

●Serise

Standard Fast Recovery

●Application

General rectification

For PFC

(CCM : Continuous Current Mode)

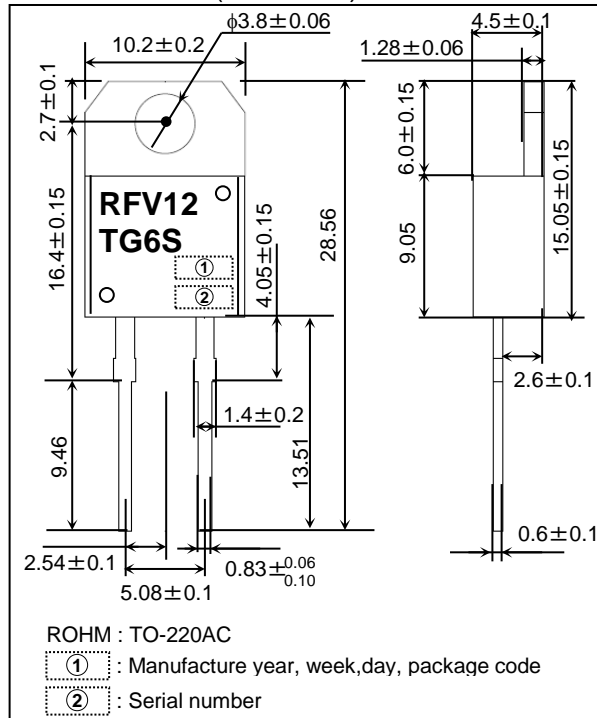
●Features

- 1) Hyper fast recovery / Hard recovery type
- 2) Ultra low switching loss
- 3) High current overload capacity

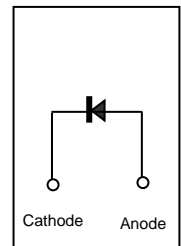
●Construction

Silicon epitaxial planar type

●Dimensions (Unit : mm)



