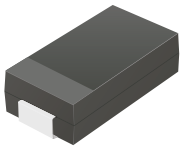
# TV04A5V0-G Thru. TV04A441-G

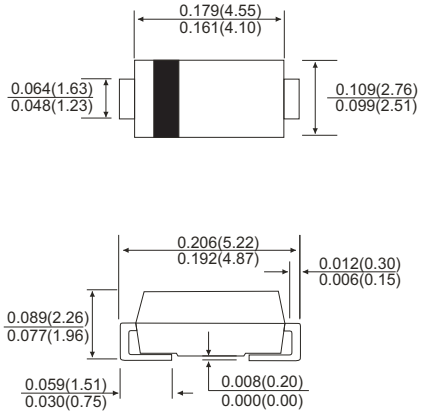
## Working Peak Reverse Voltage: 5.0 to 440 Volts
## Power Dissipation: 400 Watts
## RoHS Device



## Features

- Glass passivated chip.
- 400W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01%
- Low leakage.
- Uni and Bidirectional unit.
- Excellent clamping capability.
- Very fast response time.
- UL recognized file # E349157
  Range: TV04A5V0J(B) thru. TV04A240J(B)

**SMA/DO-214AC**




Dimensions in inches and (millimeter)

## Mechanical data

- Epoxy: UL 94V-0 rate flame retardant.
- Case: SMA/DO-214AC, molded plastic.
- Terminals: solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes cathode end execpt bipolar.
- Weight: 0.069 gram (approx.)

## 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 on 10/1000μS waveform (Note1) | $P_{PP}$ | 400 | W |
| Peak pulse current on 10/1000 μS waveform (Note 1) | $I_{PP}$ | See Next Table | A |
| Steady state power dissipation at $T_L$=75°C | $P_D$ | 1.0 | W |
| Peak forward surge current, 8.3mS single half sine-wave unidirectional only (Note 2) | $I_{FSM}$ | 40 | A |
| Maximum instantaneous forward voltage at 25.0A for unidirectional only (Note 3) | $V_F$ | 3.5/5.0 | V |
| Operating junction and storage temperature | $T_J$, $T_{STG}$ | -55 to +150 | °C |

Notes: 1. Non-repetitive current pulse, per Fig. 5 and derated above $T_A$=25°C, per Fig. 1.
2. Measured on 8.3mS single half sine-wave or equare wave,duty cycle=4 pulses per minute maximum.
3. VF<3.5V for devices of $V_{BR}$<200V and $V_F$<5.0V for devices of $V_{BR}$>201V

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## RATING AND CHARACTERISTIC CURVES (TV04A5V0-G thru TV04A441-G)

