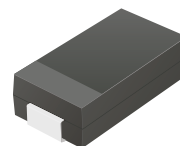


# CGRA4001-G Thru. CGRA4007-G

Reverse Voltage: 50 to 1000 Volts

Forward Current: 1.0 Amp

RoHS Device



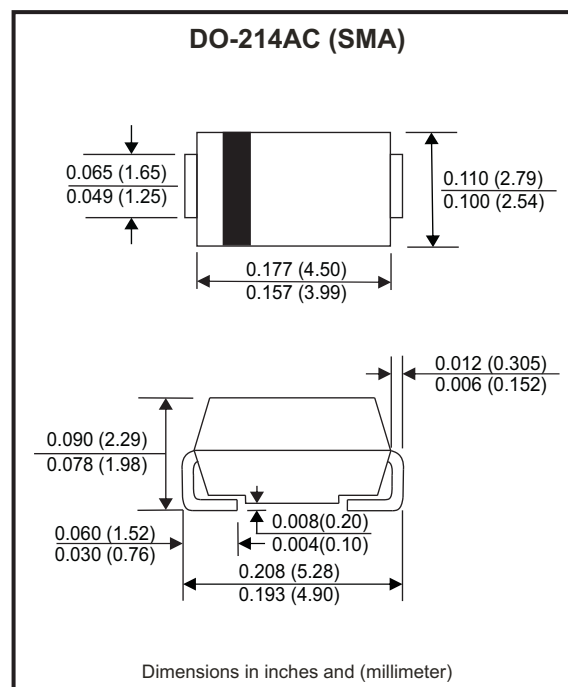
## Features

- Glass Passivation Junction.
- High current capability.
- High surge current capability.
- Low reverse current.

## Mechanical data

- Case: DO-214AC / SMA, molded plastic.
- Epoxy: UL flammability classification rate 94V-0.
- Terminals: Lead free plating (Tin finish).  
Solderable per MIL-STD-750, Method 2026.
- Polarity: Indicated by cathode band.
- Weight: 0.062 grams(approx.).

## Circuit diagram



## Maximum Ratings (at TA=25°C unless otherwise noted)

| Parameter                                                                                         |                       | Symbol           | CGRA 4001-G | CGRA 4002-G | CGRA 4003-G | CGRA 4004-G | CGRA 4005-G | CGRA 4006-G | CGRA 4007-G | Units |
|---------------------------------------------------------------------------------------------------|-----------------------|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------|
| Max. repetitive peak reverse voltage                                                              |                       | V <sub>RRM</sub> | 50          | 100         | 200         | 400         | 600         | 800         | 1000        | V     |
| Max. DC blocking voltage                                                                          |                       | V <sub>DC</sub>  | 50          | 100         | 200         | 400         | 600         | 800         | 1000        | V     |
| Max. RMS voltage                                                                                  |                       | V <sub>RMS</sub> | 35          | 70          | 140         | 280         | 420         | 560         | 700         | V     |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) |                       | I <sub>FSM</sub> | 30          |             |             |             |             |             |             | A     |
| Max. average forward rectified current                                                            |                       | I <sub>F</sub>   | 1.0         |             |             |             |             |             |             | A     |
| Max. instantaneous forward voltage<br>I <sub>F</sub> =1.0A @ 25°C                                 |                       | V <sub>F</sub>   | 1.1         |             |             |             |             |             |             | V     |
| Max. DC reverse current at rated<br>DC blocking voltage                                           | T <sub>A</sub> =25°C  | I <sub>R</sub>   | 5           |             |             |             |             |             |             | μA    |
|                                                                                                   | T <sub>A</sub> =100°C | I <sub>R</sub>   | 50          |             |             |             |             |             |             |       |
| Typical junction capacitance (Note 1)                                                             |                       | C <sub>J</sub>   | 10          |             |             |             |             |             |             | pF    |
| Typical thermal resistance                                                                        |                       | R <sub>θJC</sub> | 70          |             |             |             |             |             |             | °C/W  |
| Operating temperature range                                                                       |                       | T <sub>J</sub>   | -55 to +150 |             |             |             |             |             |             | °C    |
| Storage temperature range                                                                         |                       | T <sub>STG</sub> | -55 to +150 |             |             |             |             |             |             | °C    |

Notes: 1. Measured at 1.0MHZ and applied reverse voltage of 4.0V DC.