●Structure



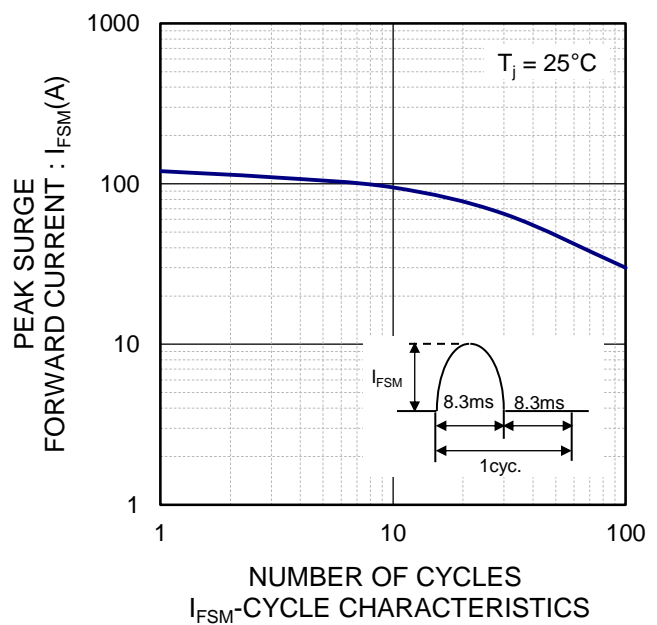
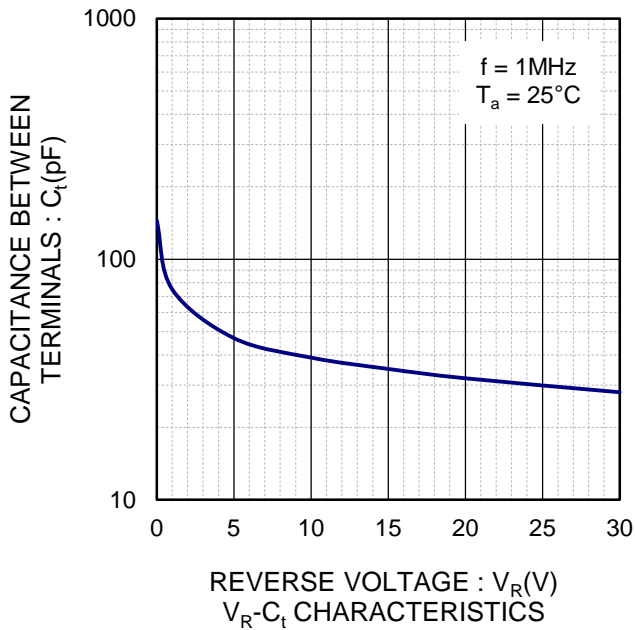
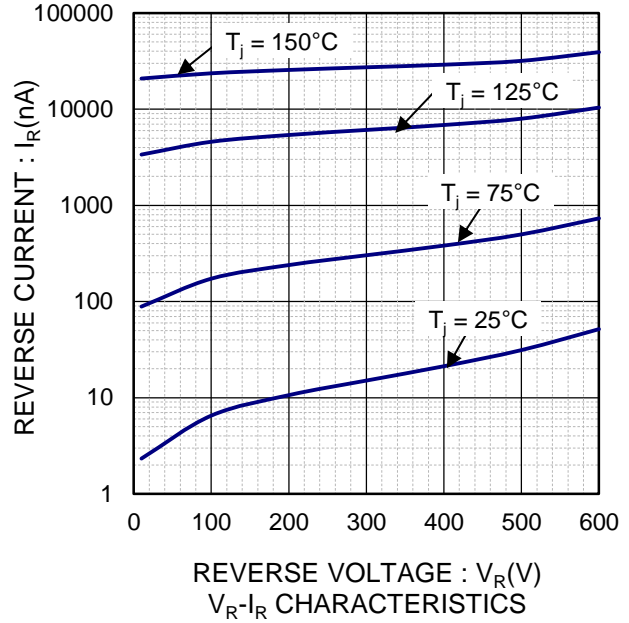
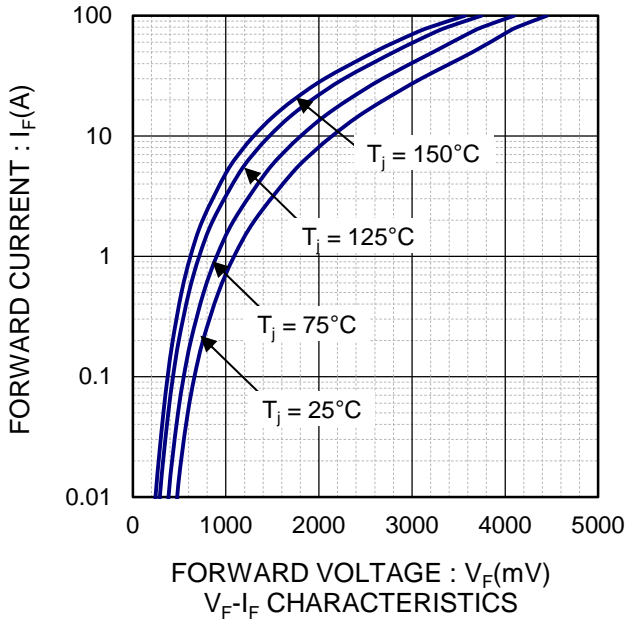
●Absolute Maximum Ratings (T<sub>a</sub>= 25°C)

| Parameter                            | Symbol           | Conditions  | Limits      | Unit |
|--------------------------------------|------------------|---|-------------|------|
| Repetitive peak reverse voltage      | V <sub>RM</sub>  | Duty ≤ 0.5  | 600         | V    |
| Reverse voltage                      | V <sub>R</sub>   | Direct reverse voltage  | 600         | V    |
| Average current                      | I <sub>o</sub>   | 60Hz half sin wave , resistive load                                   | 12          | A    |
| Non-repetitive forward surge current | I <sub>FSM</sub> | 60Hz half sin wave, one cycle, non-repetitive at T <sub>j</sub> =25°C | 120         | A    |
| Operating junction temperature       | T <sub>j</sub>   | -   | 150         | °C   |
| Storage temperature                  | T <sub>stg</sub> | -   | -55 to +150 | °C   |

