

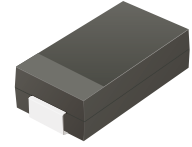
TV06A5V0-HF Thru. TV06A580-HF

Working Peak Reverse Voltage: 5.0 to 58 Volts

Peak Pulse Power: 600 Watts

RoHS Device

Halogen Free

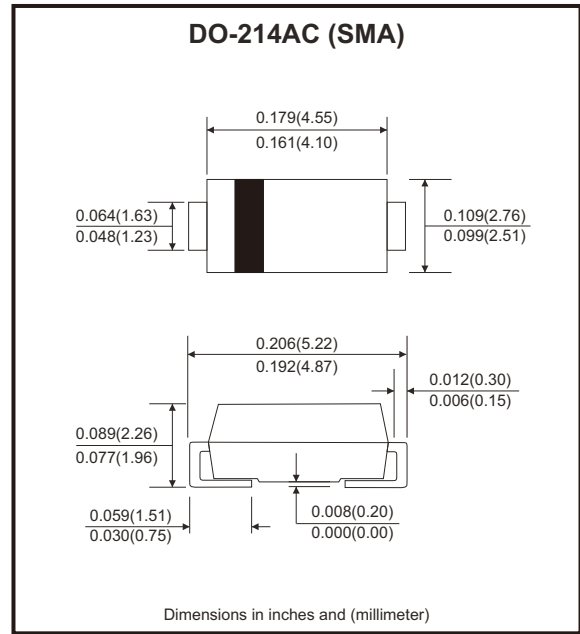


Features

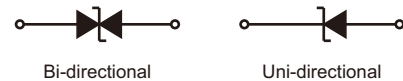
- Glass passivated chip.
- Low leakage.
- 600W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle): 0.01%.
- Uni and Bidirectional unit.
- Excellent clamping capability.
- Very fast response time.

Mechanical data

- Case: SMA/DO-214AC, molded plastic.
- Epoxy: UL 94V-0 rate flame retardant.
- Lead: Solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes cathode end except bipolar.
- Mounting position: Any.



Circuit Diagram



Maximum Ratings and Electrical Characteristics

Ratings 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 with a 10/1000 μ s waveform (Note 1) | P _{PP} | 600 | W |
| Peak pulse current with a 10/1000 μ s waveform (Note 1) | I _{PP} | See Next Table | A |
| Power dissipation on infinite heatsink at T _L =75°C | P _D | 3.0 | W |
| Peak forward surge current, 8.3ms single half sine-wave, uni-directional only (Note 2) | I _{FSM} | 60 | A |
| Maximum instantaneous forward voltage at 25A for uni-directional only | V _F | 3.5 | V |
| 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.5 and derated above Ta=25°C per Fig.1

2. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

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Rating and Characteristic Curves (TV06A5V0-HF Thru. TV06A580-HF)