Company reserves the right to improve product design , functions and reliability without notice.

REV: E

## Rating and Characteristic Curves (CGRA4001-G thru. CGRA4007-G)

Fig.1 - Typical Forward Current Derating Curve

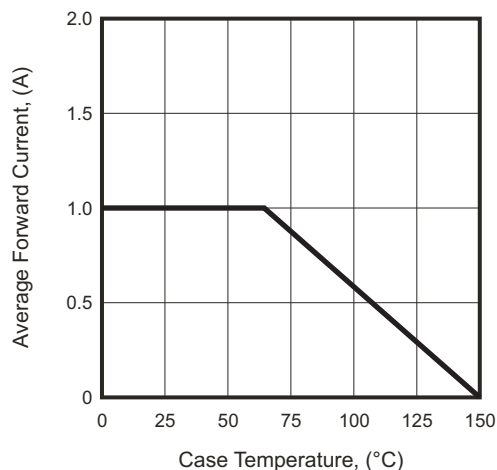


Fig.2 - Typical Forward Characteristics

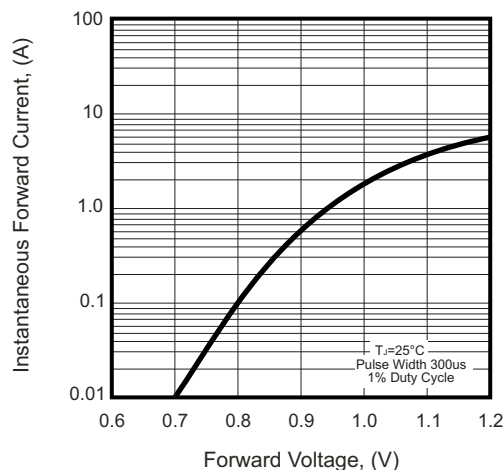


Fig.3 - Maximum Non-repetitive Forward Surge Current

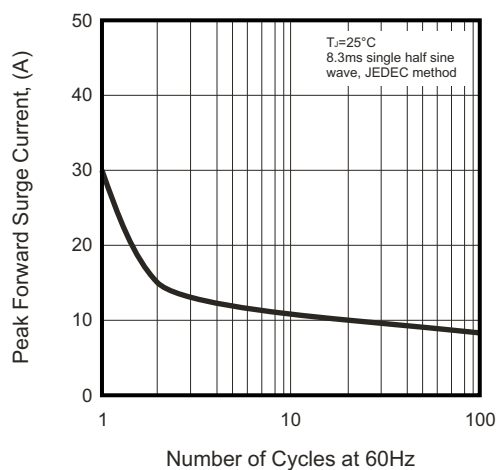


Fig.4 - Typical Reverse Characteristics

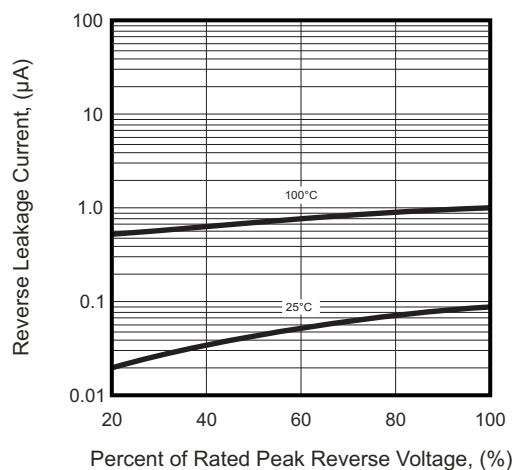
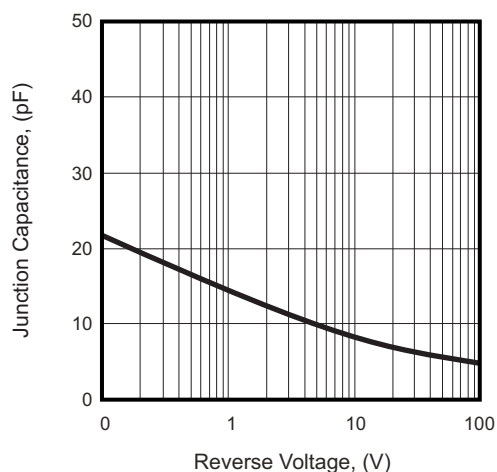
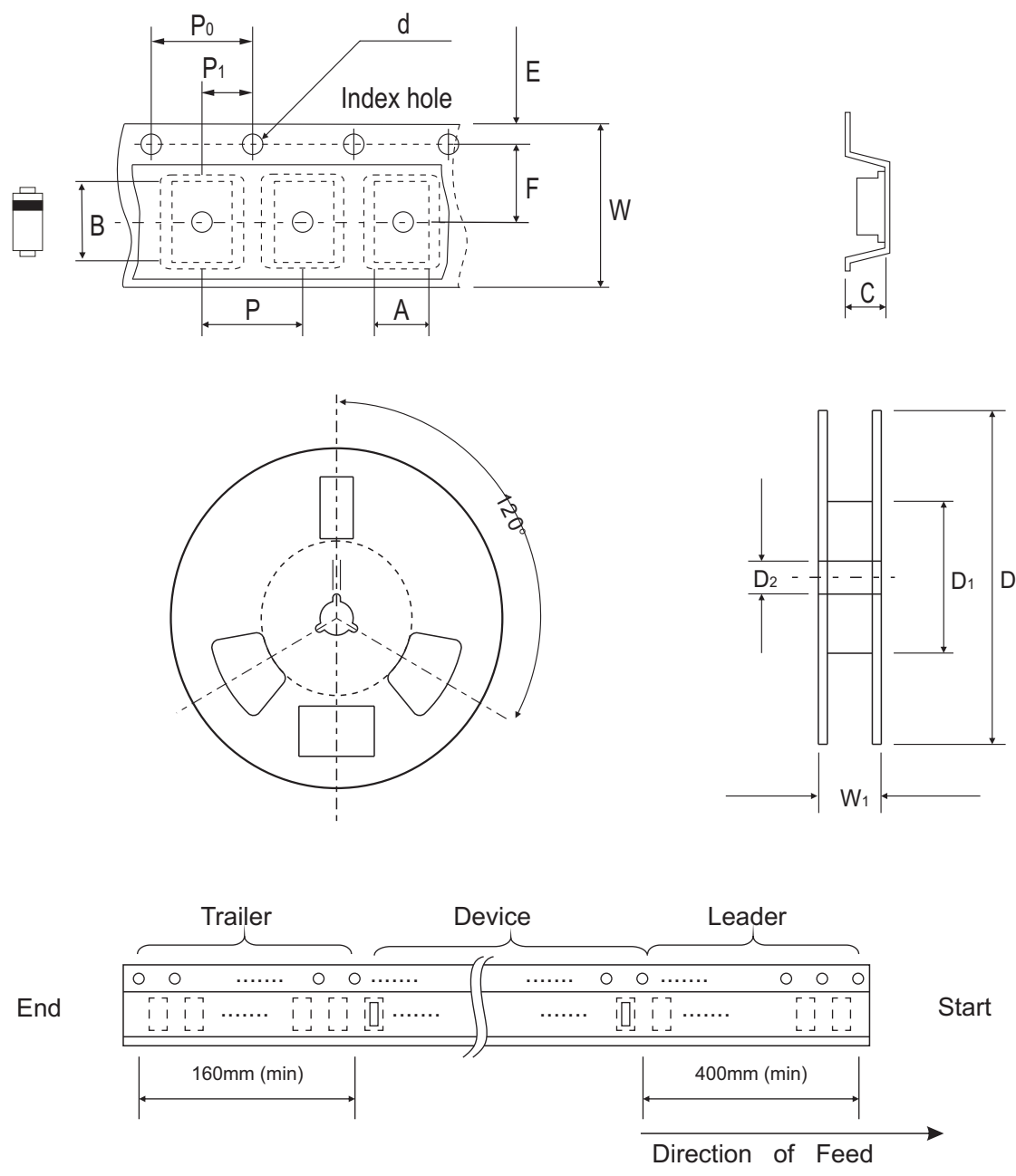


