

## 30A,1200V Standard Rectifier

### Features

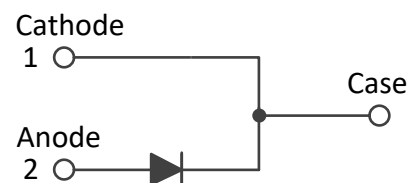
- Glass passivated pellet chip junction
- Low forward voltage drop
- High Surge Current Capability
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21



**TO-247AC**

### Applications

- Power Supply
- Charging Pile
- Inverter



### Mechanical Data

- Case: Epoxy, Molded
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 sec
- Shipped 30 units per plastic tube

### Maximum Ratings & Electrical Characteristics (TA=25°C unless otherwise noted)

Parameter	Symbol	GR30120SP	Unit
Maximum repetitive peak reverse voltage	VRRM	1200	V
Working peak reverse voltage	VRWM	1200	V
Maximum DC blocking voltage	VDC	1200	V
Maximum average forward rectified current	IF(AV)	30	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	IFSM	300	A
Voltage rate of change (rated VR)	dv/dt	10000	V/uS
Operating junction temperature range	TJ	-55 to +150	°C
Storage temperature range	TSTG	-55 to +150	°C

<b>Electrical Specifications</b> ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)					
Parameter	Symbol	Test Conditions	Typ	Max	Unit
Forward drop voltage <sup>Note1</sup>	$V_F$	$I_F=30\text{A}, T_J=25^{\circ}\text{C}$	1.05	1.30	V
		$I_F=30\text{A}, T_J=125^{\circ}\text{C}$	-	1.1	
Reverse leakage current @rated $V_R$ <sup>Note2</sup>	$I_R$	$T_J=25^{\circ}\text{C}$	-	10	$\mu\text{A}$
		$T_J=125^{\circ}\text{C}$	-	500	

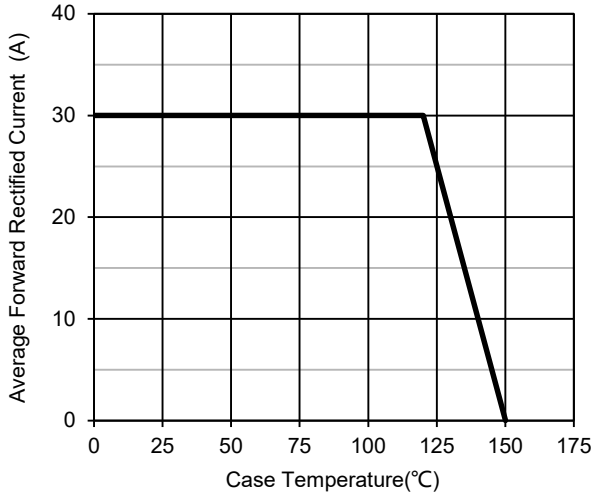
<b>Thermal-Mechanical Specifications</b> ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.8	$^{\circ}\text{C}/\text{W}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	62.5	$^{\circ}\text{C}/\text{W}$

Note:

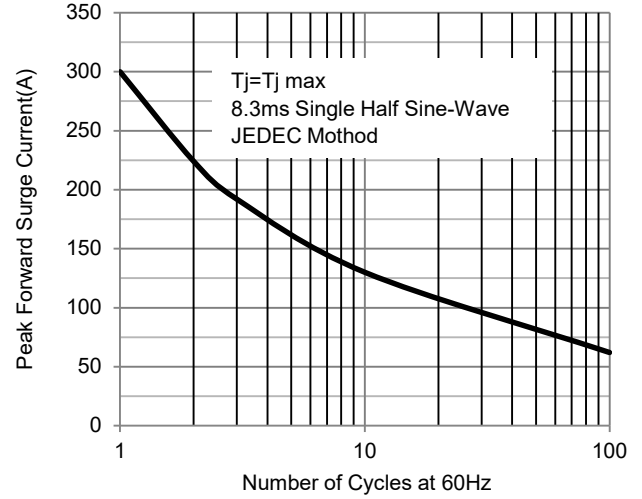
1. Pulse test with  $PW=0.3\text{ms}$ , duty cycle=2%
2. Pulse test with  $PW=30\text{ms}$

