

CGRBT301-HF Thru. CGRBT305-HF

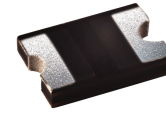
Glass Passivated Type

Reverse Voltage: 200 to 1000 Volts

Forward Current: 3.0 Amp

RoHS Device

Halogen Free

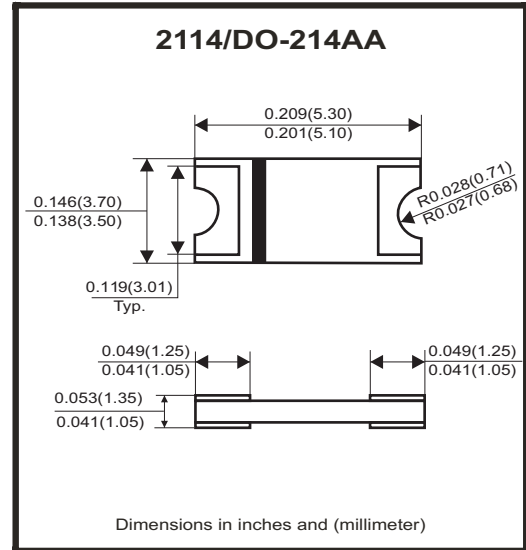


Features

- 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: 0.04 grams (approx).



Circuit Diagram



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

| Parameter | Symbol | CGRBT 301-HF | CGRBT 302-HF | CGRBT 303-HF | CGRBT 304-HF | CGRBT 305-HF | Units |
|--|-----------|--------------|--------------|--------------|--------------|--------------|-------|
| Max. 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} | 95 | | | | | A |
| Max. Average forward current | I_o | 3.0 | | | | | 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 | $I_F = 3.0A$ | V_F | - | 0.94 | 1.00 | V |
| Repetitive peak reverse current | $V_R = \text{Max. } V_{RRM}, T_A = 25^\circ C$ | I_{RRM} | - | 0.10 | 5 | uA |
| Junction capacitance | $V_R = 4V, f = 1.0MHz$ | C_J | - | 23 | - | pF |
| Thermal Resistance | Junction to ambient (Note) | $R_{\theta JA}$ | - | 74 | - | °C/W |
| | Junction to lead (Note) | $R_{\theta JL}$ | - | 10 | - | |

Notes: 1. Thermal resistance from junction to ambient and from junction to lead P.C.B. mounted on 0.2×0.2"(5.0*5.0mm) copper pad areas.

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

REV:A

RATING AND CHARACTERISTIC CURVES (CGRBT301-HF thru CGRBT305-HF)

