

## Super LLD (For PFC circuit) (current continuous mode)

### LOW LOSS SUPER HIGH SPEED RECTIFIER

#### Features

- Super high speed switching
- High reliability by planer design

#### Applications

- PFC circuit (current continuous mode)

#### Maximum ratings and characteristics

- Maximum ratings

| Item                                | Symbol    | Conditions                                         | Rating      | Unit               |
|-------------------------------------|-----------|----------------------------------------------------|-------------|--------------------|
| Repetitive peak reverse voltage     | $V_{RRM}$ |                                                    | 600         | V                  |
| Non-Repetitive peak reverse voltage | $V_{RSM}$ |                                                    | 600         | V                  |
| Peak forward current                | $I_P$     |                                                    | 20*         | A                  |
| Average output current              | $I_O$     | Square wave duty=1/2,<br>$T_c=102^{\circ}\text{C}$ | 7*          | A                  |
| Non-Repetitive surge current        | $I_{FSM}$ | Sine wave 10ms, 1shot                              | 25          | A                  |
| Operating junction temperature      | $T_J$     |                                                    | 150         | $^{\circ}\text{C}$ |
| Storage temperature                 | $T_{stg}$ |                                                    | -40 to +150 | $^{\circ}\text{C}$ |

\* Out put current of centertap full wave connection.

- Electrical characteristics ( $T_a=25^{\circ}\text{C}$  Unless otherwise specified )

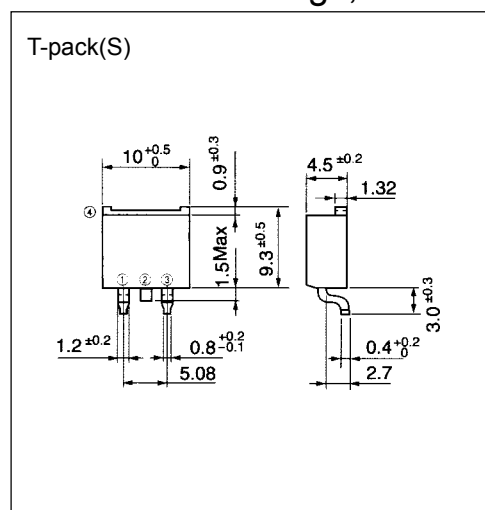
| Item                             | Symbol        | Conditions                                                                                       | Characteristics | Unit                        |
|----------------------------------|---------------|--------------------------------------------------------------------------------------------------|-----------------|-----------------------------|
| Reverse recovery peak current ** | $I_{RP}$      | $I_F=5\text{A}$ , $-di/dt=200\text{A}/\mu\text{s}$ , $V_R=380\text{V}$ $T_J=100^{\circ}\text{C}$ | Typ. 2.0        | A                           |
| Reverse recovery time **         | $t_{rr}$      | $I_F=0.1\text{A}$ , $I_R=0.2\text{A}$ , $I_{rec}=0.05\text{A}$                                   | Max. 25.0       | ns                          |
| Forward voltage **               | $V_F$         | $I_F=10\text{A}$                                                                                 | Max. 5.0        | V                           |
| Reverse current **               | $I_R$         | $V_R=V_{RRM}$                                                                                    | Max. 50.0       | $\mu\text{A}$               |
| Thermal resistance               | $R_{th(j-c)}$ | Junction to case                                                                                 | Max. 2.5        | $^{\circ}\text{C}/\text{W}$ |

\*\* Rating per element

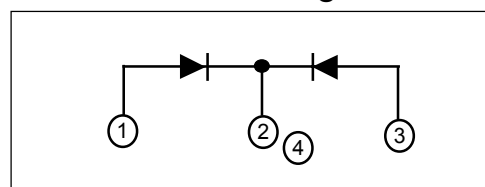
- Mechanical characteristics

|                  |                    |            |     |
|------------------|--------------------|------------|-----|
| Mouunting torque | Recommended torque | 0.4 to 0.6 | N·m |
| Approximate mass |                    | 2.0        | g   |

