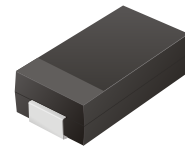


TV30C5V0 Thru TV30C171

Working Peak Reverse Voltage: 5.0 - 170 Volts
Power Dissipation: 3000 Watts

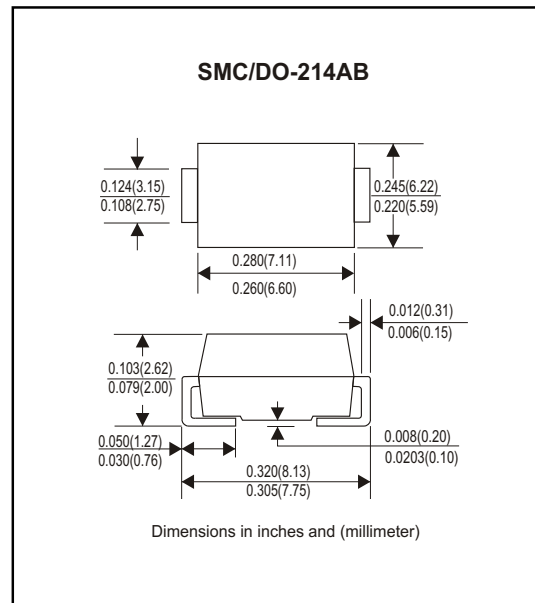


Features

- Ideal for surface mount applications
- Easy pick and place
- Plastic package has Underwriters Lab. flammability classification 94V-0
- Typical IR less than 1uA above 10V
- Fast reponse time: typically less 1nS for uni-direction, less than 5nS for bi-directiona, from 0 V to BV min.

Mechanical data

- Case: JEDEC DO-214AB molded plastic
- Terminals: solderable per MIL-STD-750, method 2026
- Polarity: Cathode band denoted
- Mounting position: Any
- Approx. Weight:0.21 gram



Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%

| Characteristics | Symbol | Value | Units |
|---|--------|-------------|-------|
| Peak Power Dissipation on 10/1000uS Waveform (Note 1, Fig. 1) | PPPM | 3000 | Watts |
| Peak Pulse Current of on 10/1000uS Waveform (Note 1, Fig. 3) | IPPM | See Table 1 | A |
| Steady State PowerDissipation at TL=75° C (Note2) | PM(AV) | 5.0 | Watts |
| Peak Forfard Surge Current, 8.3mS Single Half Sine-Wave Superimposed on Rated Load, Uni-Directional Only (Note 3) | IFSM | 250 | A |
| Maxinum Instantaneous Forward Voltage at 100A for Uni-Directional only (Note 3 & 4) | VF | 3.5/5.0 | Volts |
| Operation Junction Temperature Range | Tj | -55 to +150 | °C |
| Storage Temperature Range | TSTG | -55 to +150 | °C |

- Note: 1. Non-Repetitive Current Pulse, per Fig. 3 and Derated above TA=25° C, per Fig. 2.
2. Mounted on 8.0x8.0 mm². Copper Pads to Each Terminal.
3. Measured on 8.3 mS Single Half Sine-Wave or Equivalent Square Wave, Duty Cycle=4 Pulse per Minute Maximum.
4. VF=3.5V on TV30C5V0 thru TV30C900 Devices and VF=5.0V on TV30C101 thru TV30C171.

Rating and Characteristic Curves (TV30C5V0 Thru TV30C171)