Fig.1 - Pulse Derating Curve

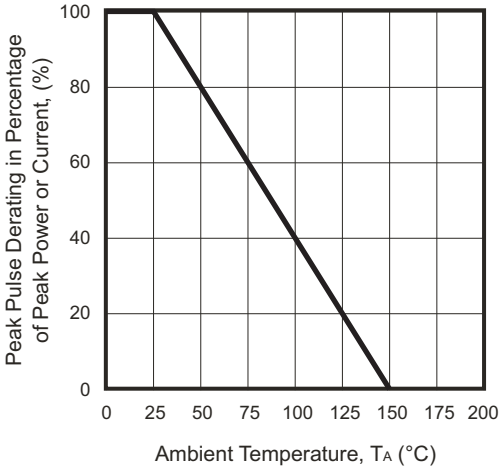



Fig.2 - Maximum Non-Repetitive Surge Current

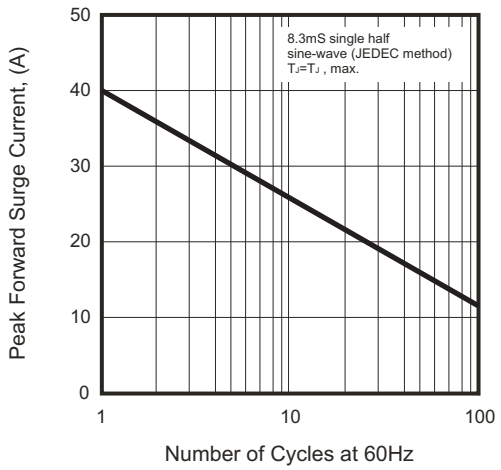



Fig.3 - Steady State Power Derating Curve

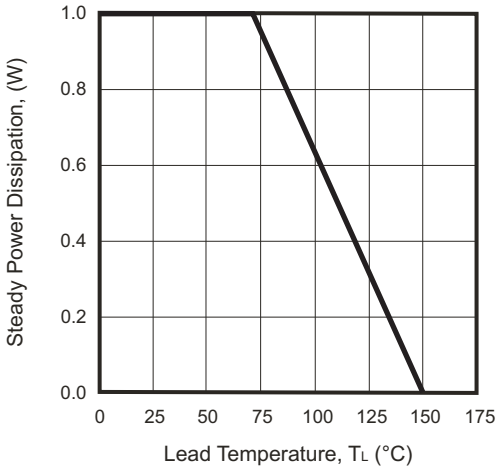



Fig.4 - Peak Pulse Power Rating Curve

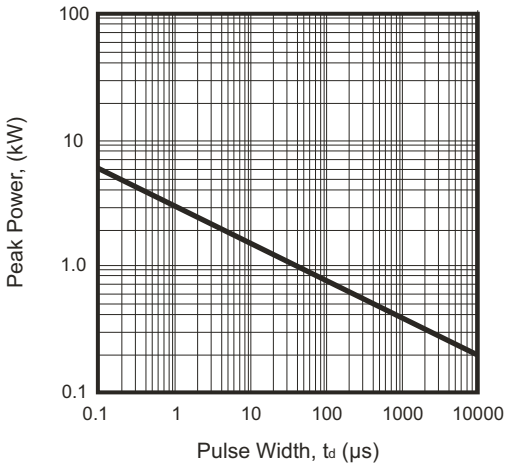



Fig.5 - Pulse Waveforem

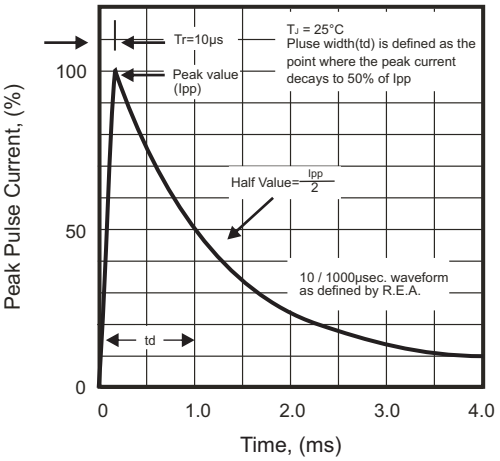
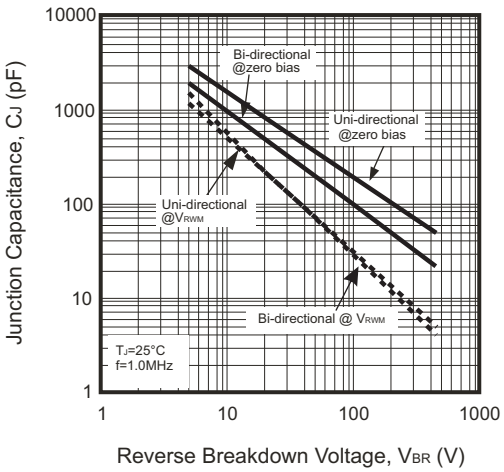



Fig.6 - Typical Junction Capacitance

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## Electrical Characteristics (TV04A5V0-G Thru. TV04A441-G)

