

## CGRAT101-HF Thru. CGRAT105-HF

Glass Passivated Type

Reverse Voltage: 200 to 1000 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free

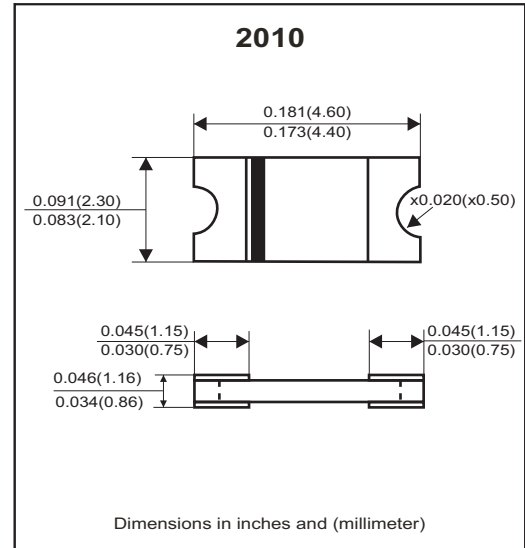


### Features

- Glass passivated cavity-free junction.
- Lead less chip form, no lead damage.
- Low forward voltage drop.
- Plastic package has UL 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	$V_R = \text{Max. } V_{RRM}, T_A = 25^\circ C$	$I_{RRM}$	-	0.10	5	uA
Junction capacitance	$V_R = 4V, f = 1.0MHz$	$C_J$	-	8	-	pF
Thermal Resistance	Junction to ambient (Note)	$R_{\theta JA}$	-	65	-	°C/W
	Junction to lead (Note)	$R_{\theta JL}$	-	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