## Ratings and Characteristics Curves

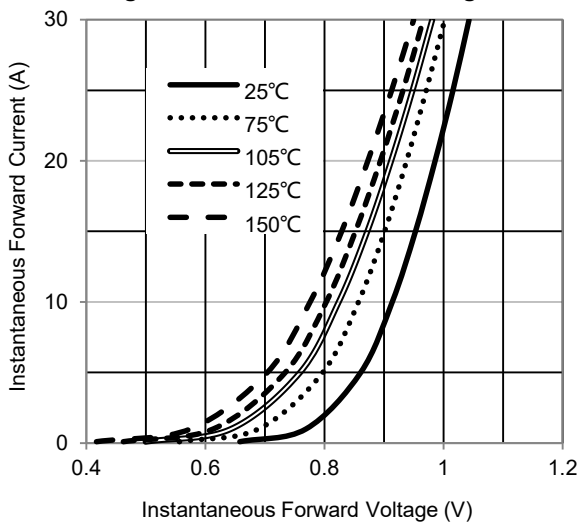
(TA = 25°C unless otherwise noted)



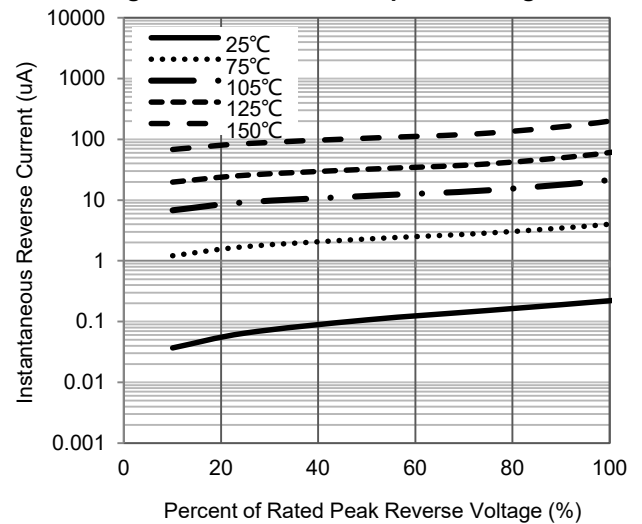
**Fig.1 – Forward Current Derating Curve**



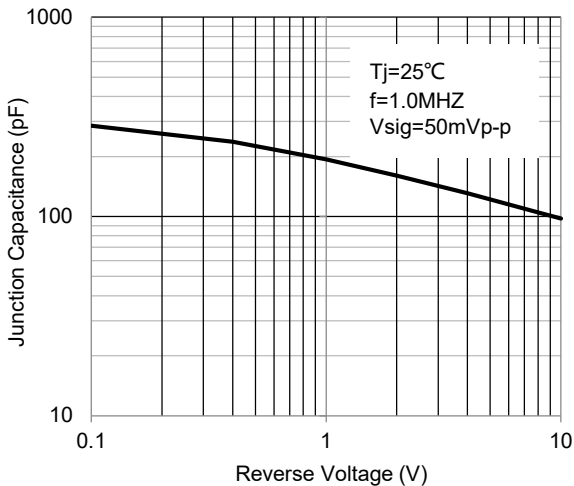
**Fig.2 – Maximum Non-Repetitive Surge Current**