Fig. 1 - Reverse Characteristics

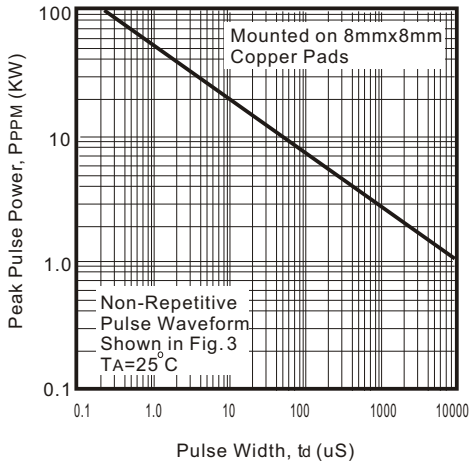


Fig. 2 - Pulse Derating Curve

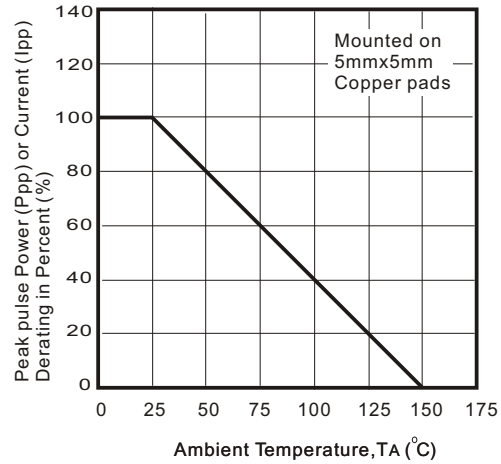


Fig. 3 - Pulse Waveform

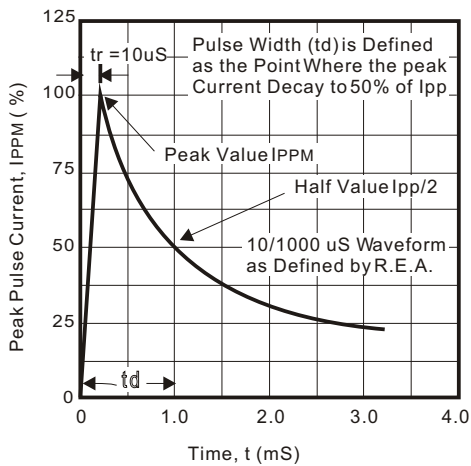


Fig. 4 - Typical Junction Capacitance

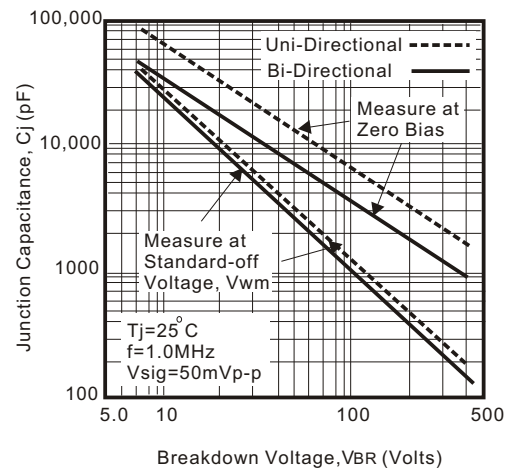


Fig. 5 - Steady State Power Derating Curve

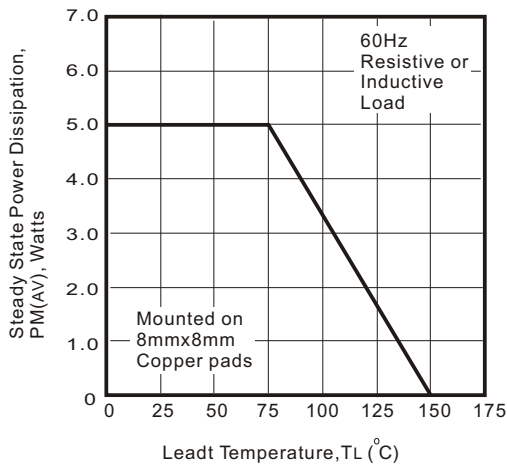


Fig. 6 - Maximum Non-Repetitive Peak Forward Surge Current (Uni-Directional Only)

