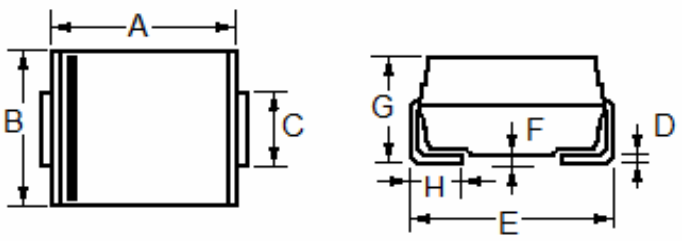
# KWSMBJ5.0---KWSMBJ440CA

**600W Surface Mount Transient Voltage Suppressors**

## Features

- ◆Working peak reverse voltage range – 5.0V to 440V
- ◆Peak power dissipation 400W @10 x 1000 us Pulse
- ◆Low profile package.
- ◆Excellent clamping capability.
- ◆Glass passivated junction.
- ◆Fast response time: typically less than 1 ns for Uni-direction. Less than 5 ns for Bi-direction, from 0 Volts to BV min
- ◆Typical IR less than 1uA above 10V.
- ◆Plastic material has UL flammability classification 94V-O
- ◆RoHS compliant in lead-free versions
- ◆**Moisture Sensitivity: Level 1 per J-STD-020**

## SMB




| Dim | Millimeters | | Inches | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 4.06 | 4.57 | 0.160 | 0.180 |
| B | 3.30 | 3.94 | 0.130 | 0.155 |
| C | 1.95 | 2.20 | 0.077 | 0.086 |
| D | 0.13 | 0.31 | 0.006 | 0.012 |
| E | 5.08 | 5.59 | 0.200 | 0.220 |
| F | ---- | 0.20 | ---- | 0.008 |
| G | 1.95 | 2.62 | 0.077 | 0.103 |
| H | 0.76 | 1.52 | 0.030 | 0.060 |

## Mechanical Characteristics

- ◆CASE: Void-free, JEDEC SMB Molded Plastic over glass passivated junction.
- ◆Mounting Position: Any
- ◆Polarity: by cathode band denotes uni-directional device, none cathode band denotes bi-directional device.
- ◆Terminal: Solder plated, solderable per MIL-STD-750, Method 2026

## Maximum Ratings And Characteristics@ 25°C Ambient Temperature (unless otherwise noted)

| Parameter | Symbol | Value | Units |
|---|---|---|---|
| Peak Pulse Power Dissipation on 10/1000 us Waveform (Note 1, 2, FIG.1) | $P_{PPM}$ | Min 600 | W |
| Peak Pulse Current of on 10/1000us Waveform (Note 1, FIG.3) | $I_{PPM}$ | See Table 1 | Amps |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load, (JEDEC Method) (Note 2. 3) | $I_{FSM}$ | 100 | Amps |
| Operating Junction Temperature Range | $T_J$ | -55 to 150 | °C |
| Storage Temperature Range | $T_{STG}$ | -55 to 150 | °C |

Notes:

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A$=25°C per Fig.2.
2. Mounted on 5.0mm$^2$ (0.03mm thick) Copper Pads to each terminal.
3. 8.3ms single half sine-wave,or equivalent square wave,Duty cycle=4 pluses per minute maximum.

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## Electrical Characteristics@ Tamb 25°C