| Part No. | Breakdown voltage $V_{BR}$ @ $I_T$ | | | Maximum Reverse Leakage @$V_{RWM}$ | Working Peak Reverse Voltage | Maximum Reverse Surge Current | Maximum Clamping Voltage @$I_{PP}$ | Device Marking Code | |
|---|---|---|---|---|---|---|---|---|---|
| | Min. (V) | Max. (V) | $I_T$ (mA) | $I_R$ (uA) | $V_{RWM}$ (V) | $I_{PP}$ (A) | $V_C$ (V) | UNI | BI |
| TV04A5V0J(B)-G | 6.40 | 7.00 | 10 | 800 | 5.0 | 43.48 | 9.2 | AE | WE |
| TV04A6V0J(B)-G | 6.67 | 7.37 | 10 | 800 | 6.0 | 38.83 | 10.3 | AG | WG |
| TV04A6V5J(B)-G | 7.22 | 7.98 | 10 | 500 | 6.5 | 35.71 | 11.2 | AK | WK |
| TV04A7V0J(B)-G | 7.78 | 8.60 | 10 | 200 | 7.0 | 33.33 | 12.0 | AM | WM |
| TV04A7V5J(B)-G | 8.33 | 9.21 | 1 | 100 | 7.5 | 31.01 | 12.9 | AP | WP |
| TV04A8V0J(B)-G | 8.89 | 9.83 | 1 | 50 | 8.0 | 29.41 | 13.6 | AR | WR |
| TV04A8V5J(B)-G | 9.44 | 10.40 | 1 | 10 | 8.5 | 27.78 | 14.4 | AT | WT |
| TV04A9V0J(B)-G | 10.00 | 11.10 | 1 | 5 | 9.0 | 25.97 | 15.4 | AV | WV |
| TV04A100J(B)-G | 11.10 | 12.30 | 1 | 5 | 10.0 | 23.53 | 17.0 | AX | WX |
| TV04A110J(B)-G | 12.20 | 13.50 | 1 | 1 | 11.0 | 21.98 | 18.2 | AZ | WZ |
| TV04A120J(B)-G | 13.30 | 14.70 | 1 | 1 | 12.0 | 20.10 | 19.9 | BE | XE |
| TV04A130J(B)-G | 14.40 | 15.90 | 1 | 1 | 13.0 | 18.60 | 21.5 | BG | XG |
| TV04A140J(B)-G | 15.60 | 17.20 | 1 | 1 | 14.0 | 17.24 | 23.2 | BK | XK |
| TV04A150J(B)-G | 16.70 | 18.50 | 1 | 1 | 15.0 | 16.39 | 24.4 | BM | XM |
| TV04A160J(B)-G | 17.80 | 19.70 | 1 | 1 | 16.0 | 15.38 | 26.0 | BP | XP |
| TV04A170J(B)-G | 18.90 | 20.90 | 1 | 1 | 17.0 | 14.49 | 27.6 | BR | XR |
| TV04A180J(B)-G | 20.00 | 22.10 | 1 | 1 | 18.0 | 13.70 | 29.2 | BT | XT |
| TV04A190J(B)-G | 21.10 | 23.30 | 1 | 1 | 19.0 | 13.00 | 30.8 | BB | XB |
| TV04A200J(B)-G | 22.20 | 24.50 | 1 | 1 | 20.0 | 12.35 | 32.4 | BV | XV |
| TV04A220J(B)-G | 24.40 | 26.90 | 1 | 1 | 22.0 | 11.27 | 35.5 | BX | XX |
| TV04A240J(B)-G | 26.70 | 29.50 | 1 | 1 | 24.0 | 10.28 | 38.9 | BZ | XZ |
| TV04A260J(B)-G | 28.90 | 31.90 | 1 | 1 | 26.0 | 9.50 | 42.1 | CE | YE |
| TV04A280J(B)-G | 31.10 | 34.40 | 1 | 1 | 28.0 | 8.81 | 45.4 | CG | YG |
| TV04A300J(B)-G | 33.30 | 36.80 | 1 | 1 | 30.0 | 8.26 | 48.4 | CK | YK |
| TV04A330J(B)-G | 36.70 | 40.60 | 1 | 1 | 33.0 | 7.50 | 53.3 | CM | YM |
| TV04A360J(B)-G | 40.00 | 44.20 | 1 | 1 | 36.0 | 6.88 | 58.1 | CP | YP |
| TV04A400J(B)-G | 44.40 | 49.10 | 1 | 1 | 40.0 | 6.20 | 64.5 | CR | YR |
| TV04A430J(B)-G | 47.80 | 52.80 | 1 | 1 | 43.0 | 5.76 | 69.4 | CT | YT |
| TV04A450J(B)-G | 50.00 | 55.30 | 1 | 1 | 45.0 | 5.50 | 72.7 | CV | YV |
| TV04A480J(B)-G | 53.30 | 58.90 | 1 | 1 | 48.0 | 5.17 | 77.4 | CX | YX |
| TV04A510J(B)-G | 56.70 | 62.70 | 1 | 1 | 51.0 | 4.85 | 82.4 | CZ | YZ |
| TV04A540J(B)-G | 60.00 | 66.30 | 1 | 1 | 54.0 | 4.59 | 87.1 | RE | ZE |
| TV04A580J(B)-G | 64.40 | 71.20 | 1 | 1 | 58.0 | 4.27 | 93.6 | RG | ZG |
| TV04A600J(B)-G | 66.70 | 73.70 | 1 | 1 | 60.0 | 4.13 | 96.8 | RK | ZK |
| TV04A640J(B)-G | 71.10 | 78.60 | 1 | 1 | 64.0 | 3.88 | 103.0 | RM | ZM |
| TV04A700J(B)-G | 77.80 | 86.00 | 1 | 1 | 70.0 | 3.54 | 113.0 | RP | ZP |
| TV04A750J(B)-G | 83.30 | 92.10 | 1 | 1 | 75.0 | 3.31 | 121.0 | RR | ZR |
| TV04A780J(B)-G | 86.70 | 95.80 | 1 | 1 | 78.0 | 3.17 | 126.0 | RT | ZT |
| TV04A800J(B)-G | 88.80 | 97.60 | 1 | 1 | 80.0 | 3.09 | 129.6 | RB | ZB |
| TV04A850J(B)-G | 94.40 | 104.00 | 1 | 1 | 85.0 | 2.92 | 137.0 | RV | ZV |