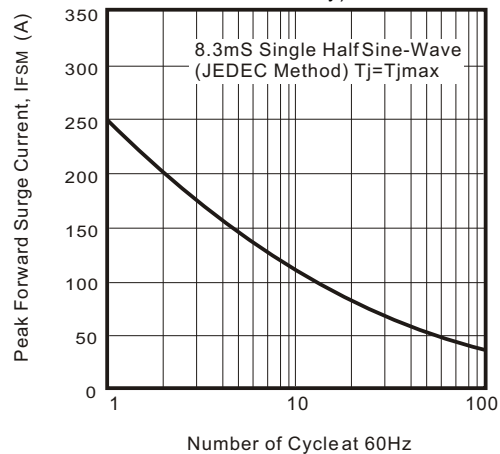


Table 1. Specification

| Part No. | Absolute Maximum Rating (Ta=25°C) | | | | | Electrical Characteristics (Ta=25°C) | | | | |
|--------------|-------------------------------------|------------------|------------------|--------------|----------------------|--|--------|--------------------|--------------|-----|
| | VRWM (V) | VBR Min (V) | VBR Max (V) | IT (mA) | IFSM (A) @8.3ms | Max Vc | | IR @VRWM (uA) | Marking Code | |
| | | | | | | (V) | Ipp(A) | | UNI | BI |
| TV30C5V0K(B) | 5.00 | 6.40 | 7.55 | 10 | 250 | 9.6 | 312.5 | 1000 | HDD | IDD |
| TV30C5V0J(B) | 5.00 | 6.40 | 7.25 | 10 | 250 | 9.2 | 326.0 | 1000 | HDE | IDE |
| TV30C6V0K(B) | 6.00 | 6.67 | 8.45 | 10 | 250 | 11.4 | 263.2 | 1000 | HDF | IDF |
| TV30C6V0J(B) | 6.00 | 6.67 | 7.67 | 10 | 250 | 10.3 | 291.3 | 1000 | HDG | IDG |
| TV30C6V5K(B) | 6.50 | 7.22 | 9.14 | 10 | 250 | 12.3 | 243.9 | 500 | HDH | IDH |
| TV30C6V5J(B) | 6.50 | 7.22 | 8.30 | 10 | 250 | 11.2 | 267.9 | 500 | HDK | IDK |
| TV30C7V0K(B) | 7.00 | 7.78 | 9.86 | 1 | 250 | 13.3 | 225.6 | 200 | HDL | IDL |
| TV30C7V0J(B) | 7.00 | 7.78 | 8.95 | 1 | 250 | 12.0 | 250.0 | 200 | HDM | IDM |
| TV30C7V5K(B) | 7.50 | 8.33 | 10.67 | 1 | 250 | 14.3 | 209.8 | 100 | HDN | IDN |
| TV30C7V5J(B) | 7.50 | 8.33 | 9.58 | 1 | 250 | 12.9 | 232.6 | 100 | HDP | IDP |
| TV30C8V0K(B) | 8.00 | 8.89 | 11.30 | 1 | 250 | 15.0 | 200.0 | 50 | HDQ | IDQ |
| TV30C8V0J(B) | 8.00 | 8.89 | 10.23 | 1 | 250 | 13.6 | 220.6 | 50 | HDR | IDR |
| TV30C8V5K(B) | 8.50 | 9.44 | 11.9 | 1 | 250 | 15.9 | 188.8 | 25 | HDS | IDS |
| TV30C8V5J(B) | 8.50 | 9.44 | 10.8 | 1 | 250 | 14.4 | 208.4 | 25 | HDT | IDT |
| TV30C9V0K(B) | 9.00 | 10.00 | 12.6 | 1 | 250 | 16.9 | 177.4 | 10 | HDU | IDU |
| TV30C9V0J(B) | 9.00 | 10.00 | 11.5 | 1 | 250 | 15.4 | 194.8 | 10 | HDV | IDV |
| TV30C100K(B) | 10.00 | 11.10 | 14.1 | 1 | 250 | 18.8 | 159.6 | 5 | HDW | IDW |
| TV30C100J(B) | 10.00 | 11.10 | 12.8 | 1 | 250 | 17.0 | 176.4 | 5 | HDX | IDX |
| TV30C110K(B) | 11.00 | 12.20 | 15.4 | 1 | 250 | 20.1 | 149.2 | 5 | HDY | IDY |
| TV30C110J(B) | 11.00 | 12.20 | 14.0 | 1 | 250 | 18.2 | 184.8 | 5 | HDZ | IDZ |
| TV30C120K(B) | 12.00 | 13.30 | 16.9 | 1 | 250 | 22.0 | 136.4 | 5 | HED | IED |
| TV30C120J(B) | 12.00 | 13.30 | 15.3 | 1 | 250 | 19.9 | 150.6 | 5 | HEE | IEE |
| TV30C130K(B) | 13.00 | 14.40 | 18.2 | 1 | 250 | 23.8 | 126.0 | 5 | HEF | IEF |
| TV30C130J(B) | 13.00 | 14.40 | 16.5 | 1 | 250 | 21.5 | 139.4 | 5 | HEG | IEG |
| TV30C140K(B) | 14.00 | 15.60 | 19.8 | 1 | 250 | 25.8 | 116.2 | 5 | HEH | IEH |