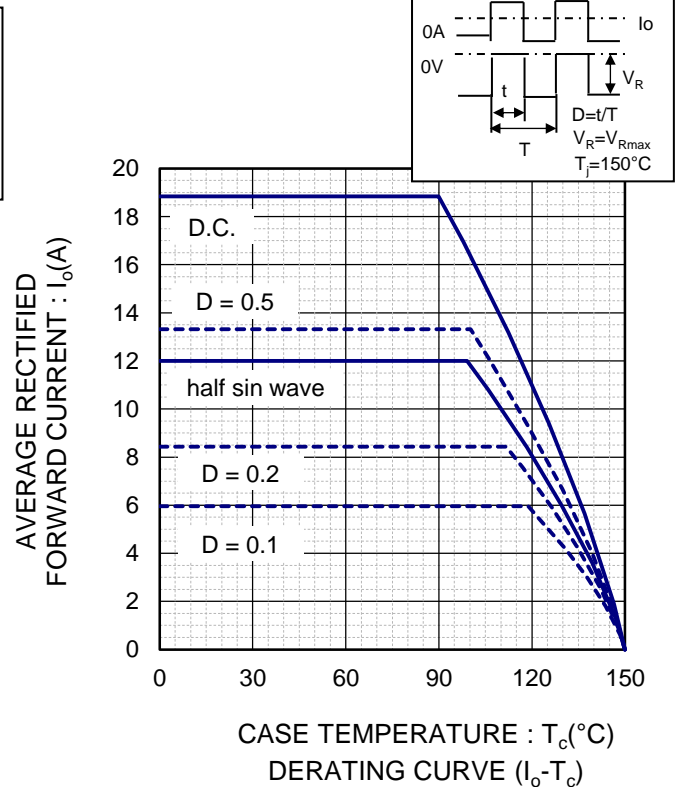
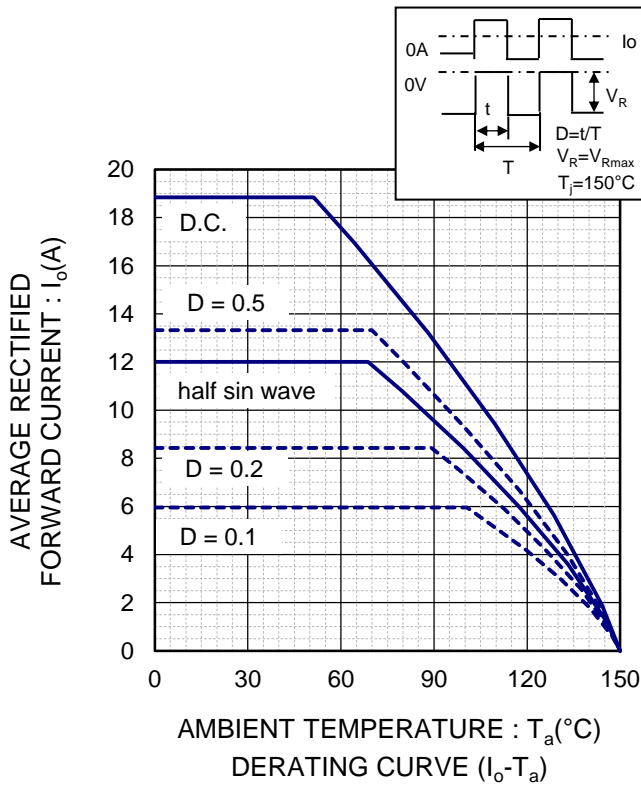
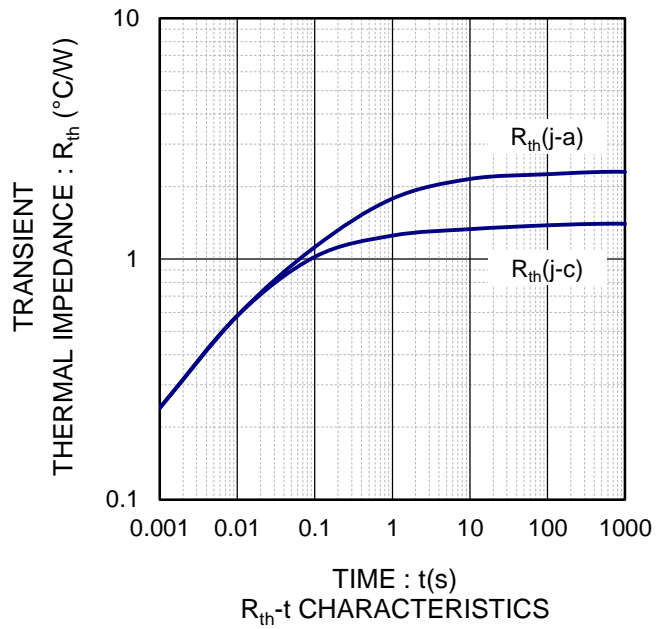
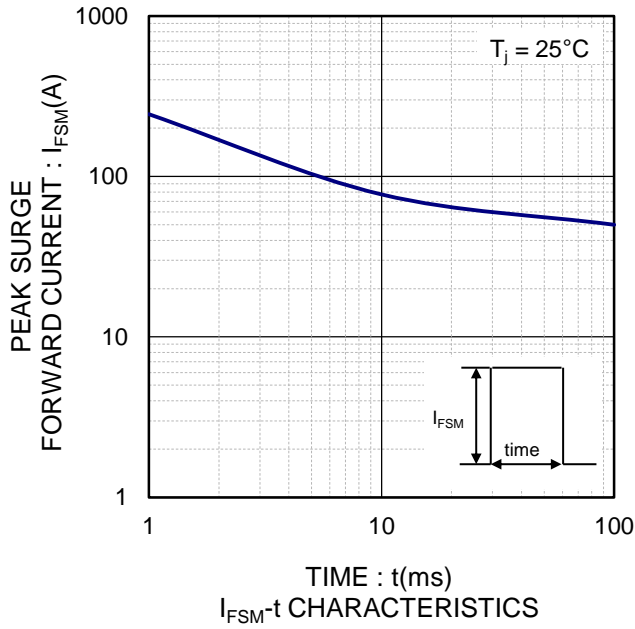
●Electrical Characteristics (T<sub>j</sub> = 25°C)

