

CGRAT101-HF Thru. CGRAT105-HF

Glass Passivated Type

Reverse Voltage: 200 to 1000 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free

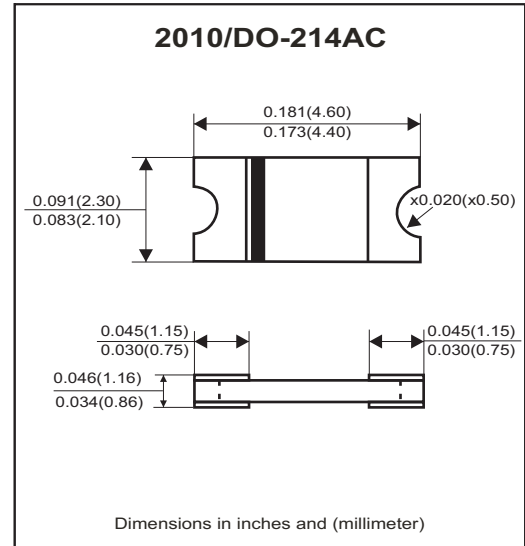


Features

- Glass passivated cavity-free junction.
- Lead less chip form, no lead damage.
- Low forward voltage drop.
- Plastic package has Underwriters lammability classification 94V-0.

Mechanical data

- Case: Packed with FRP substrate and epoxy underfilled.
- Terminals: Pure Tin plated (Lead-Free), solderable per MIL-STD-750, method 2026.
- Polarity: Cathode Band, Laser marking.
- Weight: 0.02 grams (approx).



Circuit Diagram



Absolute Maximum Ratings (at Ta=25°C unless otherwise noted)

| Parameter | Symbol | CGRAT 101-HF | CGRAT 102-HF | CGRAT 103-HF | CGRAT 104-HF | CGRAT 105-HF | Units |
|--|--------------------|--------------|--------------|--------------|--------------|--------------|-------|
| Repetitive peak reverse voltage | V _{RRM} | 200 | 400 | 600 | 800 | 1000 | V |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | I _{FSM} | 30 | | | | | A |
| Average forward current | I _{F(AV)} | 1.0 | | | | | A |
| Operating junction temperature | T _J | -65 to +175 | | | | | °C |
| Storage temperature | T _{STG} | -65 to +175 | | | | | °C |

Electrical Characteristics (at TA=25°C unless otherwise noted)

| Parameter | Conditions | Symbol | MIN. | TYP. | MAX. | Unit |
|---------------------------------|---|------------------|------|------|------|------|
| Forward voltage | I _F = 1.0A | V _F | - | 0.95 | 1 | V |
| Repetitive peak reverse current | V _R =Max. V _{RRM} , TA=25°C | I _{RRM} | - | 0.10 | 5 | uA |
| Junction capacitance | V _R =4V, f=1.0MHz | C _J | - | 8 | - | pF |
| Thermal Resistance | Junction to ambient (Note) | R _{θJA} | - | 65 | - | °C/W |
| | Junction to lead (Note) | R _{θJL} | - | 15 | - | |

Notes: Thermal resistance from junction to ambient and from junction to lead P.C.B. mounted on 0.2x0.2"(5.0*5.0mm) copper pad areas.

RATING AND CHARACTERISTIC CURVES (CGRAT101-HF thru. CGRAT105-HF)