## Electrical Characteristics (TV04A5V0-G Thru. TV04A441-G)

| Part No. | Breakdown voltage $V_{BR}$ @ $I_T$ | | | Maximum Reverse Leakage @$V_{RWM}$ | Working Peak Reverse Voltage | Maximum Reverse Surge Current | Maximum Clamping Voltage @$I_{PP}$ | Device Marking Code | |
|---|---|---|---|---|---|---|---|---|---|
| | Min. (V) | Max. (V) | $I_T$ (mA) | $I_R$ (uA) | $V_{RWM}$ (V) | $I_{PP}$ (A) | $V_C$ (V) | UNI | BI |
| TV04A900J(B)-G | 100.0 | 111.0 | 1 | 1 | 90.0 | 2.74 | 146.0 | RX | ZX |
| TV04A101J(B)-G | 111.0 | 123.0 | 1 | 1 | 100.0 | 2.47 | 162.0 | RZ | ZZ |
| TV04A111J(B)-G | 122.0 | 135.0 | 1 | 1 | 110.0 | 2.26 | 177.0 | SE | VE |
| TV04A121J(B)-G | 133.0 | 147.0 | 1 | 1 | 120.0 | 2.07 | 193.0 | SG | VG |
| TV04A131J(B)-G | 144.0 | 159.0 | 1 | 1 | 130.0 | 1.91 | 209.0 | SK | VK |
| TV04A141J(B)-G | 155.0 | 171.0 | 1 | 1 | 140.0 | 1.76 | 226.8 | SB | VB |
| TV04A151J(B)-G | 167.0 | 185.0 | 1 | 1 | 150.0 | 1.65 | 243.0 | SM | VM |
| TV04A161J(B)-G | 178.0 | 197.0 | 1 | 1 | 160.0 | 1.54 | 259.0 | SP | VP |
| TV04A171J(B)-G | 189.0 | 209.0 | 1 | 1 | 170.0 | 1.45 | 275.0 | SR | VR |
| TV04A181J(B)-G | 200.0 | 220.0 | 1 | 1 | 180.0 | 1.37 | 291.6 | ST | VT |
| TV04A191J(B)-G | 211.0 | 232.0 | 1 | 1 | 190.0 | 1.30 | 307.8 | SV | VV |
| TV04A201J(B)-G | 224.0 | 247.0 | 1 | 1 | 200.0 | 1.23 | 324.0 | SW | VW |
| TV04A221J(B)-G | 246.0 | 272.0 | 1 | 1 | 220.0 | 1.12 | 356.0 | SX | VX |
| TV04A251J(B)-G | 279.0 | 309.0 | 1 | 1 | 250.0 | 0.99 | 405.0 | SZ | VZ |
| TV04A301J(B)-G | 335.0 | 371.0 | 1 | 1 | 300.0 | 0.82 | 486.0 | DE | HE |
| TV04A351J(B)-G | 391.0 | 432.0 | 1 | 1 | 350.0 | 0.71 | 567.0 | DG | HG |
| TV04A401J(B)-G | 447.0 | 494.0 | 1 | 1 | 400.0 | 0.62 | 648.0 | DK | HK |
| TV04A441J(B)-G | 492.0 | 543.0 | 1 | 1 | 440.0 | 0.56 | 713.0 | DM | HM |