| Type Number | | Marking | | Reverse Stand-Off Voltage | Breakdown Voltage Min. @$I_T$ | Breakdown Voltage Max. @ $I_T$ | Test Current | Maximum Clamping Voltage @$I_{PP}$ | Peak Pulse Current | Reverse Leakage @$V_{RMW}$ |
|---|---|---|---|---|---|---|---|---|---|---|
| Uni | Bi | Uni | Bi | $V_{RWM}$(V) | $V_{BR\ MIN}$(V) | $V_{BR\ MAX}$(V) | $I_T$(mA) | $V_C$(V) | $I_{PP}$(A) | $I_R$ .(uA) |
| KWSMBJ5.0 | KWSMBJ5.0C | KD | AD | 5.0 | 6.40 | 7.55 | 10 | 9.6 | 62.5 | 800.0 |
| KWSMBJ5.0A | KWSMBJ5.0CA | KE | AE | 5.0 | 6.40 | 7.25 | 10 | 9.2 | 65.2 | 800.0 |
| KWSMBJ6.0 | KWSMBJ6.0C | KF | AF | 6.0 | 6.67 | 8.45 | 10 | 11.4 | 52.6 | 800.0 |
| KWSMBJ6.0A | KWSMBJ6.0CA | KG | AG | 6.0 | 6.67 | 7.67 | 10 | 10.3 | 58.3 | 800.0 |
| KWSMBJ6.5 | KWSMBJ6.5C | KH | AH | 6.5 | 7.22 | 9.14 | 10 | 12.3 | 48.8 | 500.0 |
| KWSMBJ6.5A | KWSMBJ6.5CA | KK | AK | 6.5 | 7.22 | 8.30 | 10 | 11.2 | 53.6 | 500.0 |
| KWSMBJ7.0 | KWSMBJ7.0C | KL | AL | 7.0 | 7.78 | 9.86 | 10 | 13.3 | 45.1 | 200.0 |
| KWSMBJ7.0A | KWSMBJ7.0CA | KM | AM | 7.0 | 7.78 | 8.95 | 10 | 12.0 | 50.0 | 200.0 |
| KWSMBJ7.5 | KWSMBJ7.5C | KN | AN | 7.5 | 8.33 | 10.67 | 1.0 | 14.3 | 42.0 | 100.0 |
| KWSMBJ7.5A | KWSMBJ7.5CA | KP | AP | 7.5 | 8.33 | 9.58 | 1.0 | 12.9 | 46.5 | 100.0 |
| KWSMBJ8.0 | KWSMBJ8.0C | KQ | AQ | 8.0 | 8.89 | 11.3 | 1.0 | 15.0 | 40.0 | 50.0 |
| KWSMBJ8.0A | KWSMBJ8.0CA | KR | AR | 8.0 | 8.89 | 10.23 | 1.0 | 13.6 | 44.1 | 50.0 |
| KWSMBJ8.5 | KWSMBJ8.5C | KS | AS | 8.5 | 9.44 | 11.92 | 1.0 | 15.9 | 37.7 | 20.0 |
| KWSMBJ8.5A | KWSMBJ8.5CA | KT | AT | 8.5 | 9.44 | 10.82 | 1.0 | 14.4 | 41.7 | 20.0 |
| KWSMBJ9.0 | KWSMBJ9.0C | KU | AU | 9.0 | 10.0 | 12.6 | 1.0 | 16.9 | 35.5 | 10.0 |
| KWSMBJ9.0A | KWSMBJ9.0CA | KV | AV | 9.0 | 10.0 | 11.5 | 1.0 | 15.4 | 39.0 | 10.0 |
| KWSMBJ10 | KWSMBJ10C | KW | AW | 10 | 11.1 | 14.1 | 1.0 | 18.8 | 31.9 | 5.0 |
| KWSMBJ10A | KWSMBJ10CA | KX | AX | 10 | 11.1 | 12.8 | 1.0 | 17.0 | 35.3 | 5.0 |
| KWSMBJ11 | KWSMBJ11C | KY | AY | 11 | 12.2 | 15.4 | 1.0 | 20.1 | 29.9 | 5.0 |
| KWSMBJ11A | KWSMBJ11CA | KZ | AZ | 11 | 12.2 | 14.0 | 1.0 | 18.2 | 33.0 | 5.0 |
| KWSMBJ12 | KWSMBJ12C | LD | BD | 12 | 13.3 | 16.9 | 1.0 | 22.0 | 27.3 | 5.0 |
| KWSMBJ12A | KWSMBJ12CA | LE | BE | 12 | 13.3 | 15.3 | 1.0 | 19.9 | 30.2 | 5.0 |
| KWSMBJ13 | KWSMBJ13C | LF | BF | 13 | 14.4 | 18.2 | 1.0 | 23.8 | 25.2 | 5.0 |
| KWSMBJ13A | KWSMBJ13CA | LG | BG | 13 | 14.4 | 16.5 | 1.0 | 21.5 | 27.9 | 5.0 |
| KWSMBJ14 | KWSMBJ14C | LH | BH | 14 | 15.6 | 19.8 | 1.0 | 25.8 | 23.3 | 5.0 |
| KWSMBJ14A | KWSMBJ14CA | LK | BK | 14 | 15.6 | 17.9 | 1.0 | 23.2 | 25.9 | 5.0 |
| KWSMBJ15 | KWSMBJ15C | LL | BL | 15 | 16.7 | 21.1 | 1.0 | 26.9 | 22.3 | 5.0 |
| KWSMBJ15A | KWSMBJ15CA | LM | BM | 15 | 16.7 | 19.2 | 1.0 | 24.4 | 24.6 | 5.0 |
| KWSMBJ16 | KWSMBJ16C | LN | BN | 16 | 17.8 | 22.6 | 1.0 | 28.8 | 20.8 | 5.0 |
| KWSMBJ16A | KWSMBJ16CA | LP | BP | 16 | 17.8 | 20.5 | 1.0 | 26.0 | 23.1 | 5.0 |
| KWSMBJ17 | KWSMBJ17C | LQ | BQ | 17 | 18.9 | 23.9 | 1.0 | 30.5 | 19.7 | 5.0 |
| KWSMBJ17A | KWSMBJ17CA | LR | BR | 17 | 18.9 | 21.7 | 1.0 | 27.6 | 21.7 | 5.0 |
| KWSMBJ18 | KWSMBJ18C | LS | BS | 18 | 20.0 | 25.3 | 1.0 | 32.2 | 18.6 | 5.0 |
| KWSMBJ18A | KWSMBJ18CA | LT | BT | 18 | 20.0 | 23.3 | 1.0 | 29.2 | 20.5 | 5.0 |
| KWSMBJ20 | KWSMBJ20C | LU | BU | 20 | 22.2 | 28.1 | 1.0 | 35.8 | 16.8 | 5.0 |
| KWSMBJ20A | KWSMBJ20CA | LV | BV | 20 | 22.2 | 25.5 | 1.0 | 32.4 | 18.5 | 5.0 |