FIG.1 - FORWARD CURRENT DERATING CURVE

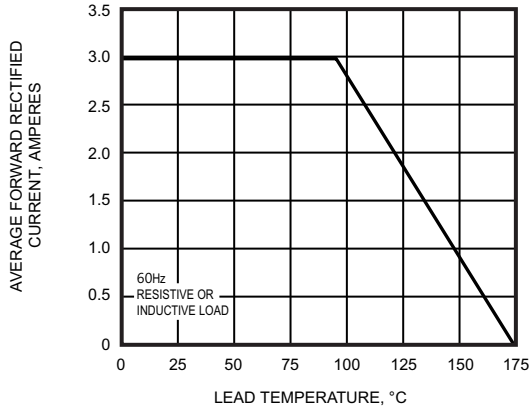


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

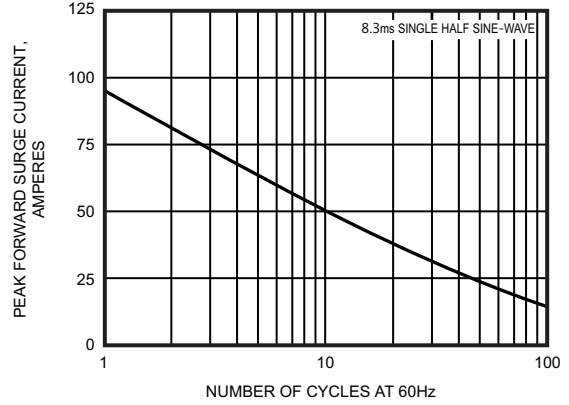


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

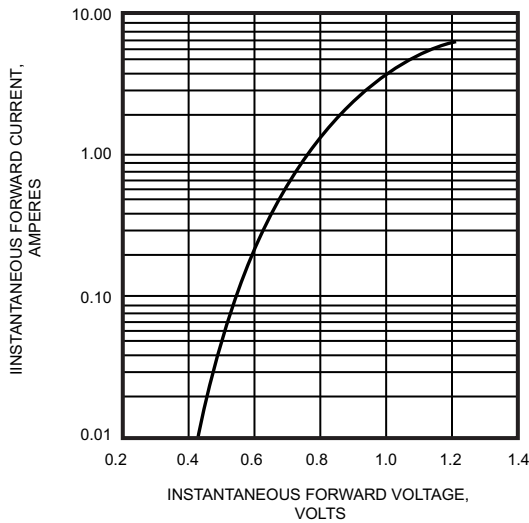


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

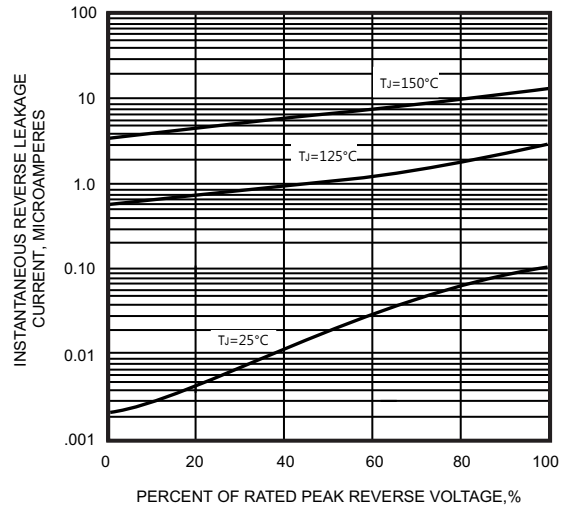
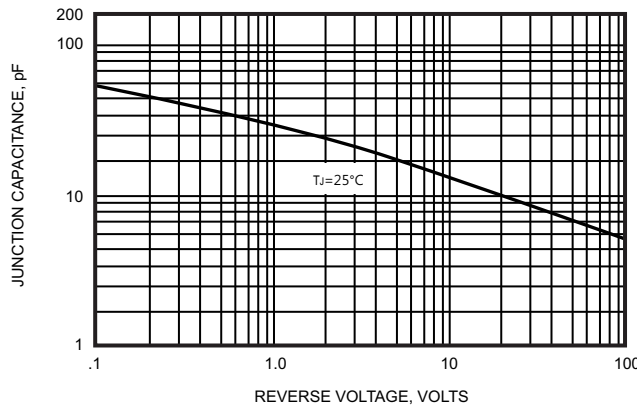
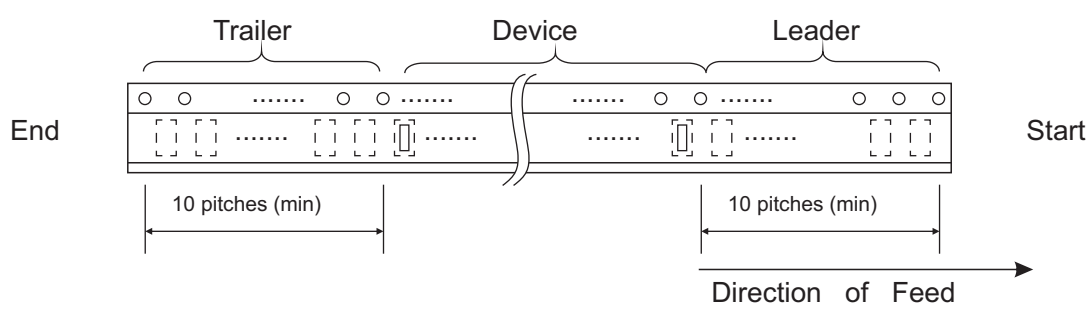
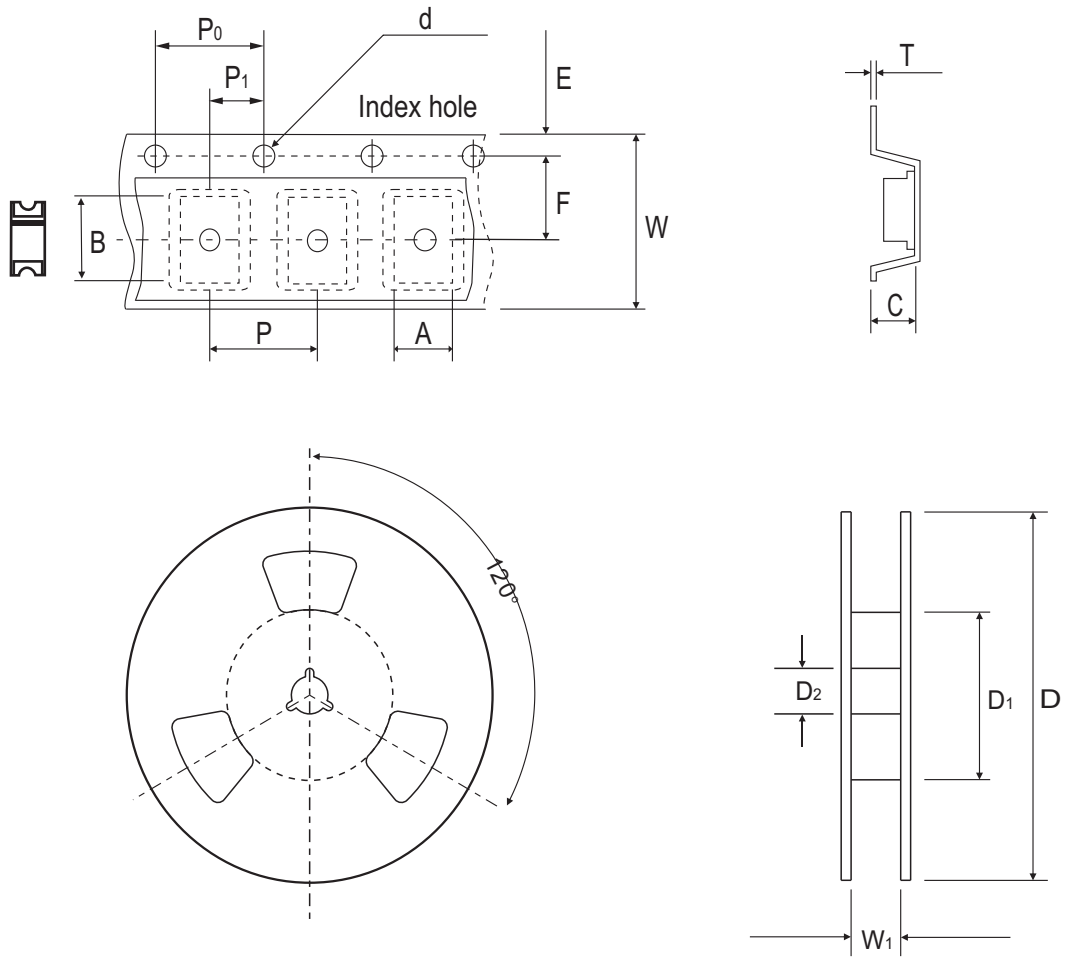