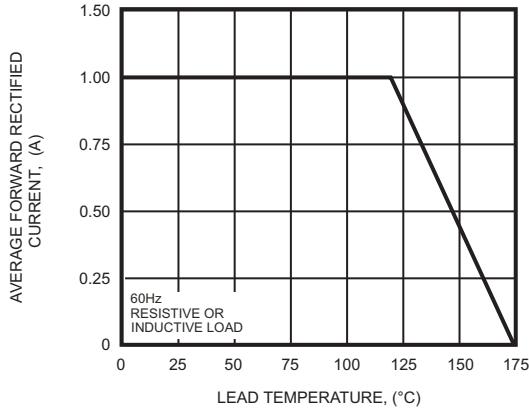


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

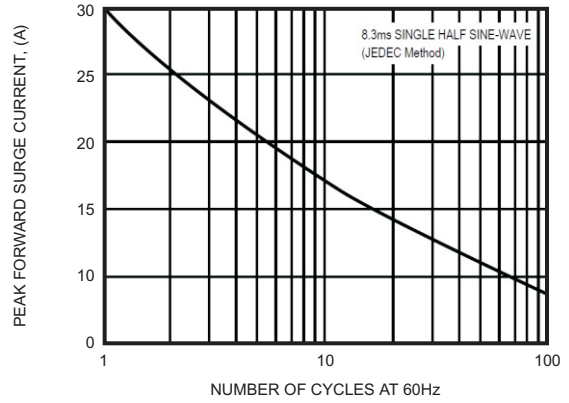


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

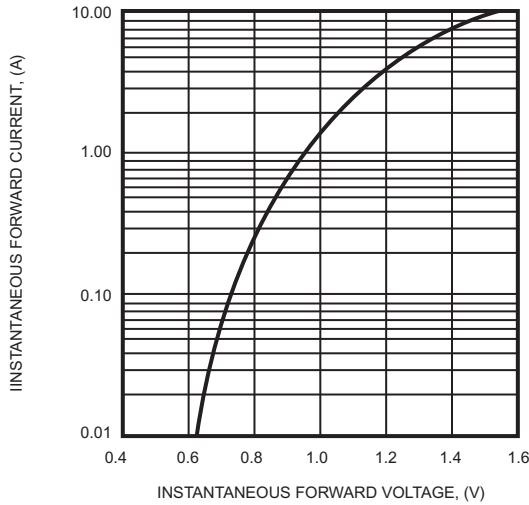


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

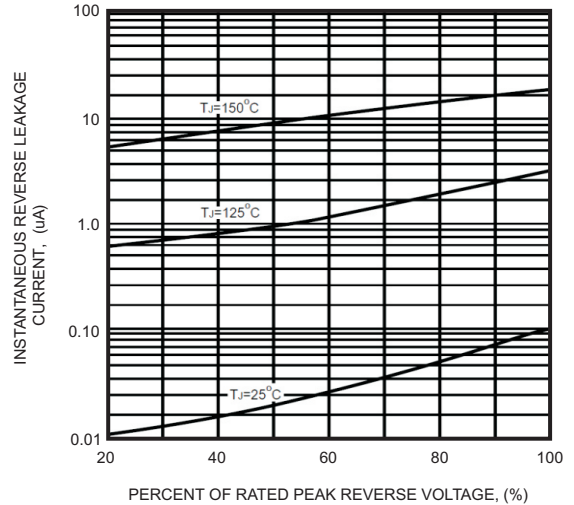
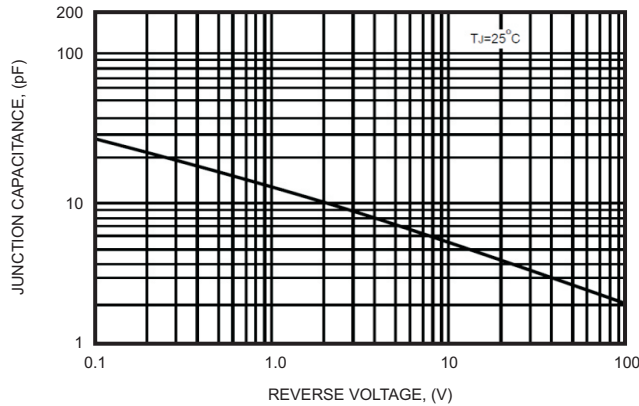
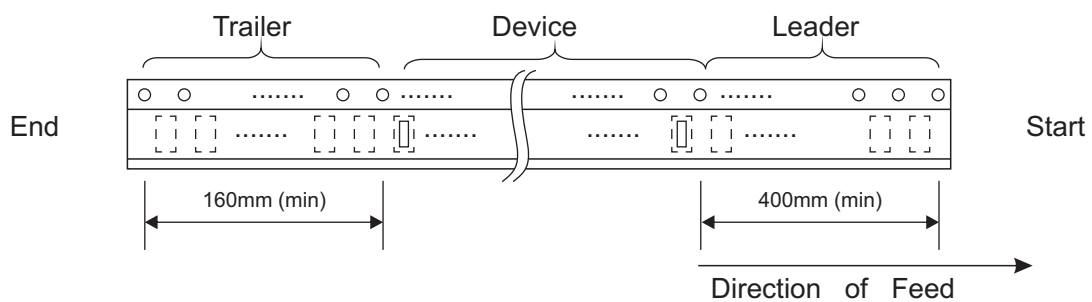
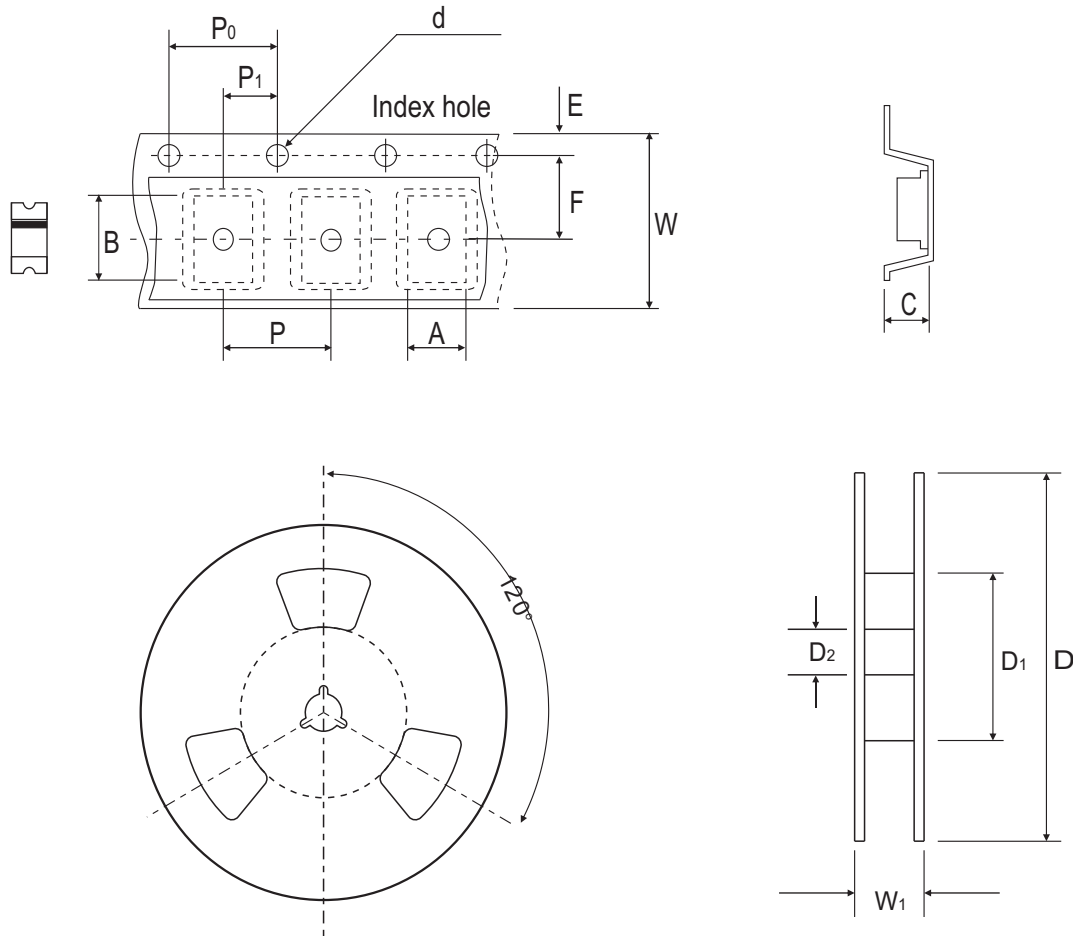