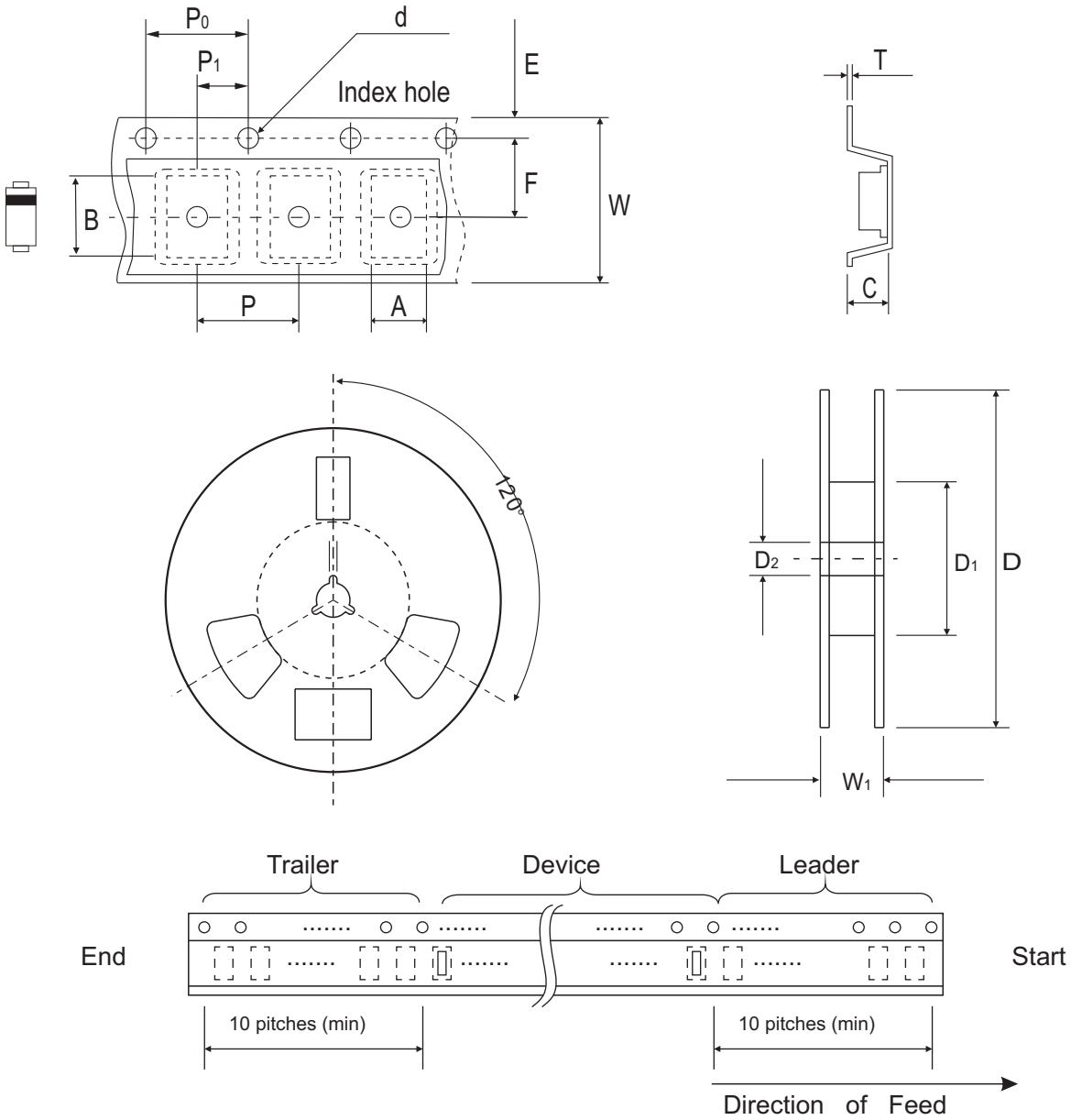
Note:

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




| | SYMBOL | A | B | C | d | D | $D_1$ | $D_2$ |
|---|---|---|---|---|---|---|---|---|
| SMA/DO-214AC | (mm) | 2.79 ± 0.10 | 5.33 ± 0.10 | 4.50 (max) | 1.75 ± 0.10 | 330MAX | 50.0 MIN. | 13.0 ± 0.2 |
| | (inch) | 0.110 ± 0.004 | 0.210 ± 0.004 | 0.177 (max) | 0.069 ± 0.004 | 13.00MAX | 1.969 MIN. | 0.512 ± 0.008 |

| | SYMBOL | E | F | P | $P_0$ | $P_1$ | W | $W_1$ |
|---|---|---|---|---|---|---|---|---|
| SMA/DO-214AC | (mm) | 1.75 ± 0.10 | 5.50 ± 0.05 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.05 | 12.0 ± 0.30 | 18.4 MAX. |
| | (inch) | 0.069 ± 0.004 | 0.216 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.472 ± 0.012 | 0.724 MAX |

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## Marking Code

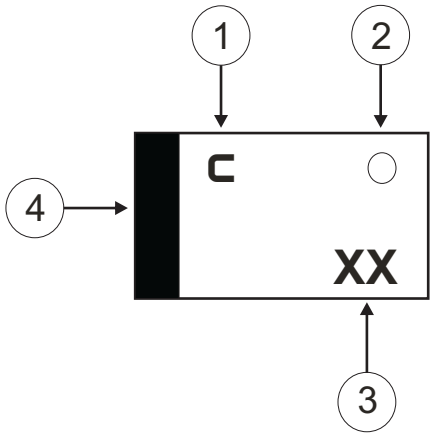
1. ⊏: COMCHIP

2. ◯: Package

| ◯ | PKG |
|---|---|
| A | SMA |
| B | SMB |
| C | SMC |

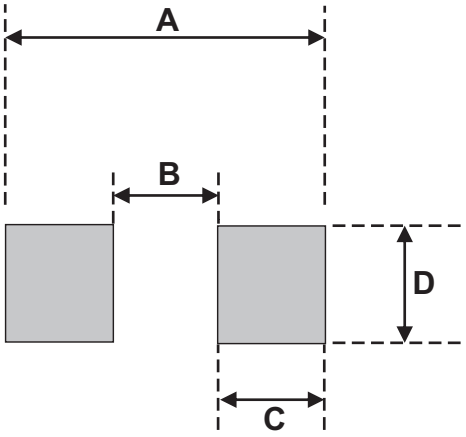
3. XX: Marking code (see Page. 3~4)

4. ▮ : Cathod Band




## Suggested PAD Layout

| SIZE | DO-214AC(SMA) | |
|---|---|---|
| | (mm) | (inch) |
| A | 5.28 | 0.208 |
| B | 1.88 MAX | 0.074 MAX |
| C | 1.52 MIN | 0.060 MIN |
| D | 1.68 MIN | 0.066 MIN |




## Standard Packaging

| Case Type | REEL PACK | |
|---|---|---|
| | REEL ( pcs ) | Reel Size (inch) |
| SMA/DO-214AC | 5,000 | 13 |

Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
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- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

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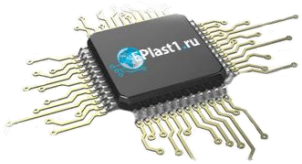
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.




**Как с нами связаться**

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