| TV30C140J(B) | 14.00 | 15.60 | 17.9 | 1 | 250 | 23.2 | 129.4 | 5 | HEK | IEK |
| TV30C150K(B) | 15.00 | 16.70 | 21.1 | 1 | 250 | 26.9 | 111.6 | 5 | HEL | IEL |
| TV30C150J(B) | 15.00 | 16.70 | 19.2 | 1 | 250 | 24.4 | 123.0 | 5 | HEM | IEM |
| TV30C160K(B) | 16.00 | 17.80 | 22.6 | 1 | 250 | 28.8 | 104.2 | 5 | HEN | IEN |
| TV30C160J(B) | 16.00 | 17.80 | 20.5 | 1 | 250 | 26.0 | 115.4 | 5 | HEP | IEP |
| TV30C170K(B) | 17.00 | 18.90 | 23.9 | 1 | 250 | 30.5 | 98.4 | 5 | HEQ | IEQ |
| TV30C170J(B) | 17.00 | 18.90 | 21.7 | 1 | 250 | 27.6 | 106.6 | 5 | HER | IER |
| TV30C180K(B) | 18.00 | 20.00 | 25.3 | 1 | 250 | 32.2 | 93.2 | 5 | HES | IES |
| TV30C180J(B) | 18.00 | 20.00 | 23.3 | 1 | 250 | 29.2 | 102.8 | 5 | HET | IET |
| TV30C200K(B) | 20.00 | 22.20 | 28.1 | 1 | 250 | 35.8 | 83.8 | 5 | HEU | IEU |
| TV30C200J(B) | 20.00 | 22.20 | 25.5 | 1 | 250 | 32.4 | 92.6 | 5 | HEV | IEV |
| TV30C220K(B) | 22.00 | 24.40 | 30.9 | 1 | 250 | 39.4 | 76.2 | 5 | HEW | IEW |
| TV30C220J(B) | 22.00 | 24.40 | 28.0 | 1 | 250 | 35.5 | 84.4 | 5 | HEX | IEX |
| TV30C240K(B) | 24.00 | 26.70 | 33.8 | 1 | 250 | 43.0 | 69.8 | 5 | HEY | IEY |
| TV30C240J(B) | 24.00 | 26.70 | 30.7 | 1 | 250 | 38.9 | 77.2 | 5 | HEZ | IEZ |
| TV30C260K(B) | 26.00 | 28.90 | 36.6 | 1 | 250 | 46.6 | 64.4 | 5 | HFD | IFD |
| TV30C260J(B) | 26.00 | 28.90 | 33.2 | 1 | 250 | 42.1 | 71.2 | 5 | HFE | IFE |
| TV30C280K(B) | 28.00 | 31.10 | 39.4 | 1 | 250 | 50.0 | 60.0 | 5 | HFF | IFF |
| TV30C280J(B) | 28.00 | 31.10 | 35.8 | 1 | 250 | 45.4 | 66.0 | 5 | HFG | IFG |
| TV30C300K(B) | 30.00 | 33.30 | 42.2 | 1 | 250 | 53.5 | 56.0 | 5 | HFH | IFH |
| TV30C300J(B) | 30.00 | 33.30 | 38.3 | 1 | 250 | 48.4 | 62.0 | 5 | HFK | IFK |
| TV30C330K(B) | 33.00 | 36.70 | 46.5 | 1 | 250 | 59.0 | 50.4 | 5 | HFL | IFL |
| TV30C330J(B) | 33.00 | 36.70 | 42.2 | 1 | 250 | 53.3 | 56.2 | 5 | HFM | IFM |
| TV30C360K(B) | 36.00 | 40.00 | 50.7 | 1 | 250 | 64.3 | 46.6 | 5 | HFN | IFN |
| TV30C360J(B) | 36.00 | 40.00 | 46.0 | 1 | 250 | 58.1 | 51.6 | 5 | HFP | IFP |
| TV30C400K(B) | 40.00 | 44.40 | 56.3 | 1 | 250 | 71.4 | 42.0 | 5 | HFQ | IFQ |
| TV30C400J(B) | 40.00 | 44.40 | 51.1 | 1 | 250 | 64.5 | 46.4 | 5 | HFR | IFR |
| TV30C430K(B) | 43.00 | 47.80 | 60.5 | 1 | 250 | 76.7 | 39.2 | 5 | HFS | IFS |
| TV30C430J(B) | 43.00 | 47.80 | 54.9 | 1 | 250 | 69.4 | 43.2 | 5 | HFT | IFT |
| TV30C450K(B) | 45.00 | 50.00 | 63.3 | 1 | 250 | 80.3 | 37.4 | 5 | HFU | IFU |
| TV30C450J(B) | 45.00 | 50.00 | 57.5 | 1 | 250 | 72.7 | 41.2 | 5 | HFV | IFV |