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| Type Number | | Marking | | Reverse Stand-Off Voltage | Breakdown Voltage Min. @$I_T$ | Breakdown Voltage Max. @ $I_T$ | Test Current | Maximum Clamping Voltage @$I_{PP}$ | Peak Pulse Current | Reverse Leakage @$V_{RMW}$ |
|---|---|---|---|---|---|---|---|---|---|---|
| Uni | Bi | Uni | Bi | $V_{RWM}$(V) | $V_{BR\ MIN.}$(V) | $V_{BR\ MAX}$(V) | $I_{T.}$(mA) | $V_{C.}$(V) | $I_{PP.}$(A) | $I_{R.}$(uA) |
| KWSMBJ22 | KWSMBJ22C | LW | BW | 22 | 24.4 | 30.9 | 1.0 | 39.4 | 15.2 | 5.0 |
| KWSMBJ22A | KWSMBJ22CA | LX | BX | 22 | 24.4 | 28.0 | 1.0 | 35.5 | 16.9 | 5.0 |
| KWSMBJ24 | KWSMBJ24C | LY | BY | 24 | 26.7 | 33.8 | 1.0 | 43.0 | 14.0 | 5.0 |
| KWSMBJ24A | KWSMBJ24CA | LZ | BZ | 24 | 26.7 | 30.7 | 1.0 | 38.9 | 15.4 | 5.0 |
| KWSMBJ26 | KWSMBJ26C | MD | CD | 26 | 28.9 | 36.6 | 1.0 | 46.6 | 12.9 | 5.0 |
| KWSMBJ26A | KWSMBJ26CA | ME | CE | 26 | 28.9 | 33.2 | 1.0 | 42.1 | 14.3 | 5.0 |
| KWSMBJ28 | KWSMBJ28C | MF | CF | 28 | 31.1 | 39.4 | 1.0 | 50.0 | 12.0 | 5.0 |
| KWSMBJ28A | KWSMBJ28CA | MG | CG | 28 | 31.1 | 35.8 | 1.0 | 45.4 | 13.2 | 5.0 |
| KWSMBJ30 | KWSMBJ30C | MH | CH | 30 | 33.3 | 42.2 | 1.0 | 53.5 | 11.2 | 5.0 |
| KWSMBJ30A | KWSMBJ30CA | MK | CK | 30 | 33.3 | 38.3 | 1.0 | 48.4 | 12.4 | 5.0 |
| KWSMBJ33 | KWSMBJ33C | ML | CL | 33 | 36.7 | 46.5 | 1.0 | 59.0 | 10.2 | 5.0 |
| KWSMBJ33A | KWSMBJ33CA | MM | CM | 33 | 36.7 | 42.2 | 1.0 | 53.3 | 11.3 | 5.0 |
| KWSMBJ36 | KWSMBJ36C | MN | CN | 36 | 40.0 | 50.7 | 1.0 | 64.3 | 9.3 | 5.0 |
| KWSMBJ36A | KWSMBJ36CA | MP | CP | 36 | 40.0 | 44.2 | 1.0 | 58.1 | 10.3 | 5.0 |
| KWSMBJ40 | KWSMBJ40C | MQ | CQ | 40 | 44.4 | 56.3 | 1.0 | 71.4 | 8.4 | 5.0 |
| KWSMBJ40A | KWSMBJ40CA | MR | CR | 40 | 44.4 | 51.1 | 1.0 | 64.5 | 9.3 | 5.0 |