Fig.5 - Typical Junction Capacitance



Reel Taping Specification



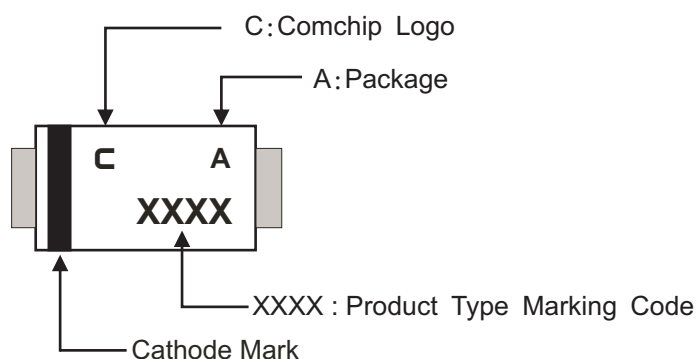
| DO-214AC<br>(SMA) | SYMBOL | A          | B          | C          | d             | D             | D <sub>1</sub> | D <sub>2</sub> |
|-------------------|--------|------------|------------|------------|---------------|---------------|----------------|----------------|
|                   | (mm)   | 2.90 MAX.  | 5.90 MAX.  | 2.66 MAX.  | 1.50 ± 0.10   | 330 ± 2.00    | 50 MIN.        | 13.50 ± 1.00   |
|                   | (inch) | 0.114 MAX. | 0.232 MAX. | 0.105 MAX. | 0.059 ± 0.004 | 13.00 ± 0.079 | 1.969 MIN.     | 0.531 ± 0.039  |

| DO-214AC<br>(SMA) | SYMBOL | E             | F             | P             | P <sub>0</sub> | P <sub>1</sub> | W             | W <sub>1</sub> |
|-------------------|--------|---------------|---------------|---------------|----------------|----------------|---------------|----------------|
|                   | (mm)   | 1.75 ± 0.10   | 5.50 ± 0.05   | 4.00 ± 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 | 0.157 ± 0.004 | 0.157 ± 0.004  | 0.079 ± 0.002  | 0.472 ± 0.012 | 0.724 MAX.     |

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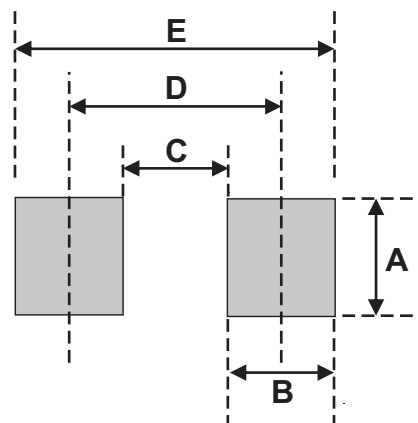
## Marking Code

| Part Number | Marking code |
|-------------|--------------|
| CGRA4001-G  | 4001         |
| CGRA4002-G  | 4002         |
| CGRA4003-G  | 4003         |
| CGRA4004-G  | 4004         |
| CGRA4005-G  | 4005         |
| CGRA4006-G  | 4006         |
| CGRA4007-G  | 4007         |



## Suggested PAD Layout

| SIZE | DO-214AC (SMA) |        |
|------|----------------|--------|
|      | (mm)           | (inch) |
| A    | 1.70           | 0.067  |
| B    | 2.50           | 0.098  |
| C    | 1.50           | 0.059  |
| D    | 4.00           | 0.157  |
| E    | 6.50           | 0.256  |



Note:

1. The pad layout is for reference purposes only.

## Standard Packaging

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

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