FIG.5 - TYPICAL JUNCTION CAPACITANCE



Reel Taping Specification



| | | | | | | | | |
|--------------------|--------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|
| 2114 (DO-214AA) | SYMBOL | A | B | C | d | D | D ₁ | D ₂ |
| | (mm) | 3.95 ± 0.10 | 5.55 ± 0.10 | 1.45 ± 0.10 | 1.50 ± 0.10 | 330 ± 2.00 | 50.0 MIN. | 13.0 ± 0.50 |
| | (inch) | 0.156 ± 0.004 | 0.219 ± 0.004 | 0.057 ± 0.004 | 0.059 ± 0.004 | 12.992 ± 0.079 | 1.969 MIN. | 0.512 ± 0.020 |

| | | | | | | | | |
|--------------------|--------|---------------|---------------|---------------|----------------|----------------|---------------|----------------|
| 2114 (DO-214AA) | SYMBOL | E | F | P | P ₀ | P ₁ | W | W ₁ |
| | (mm) | 1.75 ± 0.10 | 5.50 ± 0.05 | 8.00 ± 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 | 0.315 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.472 ± 0.012 | 0.567 MAX. |

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REV:A

Marking Code

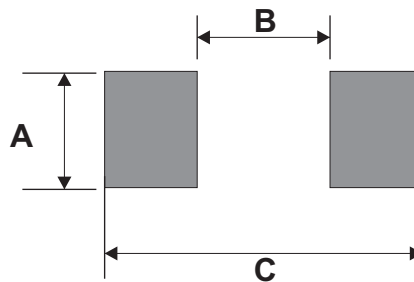
| Part Number | Marking Code |
|-------------|--------------|
| CGRBT301-HF | 30D |
| CGRBT302-HF | 30G |
| CGRBT303-HF | 30J |
| CGRBT304-HF | 30K |
| CGRBT305-HF | 30M |



XXX = Product type marking code

Suggested PAD Layout

| SIZE | 2114/DO-214AA | |
|----------|---------------|------------|
| | (mm) | (inch) |
| A | 3.00MIN. | 0.118MIN. |
| B | 2.65MAX. | 0.104MAX. |
| C | 6.65REF. | 0.262 REF. |



Standard Packaging

| Case Type | REEL PACK | |
|---------------|--------------|------------------|
| | REEL (pcs) | Reel Size (inch) |
| 2114/DO-214AA | 5,000 | 13 |