| KWSMBJ43 | KWSMBJ43C | MS | CS | 43 | 47.8 | 60.5 | 1.0 | 76.7 | 7.8 | 5.0 |
| KWSMBJ43A | KWSMBJ43CA | MT | CT | 43 | 47.8 | 54.9 | 1.0 | 69.4 | 8.6 | 5.0 |
| KWSMBJ45 | KWSMBJ45C | MU | CU | 45 | 50.0 | 63.3 | 1.0 | 80.3 | 7.5 | 5.0 |
| KWSMBJ45A | KWSMBJ45CA | MV | CV | 45 | 50.0 | 57.5 | 1.0 | 72.7 | 8.3 | 5.0 |
| KWSMBJ48 | KWSMBJ48C | MW | CW | 48 | 53.3 | 67.5 | 1.0 | 85.5 | 7.0 | 5.0 |
| KWSMBJ48A | KWSMBJ48CA | MX | CX | 48 | 53.3 | 61.3 | 1.0 | 77.4 | 7.8 | 5.0 |
| KWSMBJ51 | KWSMBJ51C | MY | CY | 51 | 56.7 | 71.8 | 1.0 | 91.1 | 6.6 | 5.0 |
| KWSMBJ51A | KWSMBJ51CA | MZ | CZ | 51 | 56.7 | 65.2 | 1.0 | 82.4 | 7.3 | 5.0 |
| KWSMBJ54 | KWSMBJ54C | ND | DD | 54 | 60.0 | 76.0 | 1.0 | 96.3 | 6.2 | 5.0 |
| KWSMBJ54A | KWSMBJ54CA | NE | DE | 54 | 60.0 | 69.0 | 1.0 | 87.1 | 6.9 | 5.0 |
| KWSMBJ58 | KWSMBJ58C | NF | DF | 58 | 64.4 | 81.6 | 1.0 | 103 | 5.8 | 5.0 |
| KWSMBJ58A | KWSMBJ58CA | NG | DG | 58 | 64.4 | 74.1 | 1.0 | 93.6 | 6.4 | 5.0 |
| KWSMBJ60 | KWSMBJ60C | NH | DH | 60 | 66.7 | 84.5 | 1.0 | 107 | 5.6 | 5.0 |
| KWSMBJ60A | KWSMBJ60CA | NK | DK | 60 | 66.7 | 76.7 | 1.0 | 96.8 | 6.2 | 5.0 |
| KWSMBJ64 | KWSMBJ64C | NL | DL | 64 | 71.1 | 90.1 | 1.0 | 114 | 5.3 | 5.0 |
| KWSMBJ64A | KWSMBJ64CA | NM | DM | 64 | 71.1 | 81.8 | 1.0 | 103 | 5.8 | 5.0 |
| KWSMBJ70 | KWSMBJ70C | NN | DN | 70 | 77.8 | 98.6 | 1.0 | 125 | 4.8 | 5.0 |
| KWSMBJ70A | KWSMBJ70CA | NP | DP | 70 | 77.8 | 89.5 | 1.0 | 113 | 5.3 | 5.0 |
| KWSMBJ75 | KWSMBJ75C | NQ | DQ | 75 | 83.0 | 105.7 | 1.0 | 134 | 4.5 | 5.0 |
| KWSMBJ75A | KWSMBJ75CA | NR | DR | 75 | 83.0 | 95.8 | 1.0 | 121 | 5.0 | 5.0 |
| KWSMBJ78 | KWSMBJ78C | NS | DS | 78 | 86.0 | 109.8 | 1.0 | 139 | 4.3 | 5.0 |
| KWSMBJ78A | KWSMBJ78CA | NT | DT | 78 | 86.0 | 99.7 | 1.0 | 126 | 4.8 | 5.0 |