FIG.1 - FORWARD CURRENT DERATING CURVE

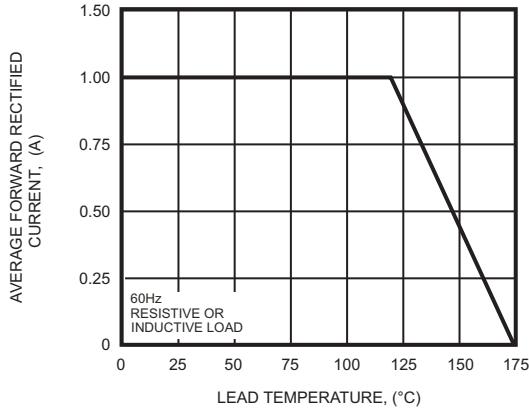


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

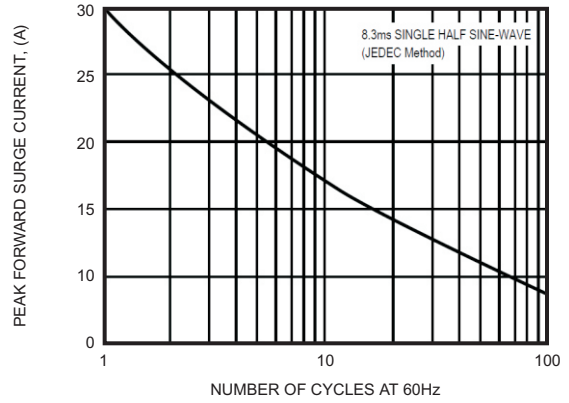


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

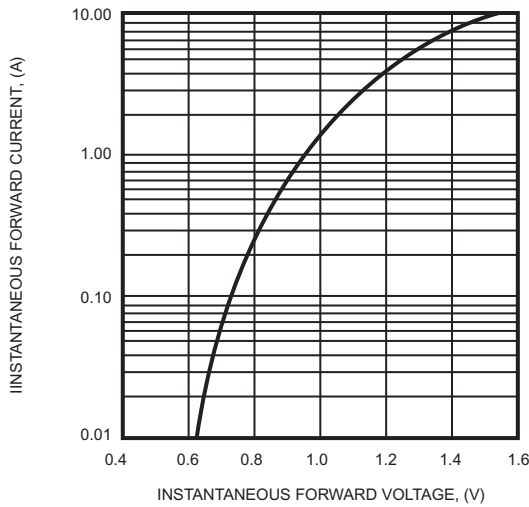


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

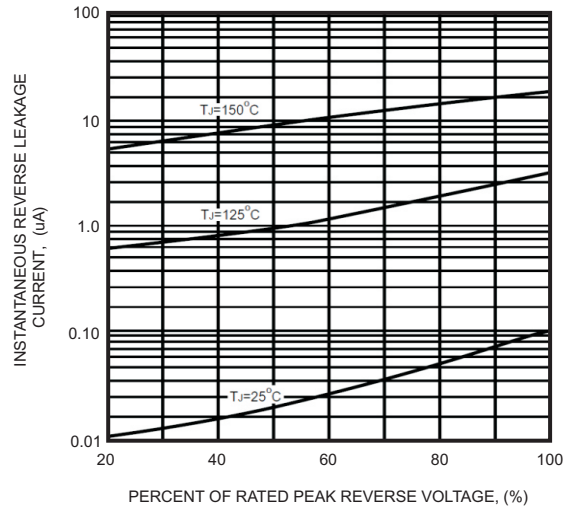
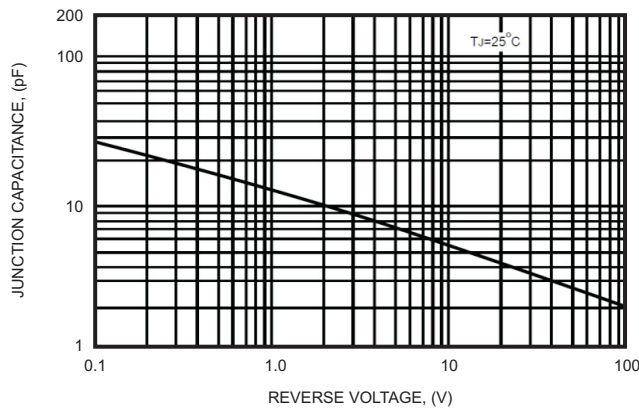
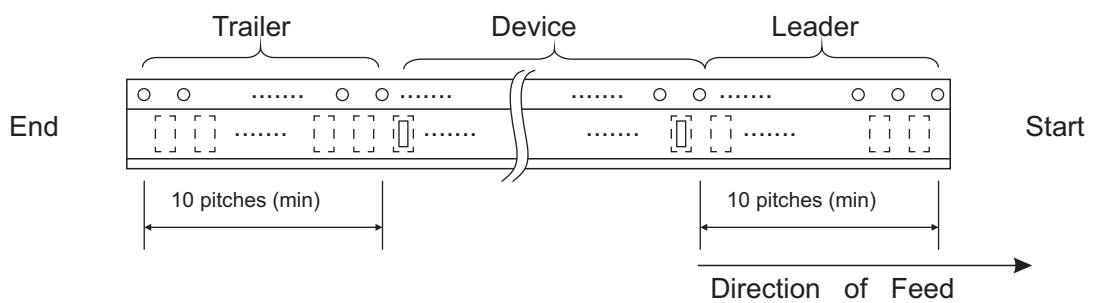
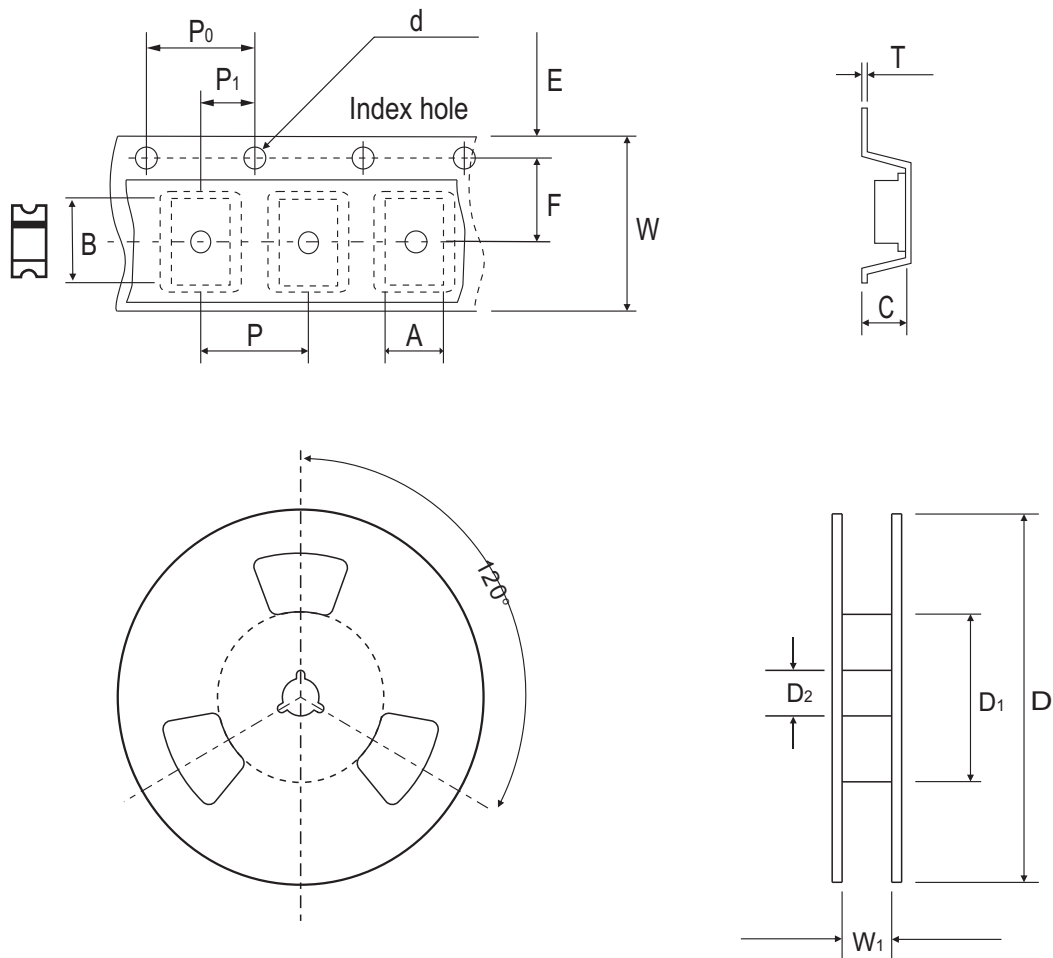