| Parameter                | Symbol               | Conditions   | Min.                  | Typ. | Max. | Unit |    |
|--------------------------|----------------------|--|-----------------------|------|------|------|----|
| Forward voltage          | V <sub>F</sub>       | I <sub>F</sub> =12A  | T <sub>j</sub> =25°C  | 1.6  | 2.3  | 2.8  | V  |
|                          |                      |  | T <sub>j</sub> =125°C | -    | 1.55 | -    | V  |
| Reverse current          | I <sub>R</sub>       | V <sub>R</sub> =600V   | T <sub>j</sub> =25°C  | -    | 0.03 | 10   | μA |
|                          |                      |  | T <sub>j</sub> =125°C | -    | 8    | 200  | μA |
| Reverse recovery time    | trr                  | I <sub>F</sub> =0.5A, I <sub>R</sub> =1A, I <sub>rr</sub> =0.25×I <sub>R</sub> | -                     | 18   | 25   | ns   |    |
|                          |                      | I <sub>F</sub> =12A, V <sub>R</sub> =400V, dI <sub>F</sub> /dt=-200A/μs        | -                     | 27   | 45   | ns   |    |
| Reverse recovery current | I <sub>RP</sub>      | I <sub>F</sub> =12A, V <sub>R</sub> =400V                                      | -                     | 6.0  | -    | A    |    |
| Reverse recovery charges | Q <sub>rr</sub>      | dI <sub>F</sub> /dt=-200A/μs   | -                     | 180  | -    | nC   |    |
| Forward recovery time    | t <sub>fr</sub>      | I <sub>F</sub> =12A, dI <sub>F</sub> /dt=200A/μs,                              | -                     | 120  | -    | ns   |    |
| Forward recovery voltage | V <sub>FP</sub>      | V <sub>FR</sub> =1.1×V <sub>Fmax</sub>   | -                     | 5.5  | -    | V    |    |
| Thermal resistance       | R <sub>th(j-a)</sub> | Junction to ambient  | -                     | -    | 2.3  | °C/W |    |
|                          | R <sub>th(j-c)</sub> | Junction to case   | -                     | -    | 1.4  | °C/W |    |