※ For Bi-directional type having VRWM of 10 Volts and less, the IR limit is double

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| Type Number | | Marking | | Reverse Stand-Off Voltage | Breakdown Voltage Min. @$I_T$ | Breakdown Voltage Max. @ $I_T$ | Test Current | Maximum Clamping Voltage @$I_{PP}$ | Peak Pulse Current | Reverse Leakage @$V_{RMW}$ |
|---|---|---|---|---|---|---|---|---|---|---|
| Uni | Bi | Uni | Bi | $V_{RWM}$(V) | $V_{BR\ MIN}$(V) | $V_{BR\ MAX}$(V) | $I_T$ (mA) | $V_C$ (V) | $I_{PP}$(A) | $I_R$(uA) |
| KWSMBJ85 | KWSMBJ85C | NU | DU | 85 | 94.0 | 119.2 | 1.0 | 151 | 4.0 | 5.0 |
| KWSMBJ85A | KWSMBJ85CA | NV | DV | 85 | 94.0 | 108.2 | 1.0 | 137 | 4.4 | 5.0 |
| KWSMBJ90 | KWSMBJ90C | NW | DW | 90 | 100 | 126.5 | 1.0 | 160 | 3.8 | 5.0 |
| KWSMBJ90A | KWSMBJ90CA | NX | DX | 90 | 100 | 115.5 | 1.0 | 146 | 4.1 | 5.0 |
| KWSMBJ100 | KWSMBJ100C | NY | DY | 100 | 111 | 141.0 | 1.0 | 179 | 3.4 | 5.0 |
| KWSMBJ100A | KWSMBJ100CA | NZ | DZ | 100 | 111 | 128.0 | 1.0 | 162 | 3.7 | 5.0 |
| KWSMBJ110 | KWSMBJ110C | PD | ED | 110 | 122 | 154.5 | 1.0 | 196 | 3.1 | 5.0 |
| KWSMBJ110A | KWSMBJ110CA | PE | EE | 110 | 122 | 140.5 | 1.0 | 177 | 3.4 | 5.0 |
| KWSMBJ120 | KWSMBJ120C | PF | EF | 120 | 133 | 169.0 | 1.0 | 214 | 2.8 | 5.0 |
| KWSMBJ120A | KWSMBJ120CA | PG | EG | 120 | 133 | 153.0 | 1.0 | 193 | 3.1 | 5.0 |
| KWSMBJ130 | KWSMBJ130C | PH | EH | 130 | 144 | 182.5 | 1.0 | 231 | 2.6 | 5.0 |
| KWSMBJ130A | KWSMBJ130CA | PK | EK | 130 | 144 | 165.5 | 1.0 | 209 | 2.9 | 5.0 |
| KWSMBJ150 | KWSMBJ150C | PL | EL | 150 | 167 | 211.5 | 1.0 | 268 | 2.2 | 5.0 |
| KWSMBJ150A | KWSMBJ150CA | PM | EM | 150 | 167 | 192.5 | 1.0 | 243 | 2.5 | 5.0 |
| KWSMBJ160 | KWSMBJ160C | PN | EN | 160 | 178 | 226.0 | 1.0 | 287 | 2.1 | 5.0 |
| KWSMBJ160A | KWSMBJ160CA | PP | EP | 160 | 178 | 205.0 | 1.0 | 259 | 2.3 | 5.0 |
| KWSMBJ170 | KWSMBJ170C | PQ | EQ | 170 | 189 | 239.5 | 1.0 | 304 | 2.0 | 5.0 |
| KWSMBJ170A | KWSMBJ170CA | PR | ER | 170 | 189 | 217.5 | 1.0 | 275 | 2.2 | 5.0 |
| KWSMBJ180 | KWSMBJ180C | PS | ES | 180 | 200 | 253.8 | 1.0 | 321 | 1.9 | 5.0 |
| KWSMBJ180A | KWSMBJ180CA | PT | ET | 180 | 200 | 230.4 | 1.0 | 290 | 2.1 | 5.0 |
| KWSMBJ190 | KWSMBJ190C | PU | EU | 190 | 211 | 267.9 | 1.0 | 339 | 1.8 | 5.0 |
| KWSMBJ190A | KWSMBJ190CA | PV | EV | 190 | 211 | 243.2 | 1.0 | 306 | 2.0 | 5.0 |
| KWSMBJ200 | KWSMBJ200C | PW | EW | 200 | 222 | 282.0 | 1.0 | 356 | 1.7 | 5.0 |
| KWSMBJ200A | KWSMBJ200CA | PX | EX | 200 | 222 | 256.0 | 1.0 | 322 | 1.9 | 5.0 |
| KWSMBJ210 | KWSMBJ210C | PY | EY | 210 | 233 | 296.1 | 1.0 | 375 | 1.6 | 5.0 |
| KWSMBJ210A | KWSMBJ210CA | PZ | EZ | 210 | 233 | 268.8 | 1.0 | 339 | 1.8 | 5.0 |
| KWSMBJ220 | KWSMBJ220C | QD | FD | 220 | 244 | 310.2 | 1.0 | 392 | 1.5 | 5.0 |
| KWSMBJ220A | KWSMBJ220CA | QE | FE | 220 | 244 | 281.6 | 1.0 | 355 | 1.7 | 5.0 |
| KWSMBJ250 | KWSMBJ250C | QF | FF | 250 | 278 | 342.5 | 1.0 | 447 | 1.3 | 5.0 |
| KWSMBJ250A | KWSMBJ250CA | QG | FG | 250 | 278 | 309.0 | 1.0 | 403 | 1.5 | 5.0 |
| KWSMBJ300 | KWSMBJ300C | QH | FH | 300 | 333 | 411.0 | 1.0 | 535 | 1.1 | 5.0 |
| KWSMBJ300A | KWSMBJ300CA | QK | FK | 300 | 333 | 371.0 | 1.0 | 484 | 1.2 | 5.0 |
| KWSMBJ350 | KWSMBJ350C | QL | FL | 350 | 389 | 479.5 | 1.0 | 624 | 1.0 | 5.0 |
| KWSMBJ350A | KWSMBJ350CA | QM | FM | 350 | 389 | 432.0 | 1.0 | 565 | 1.1 | 5.0 |
| KWSMBJ400 | KWSMBJ400C | QN | FN | 400 | 444 | 548.0 | 1.0 | 687 | 0.9 | 5.0 |
| KWSMBJ400A | KWSMBJ400CA | QP | FP | 400 | 444 | 494.0 | 1.0 | 645 | 0.9 | 5.0 |
| KWSMBJ440 | KWSMBJ440C | QQ | FQ | 440 | 489 | 602.8 | 1.0 | 786 | 0.8 | 5.0 |
| KWSMBJ440A | KWSMBJ440CA | QR | FR | 440 | 489 | 543.0 | 1.0 | 710 | 0.8 | 5.0 |

