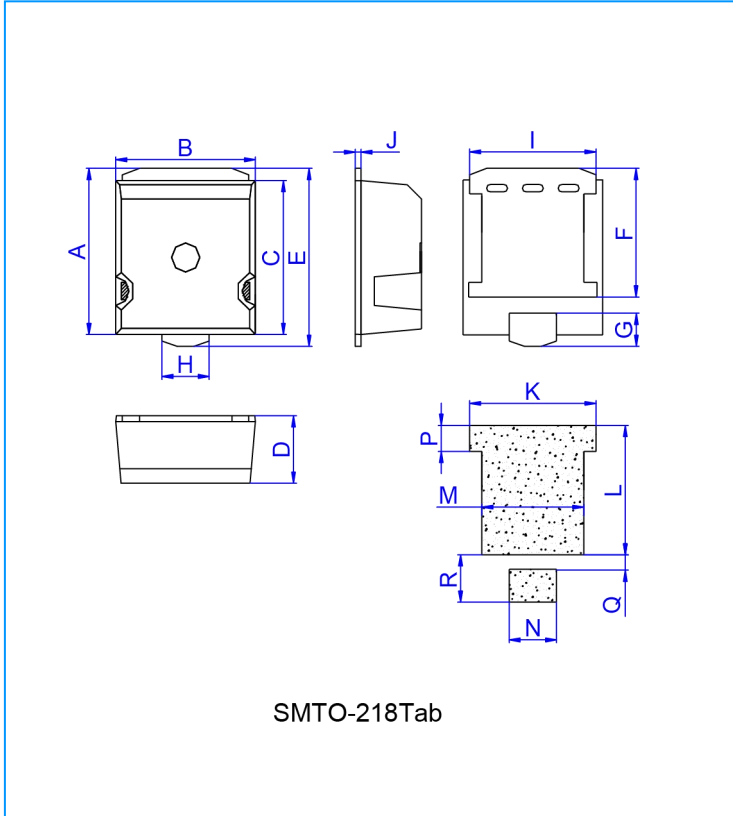
| Reflow Condition | | Pb-Free assembly (see figure at right) |
|--|-----------------------------------|---|
| Pre Heat | -Temperature Min ($T_{s(min)}$) | +150°C |
| | -Temperature Max($T_{s(max)}$) | +200°C |
| | -Time (Min to Max) (ts) | 60-180 secs. |
| Average ramp up rate (Liquidus Temp (T_L) to peak) | | 3°C/sec. Max |
| $T_{s(max)}$ to T_L - Ramp-up Rate | | 3°C/sec. Max |
| Reflow | -Temperature(T_L)(Liquidus) | +217°C |
| | -Temperature(t_L) | 60-150 secs. |
| Peak Temp (T_p) | | +260(+0/-5)°C |
| Time within 5°C of actual Peak Temp (t_p) | | 20-40secs. |
| Ramp-down Rate | | 6°C/sec. Max |
| Time 25°C to Peak Temp (T_p) | | 8 min. Max |
| Do not exceed | | +260°C |



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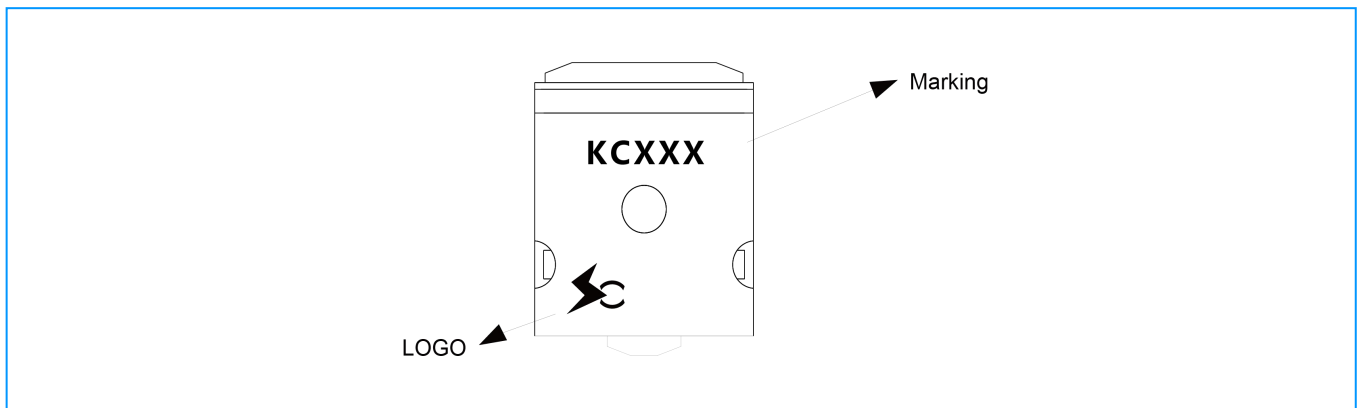
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Package Mechanical Data