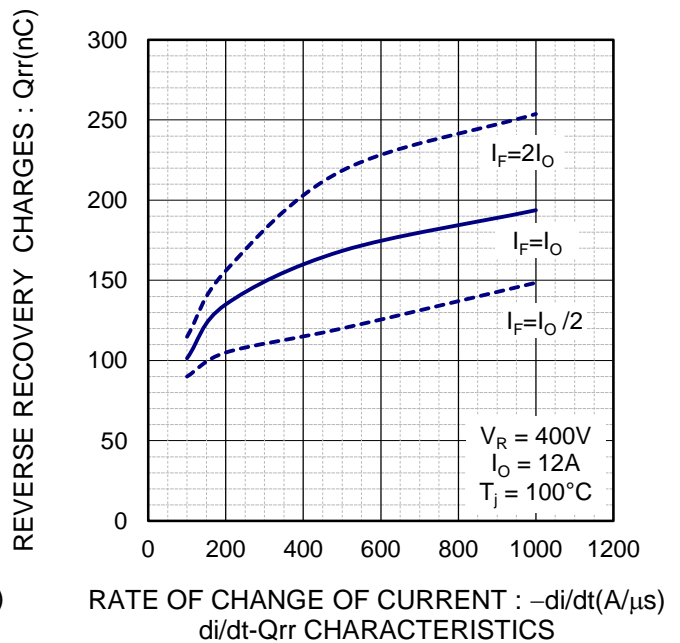
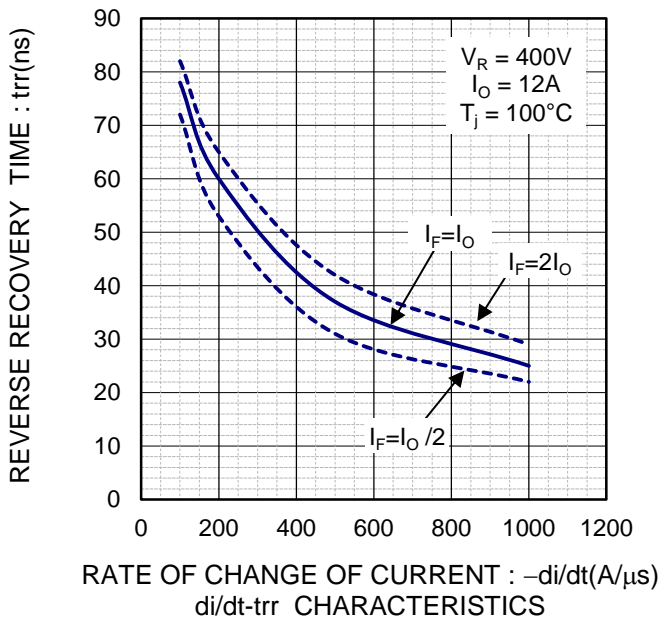
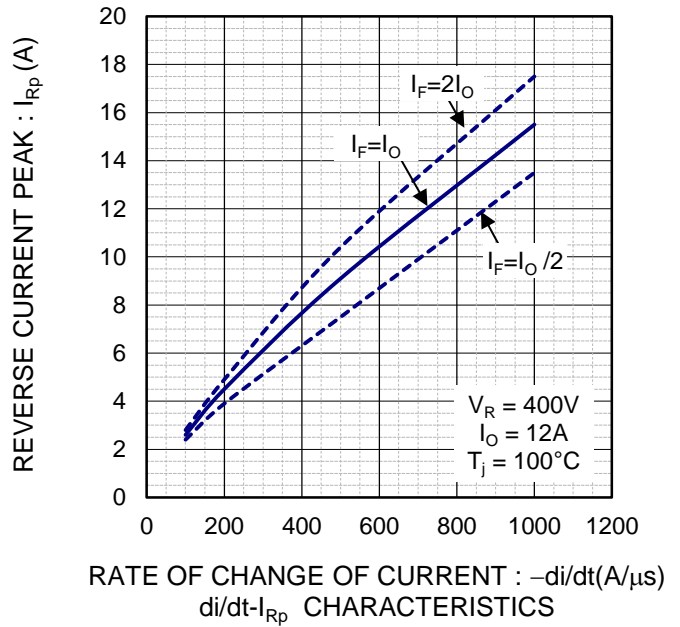
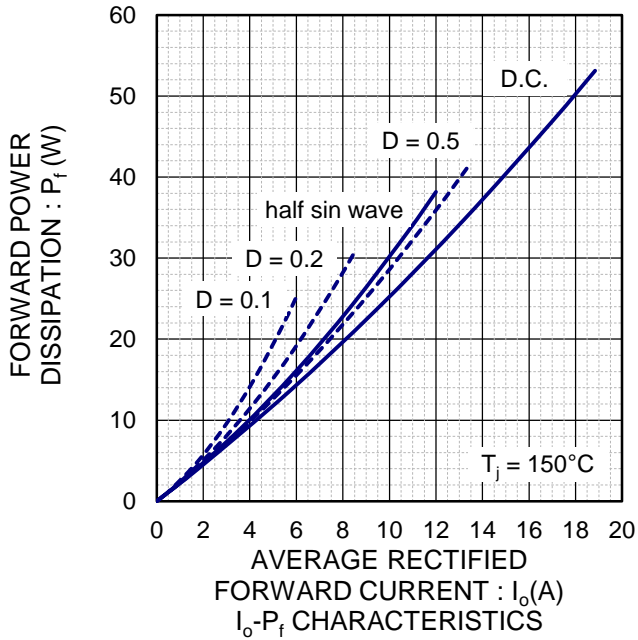
●Electrical Characteristic Curves