Fig.1 - Pulse Derating Curve

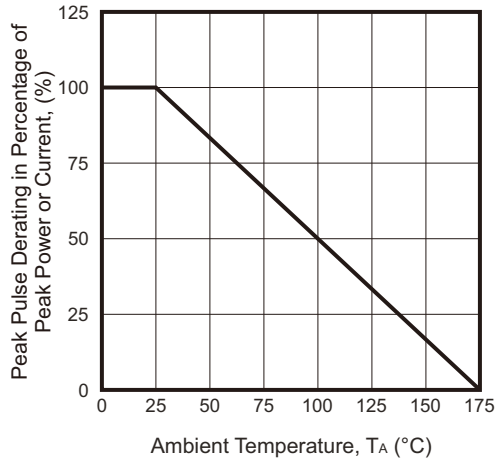


Fig.2 - Max. Non-repetitive Surge Current

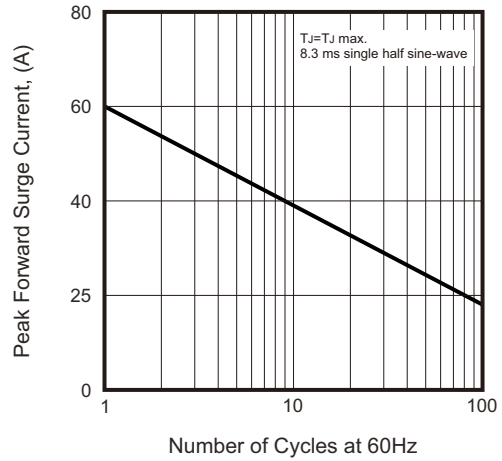


Fig.3 - Steady State Power Derating Curve

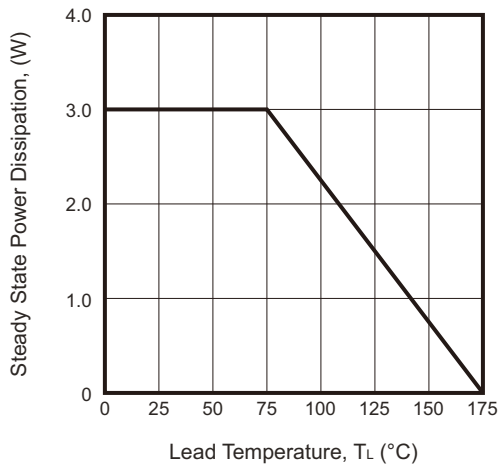


Fig.4 - Peak Pulse Power Rating Curve

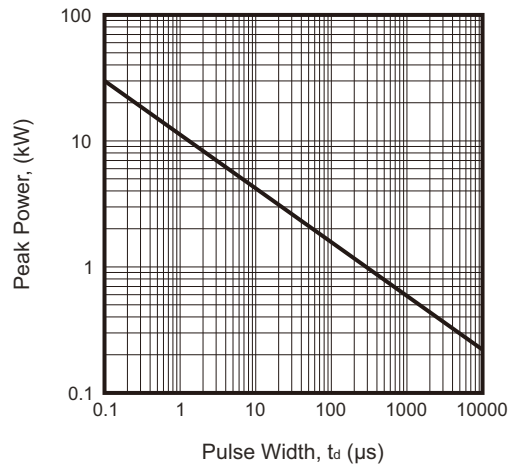


Fig.5 - Pulse Waveform

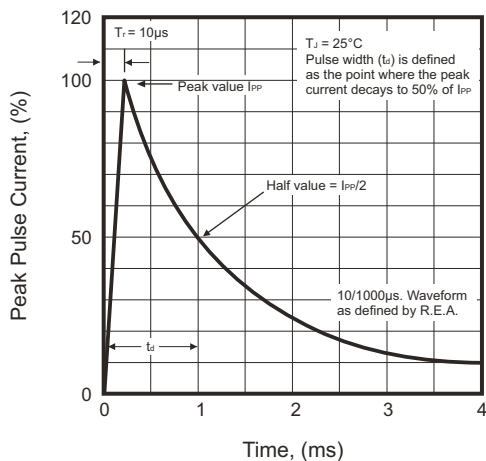
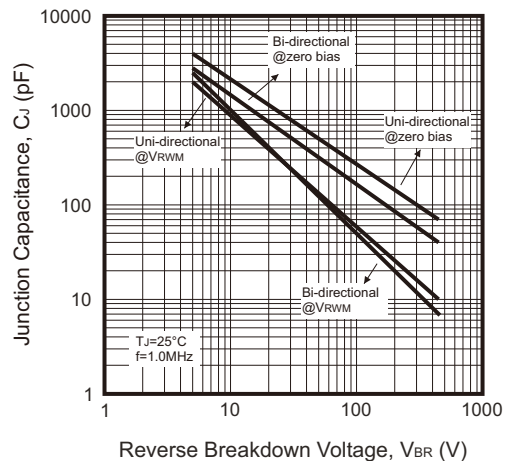