※ For Bi-directional type having VRWM of 10 Volts and less, the IR limit is double

## Ratings and Characteristic Curves $T_A$=25°C unless otherwise noted

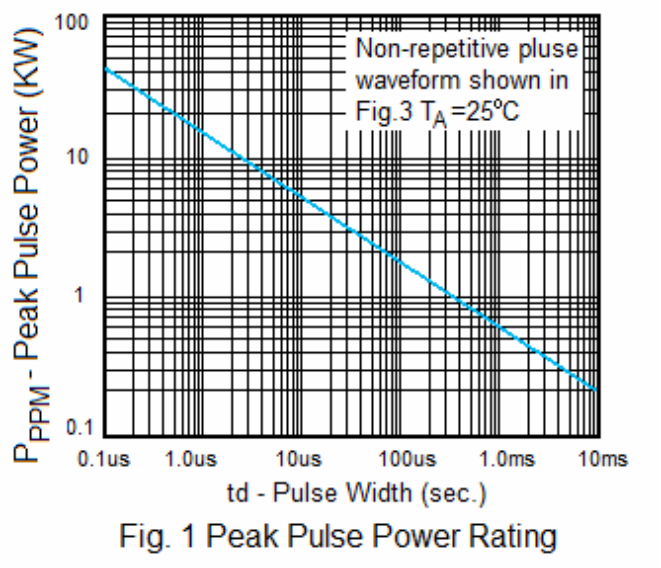



Fig. 1 Peak Pulse Power Rating