| Part No. | Absolute Maximum Rating (Ta=25°C) | | | | | Electrical Characteristics (Ta=25°C) | | | | |
|--------------|-------------------------------------|------------------|------------------|--------------|----------------------|--|--------|--------------------|--------------|-----|
| | VRWM (V) | VBR Min (V) | VBR Max (V) | IT (mA) | IFSM (A) @8.3mS | Max Vc | | IR @VRWM (uA) | Marking Code | |
| | | | | | | (V) | Ipp(A) | | UNI | BI |
| TV30C480K(B) | 48.00 | 53.30 | 67.5 | 1 | 250 | 85.5 | 35.0 | 5 | HFW | IFW |
| TV30C480J(B) | 48.00 | 53.30 | 61.3 | 1 | 250 | 77.4 | 38.8 | 5 | HFX | IFX |
| TV30C510K(B) | 51.00 | 56.70 | 71.8 | 1 | 250 | 91.1 | 37.0 | 5 | HFY | IFY |
| TV30C510J(B) | 51.00 | 56.70 | 65.2 | 1 | 250 | 82.4 | 36.4 | 5 | HFZ | IFZ |
| TV30C540K(B) | 54.00 | 60.00 | 76.0 | 1 | 250 | 96.3 | 31.2 | 5 | HGD | IGD |
| TV30C540J(B) | 54.00 | 60.00 | 69.0 | 1 | 250 | 87.1 | 34.4 | 5 | HGE | IGE |
| TV30C580K(B) | 58.00 | 64.40 | 81.6 | 1 | 250 | 103.0 | 39.2 | 5 | HGF | IGF |
| TV30C580J(B) | 58.00 | 64.40 | 74.1 | 1 | 250 | 93.6 | 32.0 | 5 | HGG | IGG |
| TV30C600K(B) | 60.00 | 66.70 | 84.5 | 1 | 250 | 107.0 | 28.0 | 5 | HGH | IGH |
| TV30C600J(B) | 60.00 | 66.70 | 76.7 | 1 | 250 | 96.8 | 31.0 | 5 | HGK | IGK |
| TV30C640K(B) | 64.00 | 71.10 | 90.1 | 1 | 250 | 114.0 | 26.4 | 5 | HGL | IGL |
| TV30C640J(B) | 64.00 | 71.10 | 81.8 | 1 | 250 | 103.0 | 29.2 | 5 | HGM | IGM |
| TV30C700K(B) | 70.00 | 77.80 | 98.6 | 1 | 250 | 125.0 | 24.0 | 5 | HGN | IGN |
| TV30C700J(B) | 70.00 | 77.80 | 89.5 | 1 | 250 | 113.0 | 26.6 | 5 | HGP | IGP |
| TV30C750K(B) | 75.00 | 83.30 | 105.7 | 1 | 250 | 134.0 | 22.4 | 5 | HGQ | IGQ |
| TV30C750J(B) | 75.00 | 83.30 | 95.8 | 1 | 250 | 121.0 | 24.8 | 5 | HGR | IGR |
| TV30C780K(B) | 78.00 | 86.70 | 109.8 | 1 | 250 | 139.0 | 21.6 | 5 | HGS | IGS |