Fig.6 - Peak Pulse Power Rating Curve



SMD Transient Voltage Suppressor

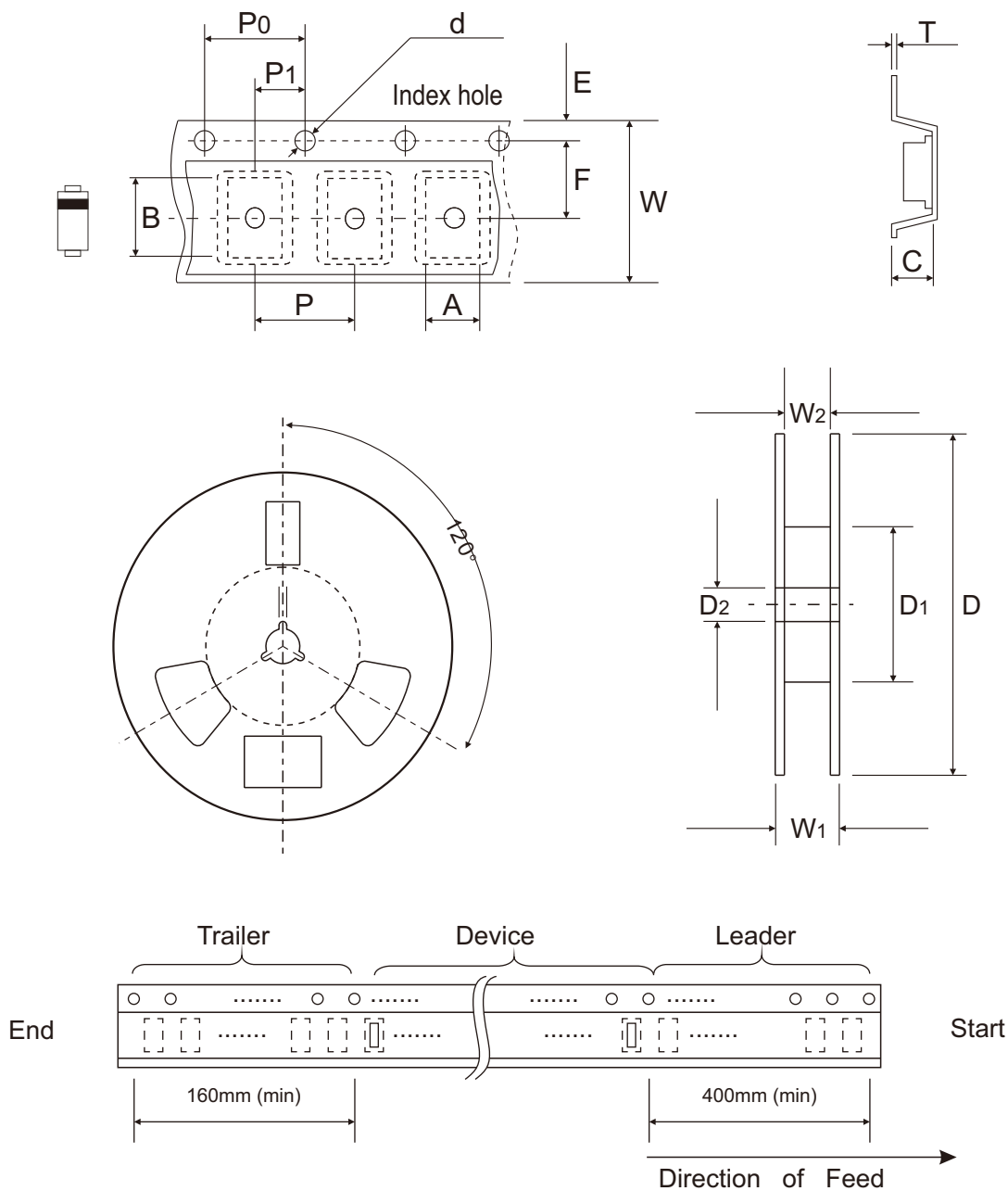


Electrical Characteristics (TV06A5V0-HF Thru. TV06A580-HF)