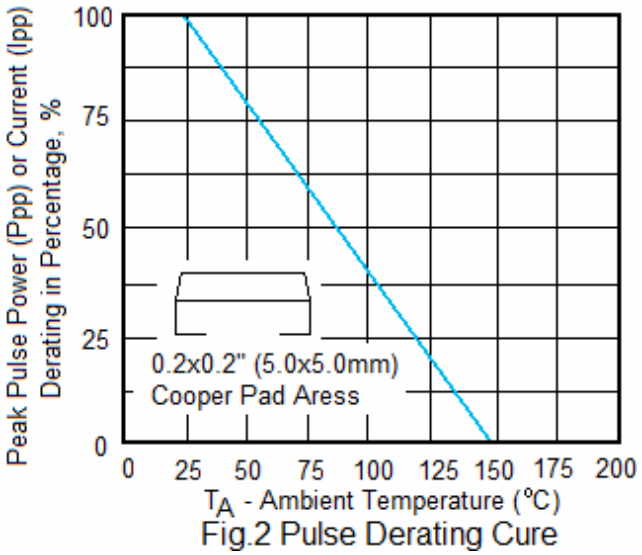



Fig.2 Pulse Derating Cure

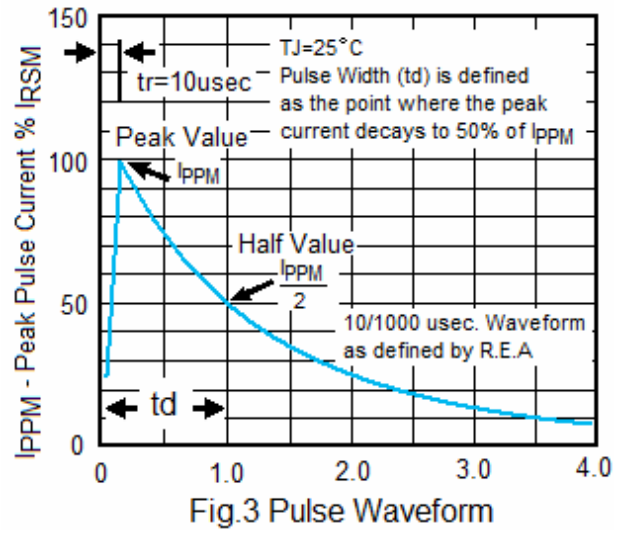



Fig.3 Pulse Waveform

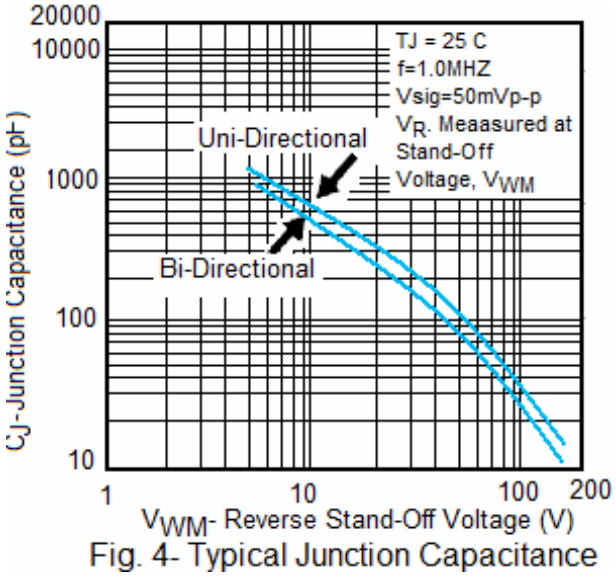
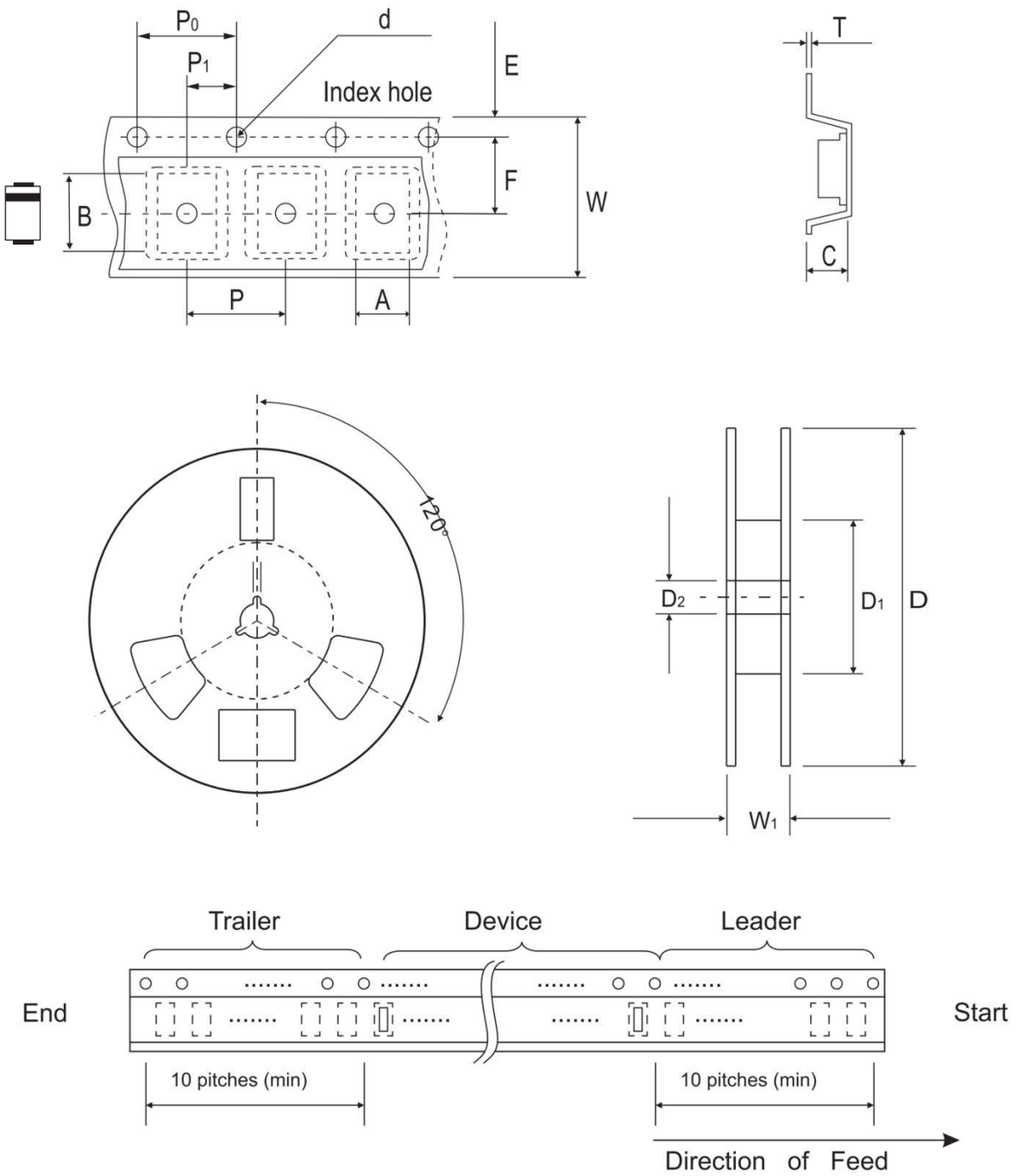



