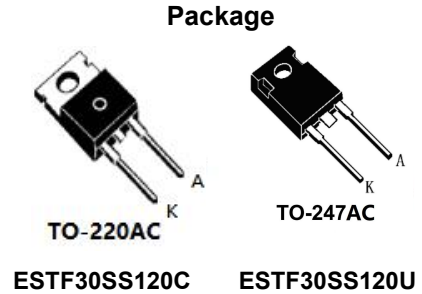


# ESTF30SS120C/U

## Fast Recovery Diode

### Features

- Repetitive Reverse Voltage :  $V_{RRM} = 1200V$
- Forward Voltage Drop :  $V_{F(typ.)} = 2.2V$
- Average Forward Current :  $I_{F(AV)} = 30A$  @  $T_c = 100^\circ C$
- Fast Reverse Recovery Time :  $t_{rr(typ.)} = 65ns$
- RoHS product



### Applications

- Switching Power Supplies
- Power Switching Circuits
- Welding Machine
- UPS



### Absolute Maximum Ratings @ $T_c=25^\circ C$

| Symbol      | Parameter                                   | ratings  | Unit       |
|-------------|---------------------------------------------|----------|------------|
| $V_{RRM}$   | Repetitive peak reverse voltage @50 $\mu A$ | 1200     | V          |
| $V_{RWM}$   | Working Peak Reverse Voltage                | 1200     | V          |
| $I_{F(AV)}$ | Average forward current @ $T_c=100^\circ C$ | 30       | A          |
| $I_{FSM}$   | Peak one Cycle Surge Forward @ $t=10ms$     | 270      | A          |
| $T_j$       | Junction Temperature                        | -50~+150 | $^\circ C$ |
| $T_{STG}$   | Storage temperature range                   | -50~+150 | $^\circ C$ |

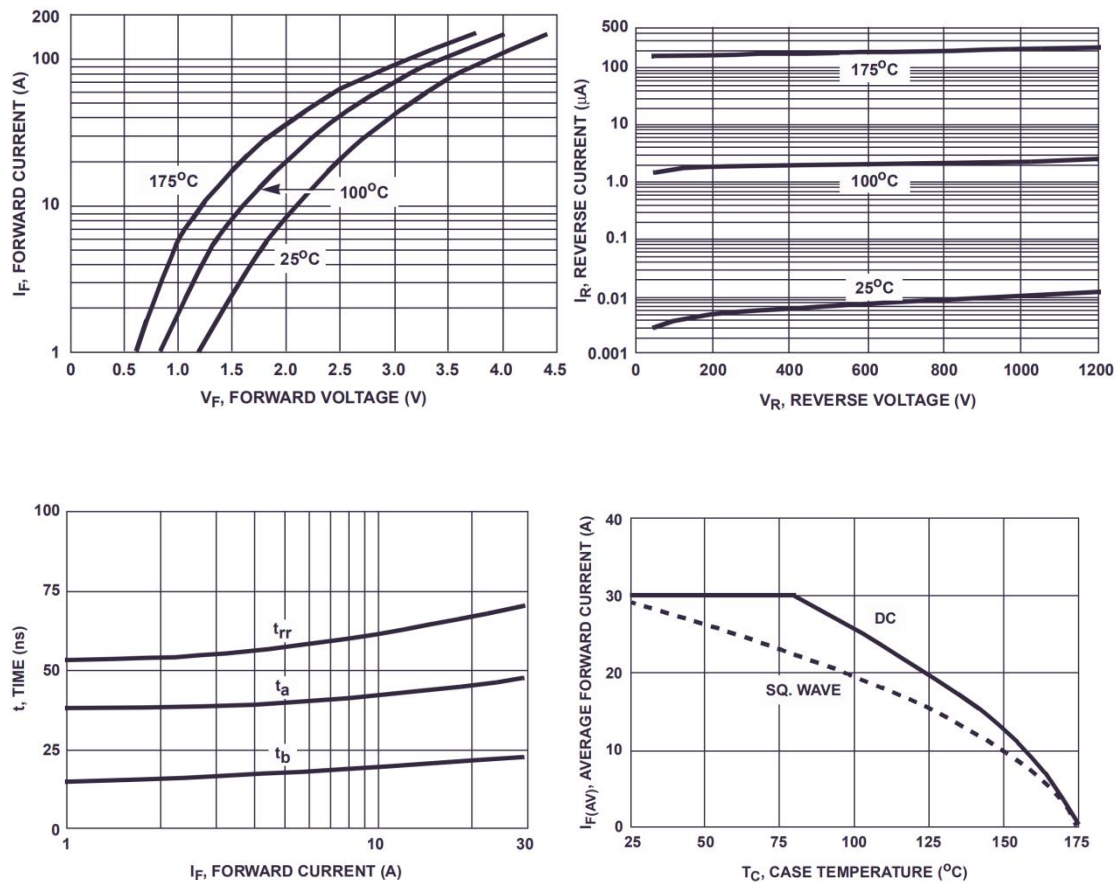
### Electrical Specifications @ $T_c=25^\circ C$