FIG.5 - TYPICAL JUNCTION CAPACITANCE



Reel Taping Specification



| 2010 (DO-214AC) | SYMBOL | A | B | C | d | D | D ₁ | D ₂ |
|--------------------|--------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
| | (mm) | 2.45 ± 0.10 | 4.75 ± 0.10 | 1.30 ± 0.10 | 1.50 ± 0.10 | 178 ± 2.00 | 50.0 MIN. | 13.0 ± 0.50 |
| | (inch) | 0.096 ± 0.004 | 0.187 ± 0.004 | 0.051 ± 0.004 | 0.059 ± 0.004 | 7.008 ± 0.079 | 1.969 MIN. | 0.512 ± 0.020 |

| 2010 (DO-214AC) | SYMBOL | E | F | P | P ₀ | P ₁ | W | W ₁ |
|--------------------|--------|---------------|---------------|---------------|----------------|----------------|---------------|----------------|
| | (mm) | 1.75 ± 0.10 | 5.50 ± 0.05 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 12.00 ± 0.30 | 14.4 MAX. |
| | (inch) | 0.069 ± 0.004 | 0.217 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.472 ± 0.012 | 0.567 MAX. |

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

REV:A

Marking Code

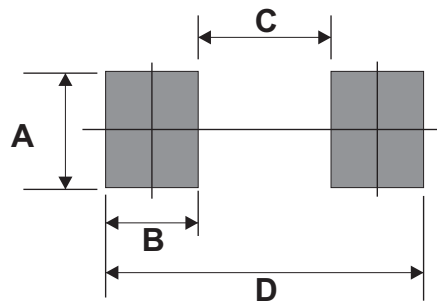
| Part Number | Marking Code |
|-------------|--------------|
| CGRAT101-HF | 10D |
| CGRAT102-HF | 10G |
| CGRAT103-HF | 10J |
| CGRAT104-HF | 10K |
| CGRAT105-HF | 10M |



XXX = Product type marking code

Suggested PAD Layout

| SIZE | 2010/DO-214AC | |
|----------|---------------|------------|
| | (mm) | (inch) |
| A | 1.47MIN. | 0.058MIN. |
| B | 1.27MIN. | 0.050MIN. |
| C | 2.60MAX. | 0.102MAX. |
| D | 5.14REF. | 0.202 REF. |



Standard Packaging

| Case Type | REEL PACK | |
|----------------------|-----------------|---------------------|
| | REEL (pcs) | Reel Size (inch) |
| 2010/DO-214AC | 3,000 | 7 |