| Part No | Breakdown voltage V_{BR} @ I_T | | | Maximum Reverse Leakage @ V_{RWM} I_R (μA) | Working Peak Reverse Voltage V_{RWM} (V) | Maximum Reverse Surge Current @ 10/1000 μs sinewave I_{PP} (A) | Maximum Clamping Voltage @ I_{PP} V_C (V) | Marking Code | |
|-----------------|------------------------------------|-------------------|------------|----------------------------------------------------------|-----------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------|--------------|----|
| | V_{BR} Min. (V) | V_{BR} Max. (V) | I_T (mA) | | | | | UNI | BI |
| TV06A5V0J(HF) | 6.40 | 7.00 | 10 | 800 | 5.00 | 65.2 | 9.20 | KE | |
| TV06A6V0J(B)-HF | 6.67 | 7.37 | 10 | 800 | 6.00 | 58.3 | 10.3 | KG | AG |
| TV06A6V5J(B)-HF | 7.22 | 7.98 | 10 | 500 | 6.50 | 53.6 | 11.2 | KK | AK |
| TV06A7V0J(B)-HF | 7.78 | 8.60 | 10 | 200 | 7.00 | 50.0 | 12.0 | KM | AM |
| TV06A7V5J(B)-HF | 8.33 | 9.21 | 1 | 100 | 7.50 | 46.5 | 12.9 | KP | AP |
| TV06A8V0J(B)-HF | 8.89 | 9.83 | 1 | 50 | 8.00 | 44.1 | 13.6 | KR | AR |
| TV06A8V5J(B)-HF | 9.44 | 10.4 | 1 | 10 | 8.50 | 41.7 | 14.4 | KT | AT |
| TV06A9V0J(B)-HF | 10.0 | 11.1 | 1 | 5 | 9.00 | 39.0 | 15.4 | KV | AV |
| TV06A100J(B)-HF | 11.1 | 12.3 | 1 | 1 | 10.0 | 35.3 | 17.0 | KX | AX |
| TV06A110J(B)-HF | 12.2 | 13.5 | 1 | 1 | 11.0 | 33.0 | 18.2 | KZ | AZ |
| TV06A120J(B)-HF | 13.3 | 14.7 | 1 | 1 | 12.0 | 30.2 | 19.9 | LE | BE |
| TV06A130J(B)-HF | 14.4 | 15.9 | 1 | 1 | 13.0 | 27.9 | 21.5 | LG | BG |
| TV06A140J(B)-HF | 15.6 | 17.2 | 1 | 1 | 14.0 | 25.9 | 23.2 | LK | BK |
| TV06A150J(B)-HF | 16.7 | 18.5 | 1 | 1 | 15.0 | 24.6 | 24.4 | LM | BM |
| TV06A160J(B)-HF | 17.8 | 19.7 | 1 | 1 | 16.0 | 23.1 | 26.0 | LP | BP |
| TV06A170J(B)-HF | 18.9 | 20.9 | 1 | 1 | 17.0 | 21.7 | 27.6 | LR | BR |
| TV06A180J(B)-HF | 20.0 | 22.1 | 1 | 1 | 18.0 | 20.5 | 29.2 | LT | BT |
| TV06A190J(B)-HF | 21.1 | 23.3 | 1 | 1 | 19.0 | 19.5 | 30.8 | LB | BB |
| TV06A200J(B)-HF | 22.2 | 24.5 | 1 | 1 | 20.0 | 18.5 | 32.4 | LV | BV |
| TV06A220J(B)-HF | 24.4 | 26.9 | 1 | 1 | 22.0 | 16.9 | 35.5 | LX | BX |
| TV06A240J(B)-HF | 26.7 | 29.5 | 1 | 1 | 24.0 | 15.4 | 38.9 | LZ | BZ |
| TV06A260J(B)-HF | 28.9 | 31.9 | 1 | 1 | 26.0 | 14.3 | 42.1 | ME | CE |
| TV06A280J(B)-HF | 31.1 | 34.4 | 1 | 1 | 28.0 | 13.2 | 45.4 | MG | CG |
| TV06A300J(B)-HF | 33.3 | 36.8 | 1 | 1 | 30.0 | 12.4 | 48.4 | MK | CK |
| TV06A330J(B)-HF | 36.7 | 40.6 | 1 | 1 | 33.0 | 11.3 | 53.3 | MM | CM |
| TV06A360J(B)-HF | 40.0 | 44.2 | 1 | 1 | 36.0 | 10.3 | 58.1 | MP | CP |
| TV06A400J(B)-HF | 44.4 | 49.1 | 1 | 1 | 40.0 | 9.30 | 64.5 | MR | CR |
| TV06A430J(B)-HF | 47.8 | 52.8 | 1 | 1 | 43.0 | 8.65 | 69.4 | MT | CT |
| TV06A450J(B)-HF | 50.0 | 55.3 | 1 | 1 | 45.0 | 8.25 | 72.7 | MV | CV |
| TV06A480J(B)-HF | 53.3 | 58.9 | 1 | 1 | 48.0 | 7.75 | 77.4 | MX | CX |
| TV06A510J(B)-HF | 56.7 | 62.7 | 1 | 1 | 51.0 | 7.28 | 82.4 | MZ | CZ |
| TV06A540J(B)-HF | 60.0 | 66.3 | 1 | 1 | 54.0 | 6.89 | 87.1 | NE | DE |
| TV06A580J(B)-HF | 64.4 | 71.2 | 1 | 1 | 58.0 | 6.41 | 93.6 | NG | DG |

- Notes: 1. Suffix J denotes 5% tolerance devices.
 2. Suffix B after part number to specify bi-directional devices.
 3. For bi-directional devices having V_R of 10 volts and under, the I_R limit is double.

Reel Taping Specification



| DO-214AC (SMA) | SYMBOL | A | B | C | d | D | D1 | D2 | E |
|----------------|--------|------------|---|---|---------------|--------|--------------|---------------|---------------|
| | (mm) | See Note 1 | | | 1.55 ± 0.05 | 330.00 | 50.00 (Min.) | 13.00 ± 0.50 | 1.75 ± 0.05 |
| | (inch) | See Note 1 | | | 0.061 ± 0.002 | 12.992 | 1.969 (Min.) | 0.512 ± 0.020 | 0.069 ± 0.002 |

| DO-214AC (SMA) | SYMBOL | F | P | P0 | P1 | T | W | W1 | W2 |
|----------------|--------|---------------|---------------|---------------|---------------|--------------|---------------|--------------|--------------|
| | (mm) | 5.50 ± 0.05 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.05 | 0.40 (Max.) | 12.00 ± 0.10 | 18.40 (Max.) | 14.40 (Max.) |
| | (inch) | 0.217 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.016 (Max.) | 0.472 ± 0.004 | 0.724 (Max.) | 0.567 (Max.) |

Notes: 1. A, B, and C the clearance between the component and the cavity must be within 0.5mm max. for 8mm tape and 12mm tape, 1.0mm max. for 16mm tape and 24mm tape.

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