#### Outline drawings, mm

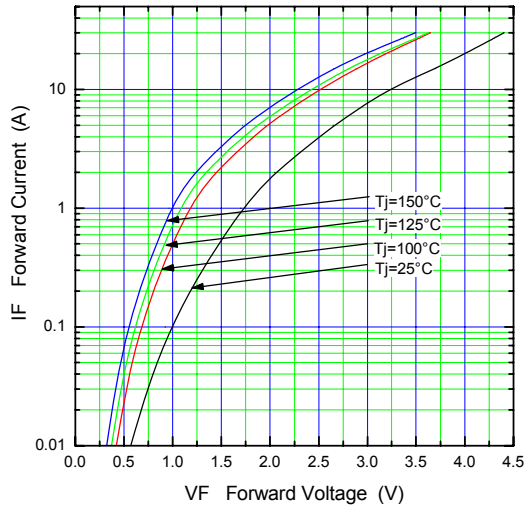


#### Connection diagram

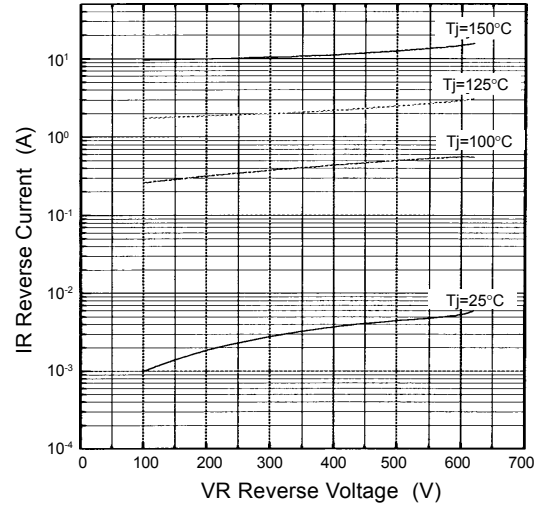


## Characteristics

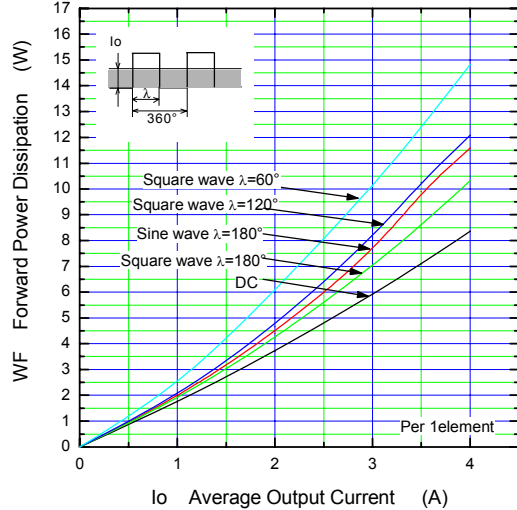
Forward Characteristic (typ.)



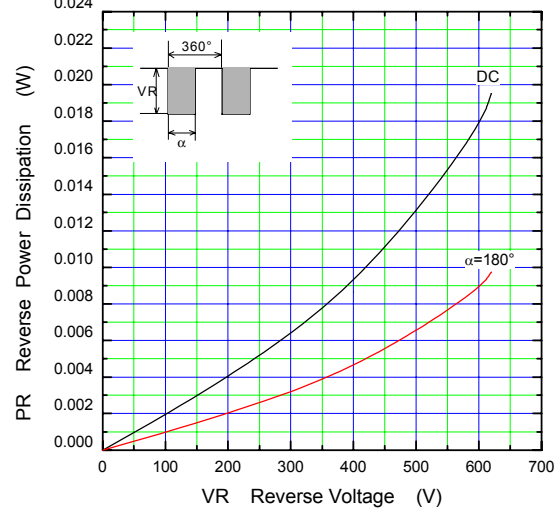
Reverse Characteristic (typ.)



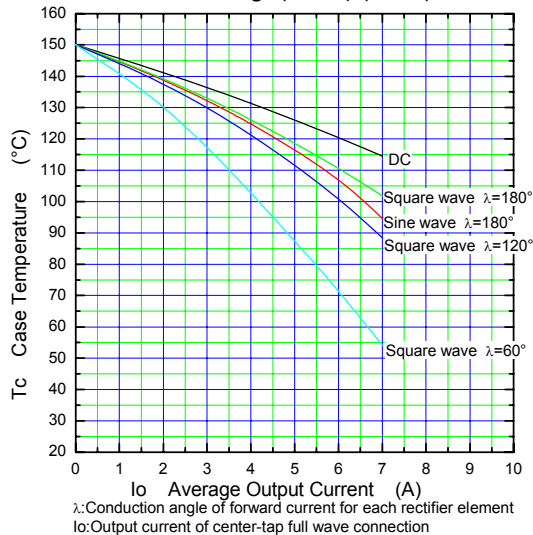
Forward Power Dissipation (max.)



Reverse Power Dissipation (max.)



Current Derating ( $I_o$ - $T_c$ ) (max.)



Junction Capacitance Characteristic (typ.)