| Ref. | Dimensions | | | | | |
|------|-------------|-------|-------|--------|-------|-------|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 17.00 | --- | 17.60 | 0.669 | --- | 0.693 |
| B | 14.50 | --- | 15.10 | 0.571 | --- | 0.594 |
| C | 15.75 | --- | 16.35 | 0.620 | --- | 0.644 |
| D | 6.85 | --- | 7.20 | 0.270 | --- | 0.283 |
| E | 18.20 | --- | 18.70 | 0.717 | --- | 0.736 |
| F | 13.10 | --- | 13.60 | 0.516 | --- | 0.535 |
| G | 3.15 | --- | 3.75 | 0.124 | --- | 0.148 |
| H | 4.85 | --- | 5.15 | 0.191 | --- | 0.203 |
| I | 13.20 | --- | 13.60 | 0.520 | --- | 0.535 |
| J | 0.50 | --- | 0.70 | 0.020 | --- | 0.028 |
| K | --- | 13.70 | --- | --- | 0.539 | --- |
| L | --- | 13.45 | --- | --- | 0.530 | --- |
| M | --- | 10.80 | --- | --- | 0.425 | --- |
| N | --- | 5.30 | --- | --- | 0.209 | --- |
| P | --- | 3.00 | --- | --- | 0.118 | --- |
| Q | --- | 1.50 | --- | --- | 0.059 | --- |
| R | --- | 4.90 | --- | --- | 0.193 | --- |

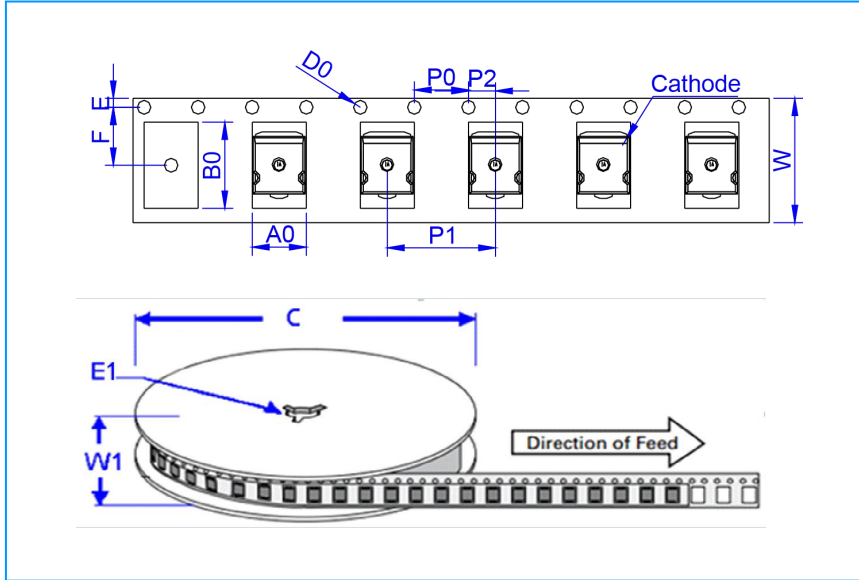
Marking



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Tape And Reel Specification-SMTO-218Tab



| Ref. | Dimensions | |
|------|-------------|---------------|
| | Millimeters | Inches |
| A0 | 15.1 ± 0.3 | 0.594 ± 0.012 |
| B0 | 18.8 ± 0.3 | 0.740 ± 0.012 |
| C | 330 | 13 |
| D0 | 1.50 ± 0.1 | 0.059 ± 0.004 |
| E | 1.75 ± 0.2 | 0.069 ± 0.008 |
| E1 | 13.30 ± 0.3 | 0.524 ± 0.012 |
| F | 14.20 ± 0.2 | 0.559 ± 0.008 |
| P0 | 4.0 ± 0.2 | 0.157 ± 0.008 |
| P1 | 20.0 ± 0.2 | 0.787 ± 0.008 |
| P2 | 2.0 ± 0.2 | 0.079 ± 0.008 |
| W | 32.0 ± 0.2 | 1.260 ± 0.008 |
| W1 | 36.0 ± 0.5 | 1.417 ± 0.020 |

Packageing

| OUTLINE | PACKAGE | UNIT WEIGHT (g/PCS) typ. | REEL (PCS) | REEL DIAMETERS (mm) |
|---------|---------|-----------------------------|---------------|------------------------|
| TAPING | KCXXXCS | 6.48 | 400 | 330 |