Fig. 4- Typical Junction Capacitance

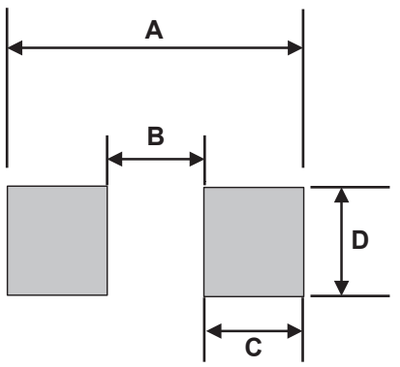
## Reel Taping Specification




| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| (SMBJ) | SYMBOL | A | B | C | d | D | D1 | D2 |
| | (mm) | 3.67 ± 0.10 | 5.69 ± 0.10 | 4.50 (max) | 1.55 ± 0.10 | 330 | 50.00 (min) | 13.00 ± 0.20 |
| | (inch) | 0.144 ± 0.004 | 0.224 ± 0.004 | 0.177 (max) | 0.061 ± 0.004 | 13 | 1.969 (min) | 0.512 ± 0.008 |
| | SYMBOL | E | F | P | P0 | P1 | W | W1 |
| | (mm) | 1.75 ± 0.10 | 5.50 ± 0.05 | 8.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.05 | 12.00 ± 0.30 | 18.40 (max) |
| | (inch) | 0.069 ± 0.004 | 0.217 ± 0.002 | 0.315 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.472 ± 0.012 | 0.724 (max) |

## Suggested PAD Layout

| SIZE | (SMB) | |
|---|---|---|
| | (mm) | (inch) |
| A | 5.60 | 0.220 |
| B | 2.16 MAX | 0.085 MAX |
| C | 1.52 MIN | 0.060 MIN |
| D | 2.18 MIN | 0.086 MIN |




## Ordering Information

| Part Number | Package | Weight | Base qty | Reel Size | Delivery mode |
|---|---|---|---|---|---|
| | | grams(approx.) | (pcs) | (inch) | |
| KWSMBJ5.0-KWSMBJ440CA | (SMB) | 0.108 | 3000 | 13 | Tape and reel |

## Marking Code

| Part Number |
|---|
| KWSMBJ5.0A(CA) Thru. KWSMBJ440A(CA) |
| Polarity Indicator: Cathode Band<br>(Note: Bi-directional devices have no polarity indicator.)<br><br>**KE: Marking Code**<br>**XXXX: Date Code** |