**Fig.3 – Typical Forward Voltage Characteristics**



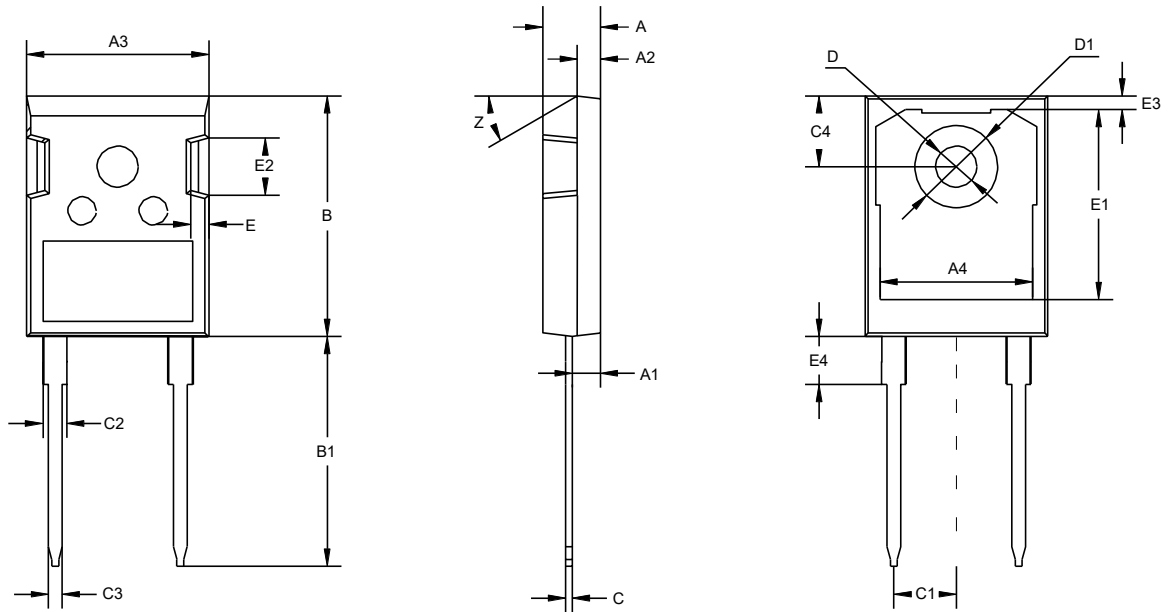
**Fig.4 – Typical Reverse Current Characteristics**



**Fig.5 – Typical Junction Capacitance**

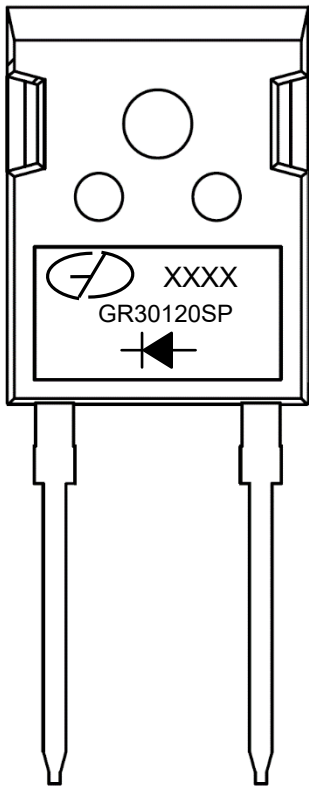
**Package Outline Dimensions** (Unit: millimeters)

**TO-247AC**



TO-247AC							
	Min.	Nom.	Max.		Min.	Nom.	Max.
A	4.7	5	5.2	C3	1.1	1.2	1.3
A1	2.3		2.5	C4	6.04	6.15	6.30
A2	1.9	2	2.1	D	3.5	3.6	3.7
A3	15.48	15.88	16.28	D1	7	7.19	7.4
A4	13.06	13.26	13.56	E	1.5	1.6	1.7
B	20.8	20.95	21.1	E1		16.55	
B1	19.8	20	20.32	E2	4.9	5.0	5.1
C	0.5	0.6	0.7	E3	0.95	1.17	1.35
C1	5.34	5.44	5.54	E4		4.17	4.5
C2		2		Z		30°	

## Marking Outline



1. Logo Mark: 
2. Date code: XXXX
3. Part Name: GR30120SP
4. Polarity : 

## Revision History

Document Version	Date of release	Description of changes
Rev.A	2022.09.07	Preliminary Datasheet

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