| TV30C780J(B) | 78.00 | 86.70 | 99.7 | 1 | 250 | 126.0 | 22.8 | 5 | HGT | IGT |
| TV30C850K(B) | 85.00 | 94.40 | 119.2 | 1 | 250 | 151.0 | 19.8 | 5 | HGU | IGU |
| TV30C850J(B) | 85.00 | 94.40 | 108.2 | 1 | 250 | 137.0 | 20.8 | 5 | HGV | IGV |
| TV30C900K(B) | 90.00 | 100.00 | 126.5 | 1 | 250 | 160.0 | 18.8 | 5 | HGW | IGW |
| TV30C900J(B) | 90.00 | 100.00 | 115.5 | 1 | 250 | 146.0 | 20.6 | 5 | HGX | IGX |
| TV30C101K(B) | 100.00 | 111.00 | 141.0 | 1 | 250 | 179.0 | 16.6 | 5 | HGY | IGY |
| TV30C101J(B) | 100.00 | 111.00 | 128.0 | 1 | 250 | 162.0 | 18.6 | 5 | HGZ | IGZ |
| TV30C111K(B) | 110.00 | 122.00 | 154.5 | 1 | 250 | 196.0 | 15.4 | 5 | HHD | IHD |
| TV30C111J(B) | 110.00 | 122.00 | 140.5 | 1 | 250 | 177.0 | 16.8 | 5 | HHE | IHE |
| TV30C121K(B) | 120.00 | 133.00 | 169.0 | 1 | 250 | 214.0 | 14.0 | 5 | HHF | IHF |
| TV30C121J(B) | 120.00 | 133.00 | 153.0 | 1 | 250 | 193.0 | 15.6 | 5 | HHG | IHG |
| TV30C131K(B) | 130.00 | 144.00 | 182.5 | 1 | 250 | 231.0 | 13.0 | 5 | HHH | IHH |
| TV30C131J(B) | 130.00 | 144.00 | 165.5 | 1 | 250 | 209.0 | 14.4 | 5 | HHK | IHK |
| TV30C151K(B) | 150.00 | 167.00 | 211.5 | 1 | 250 | 268.0 | 11.2 | 5 | HHL | IHL |
| TV30C151J(B) | 150.00 | 167.00 | 192.5 | 1 | 250 | 243.0 | 12.4 | 5 | HHM | IHM |
| TV30C161K(B) | 160.00 | 178.00 | 226.0 | 1 | 250 | 287.0 | 10.4 | 5 | HHN | IHN |
| TV30C161J(B) | 160.00 | 178.00 | 205.0 | 1 | 250 | 259.0 | 11.6 | 5 | HHP | IHP |
| TV30C171K(B) | 170.00 | 189.00 | 239.5 | 1 | 250 | 304.0 | 9.8 | 5 | HHQ | IHQ |
| TV30C171J(B) | 170.00 | 189.00 | 217.5 | 1 | 250 | 275.0 | 11.0 | 5 | HHR | IHR |

Note:

- 1) Suffix K denotes 10% tolerance devices, suffix J denotes 5% tolerance devices.
- 2) Suffix B after part number to specify bi-directional devices.
- 3) For bi-directional devices having VR of 10 volts and under, the IR limit is double.