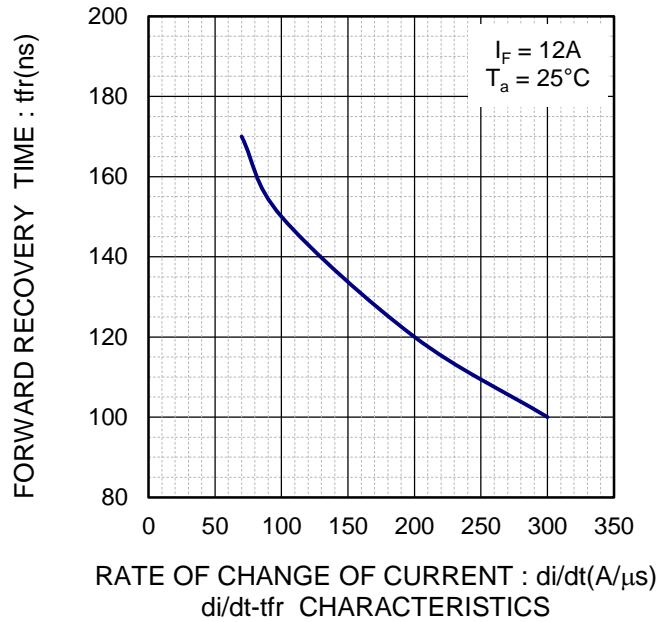
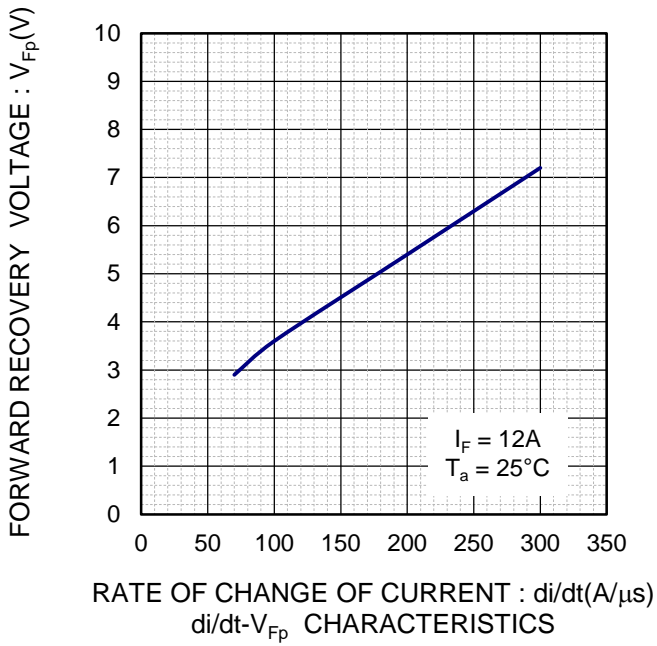
●Electrical characteristic curves



●Electrical characteristic curves



●Electrical characteristic curves



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