| Symbol               | Parameter                                                             |                                  | Ratings |     |     | Unit |
|----------------------|-----------------------------------------------------------------------|----------------------------------|---------|-----|-----|------|
|                      |                                                                       |                                  | Min     | Typ | Max |      |
| I <sub>R</sub>       | T <sub>j</sub> =25℃                                                   | V <sub>R</sub> =V <sub>RRM</sub> |         |     | 100 | μA   |
|                      | T <sub>j</sub> =125℃                                                  |                                  |         |     | 500 | μA   |
| V <sub>F</sub>       | T <sub>j</sub> =25℃                                                   | I <sub>F</sub> =30A              |         | 2.2 | 3.2 | V    |
|                      | T <sub>j</sub> =125℃                                                  |                                  |         | 1.9 | 2.8 | V    |
| T <sub>rr</sub>      | I <sub>F</sub> =1A, V <sub>R</sub> =30V, di <sub>F</sub> /dt=-200A/μs |                                  |         | 65  | 70  | ns   |
| R <sub>th(j-c)</sub> | Thermal resistance from junction to case                              | TO-247-2L                        |         |     | 0.9 | ℃/W  |
| R <sub>th(j-c)</sub> |                                                                       | TO-220C-2L                       |         |     | 1.3 | ℃/W  |

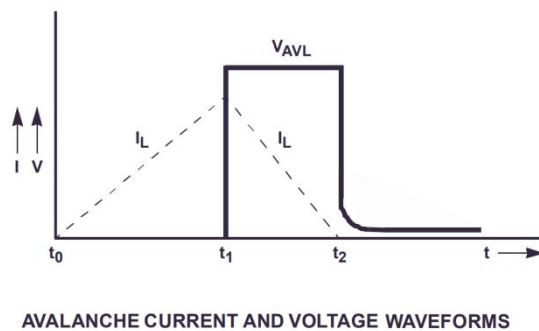
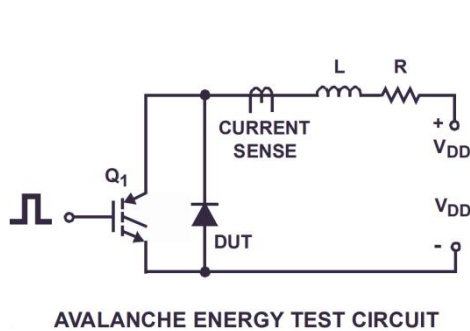
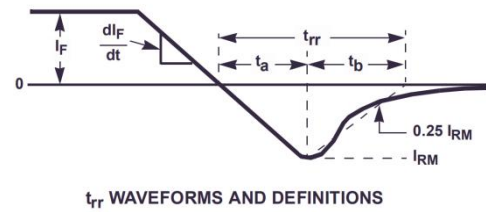
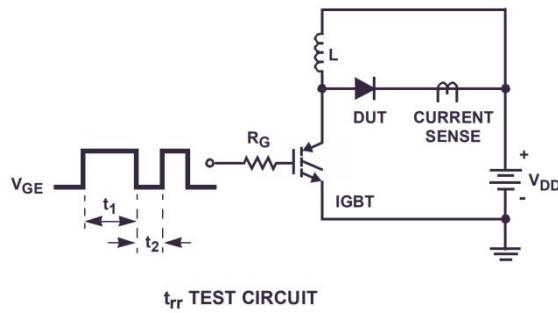
## Order Information

| Order codes  | Silkscreen | Package  | Packaging |
|--------------|------------|----------|-----------|
| ESTF30SS120C | F30S120C   | TO-220AC |           |
| ESTF30SS120U | F30S120U   | TO-247AC |           |

## Typical Performance Curves



## Test Circuits and Waveform



## Package