FIG.5 - TYPICAL JUNCTION CAPACITANCE



## Reel Taping Specification



2010	SYMBOL	A	B	C	d	D	D <sub>1</sub>	D <sub>2</sub>
	(mm)	4.75 ± 0.10	2.45 ± 0.10	1.30 ± 0.10	1.50 ± 0.10	178.00 ± 2.00	50.00 MIN.	13.00 ± 0.50
	(inch)	0.187 ± 0.004	0.096 ± 0.004	0.051 ± 0.004	0.059 ± 0.004	7.008 ± 0.079	1.969 MIN.	0.512 ± 0.020

2010	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 ± 0.10	12.00 ± 0.30	18.70 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	0.736 MAX.

## Marking Code

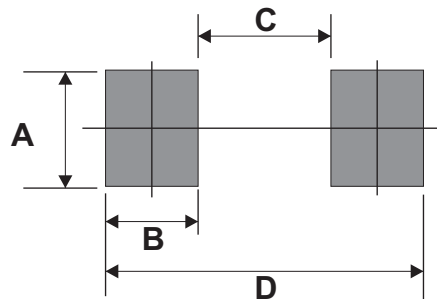
Part Number	Marking Code
CGRAT101-HF	10D
CGRAT102-HF	10G
CGRAT103-HF	10J
CGRAT104-HF	10K
CGRAT105-HF	10M



XXX = Product type marking code

## Suggested PAD Layout

SIZE	2010	
	(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	3,000	7