

# PH865C12 (20A)

(120V / 20A)

[0401]

## High Voltage Schottky barrier diode

### Major characteristics

| Characteristics | PH865C12 | Units | Condition                     |
|-----------------|----------|-------|-------------------------------|
| $V_{RRM}$       | 120      | V     |                               |
| $V_F$           | 0.88     | V     | $T_c=25^{\circ}\text{C MAX.}$ |
| $I_o$           | 20       | A     |                               |

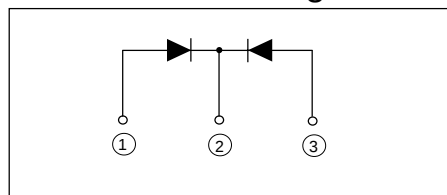
### Features

- Low  $V_F$
- High Voltage
- Center tap connection

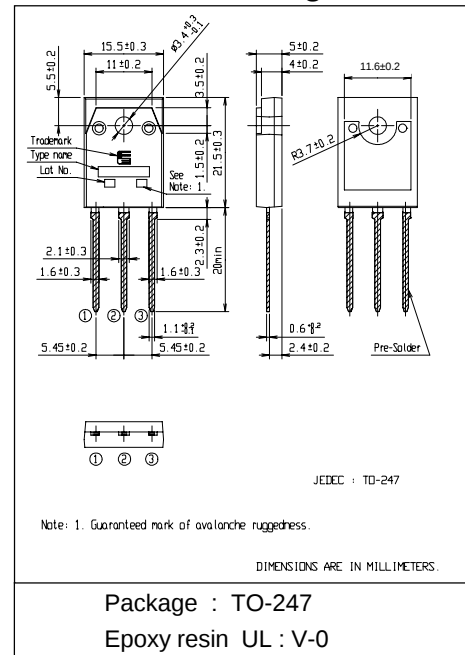
### Applications

- High frequency operation
- DC-DC converters
- AC adapter

### Connection diagram



### Outline drawings, mm



### Maximum ratings and characteristics

- Absolute maximum ratings (at  $T_c=25^{\circ}\text{C}$  Unless otherwise specified )

| Item                                  | Symbol    | Conditions                                         | Rating      | Unit               |
|---------------------------------------|-----------|----------------------------------------------------|-------------|--------------------|
| Repetitive peak surge reverse voltage | $V_{RSM}$ | $t_w=500\text{ns}$ , duty=1/40                     | 120         | V                  |
| Repetitive peak reverse voltage       | $V_{RRM}$ |                                                    | 120         | V                  |
| Average output current                | $I_o$     | Square wave, duty=1/2<br>$T_c=126^{\circ}\text{C}$ | 20 *        | A                  |
| Non-repetitive surge current **       | $I_{FSM}$ | Sine wave<br>10ms 1shot                            | 150         | A                  |
| Operating junction temperature        | $T_j$     |                                                    | +150        | $^{\circ}\text{C}$ |
| Storage temperature                   | $T_{stg}$ |                                                    | -40 to +150 | $^{\circ}\text{C}$ |

\* Out put current of center tap full wave connection

\*\*Rating per element

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

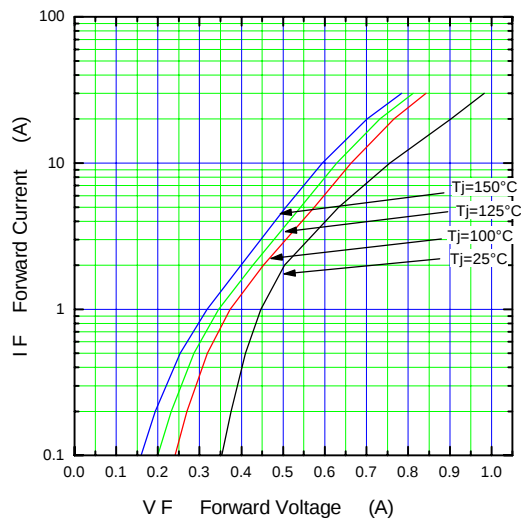
| Item                 | Symbol        | Conditions          | Max. | Unit                 |
|----------------------|---------------|---------------------|------|----------------------|
| Forward voltage drop | $V_F$         | $I_{FM}=10\text{A}$ | 0.88 | V                    |
| Reverse current      | $I_R$         | $V_R=V_{RRM}$       | 150  | $\mu\text{A}$        |
| Thermal resistance   | $R_{th(j-c)}$ | Junction to case    | 1.5  | $^{\circ}\text{C/W}$ |

- Mechanical characteristics

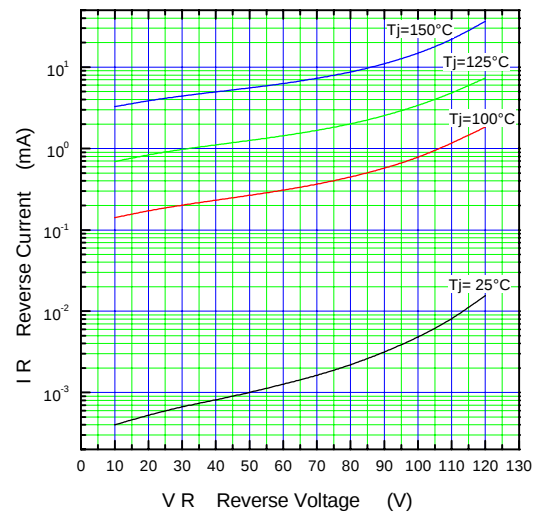
|                  |                    |            |     |
|------------------|--------------------|------------|-----|
| Mounting torque  | Recommended torque | 0.4 to 0.6 | N·m |
| Approximate mass |                    | 4.9        | g   |

■ Characteristics

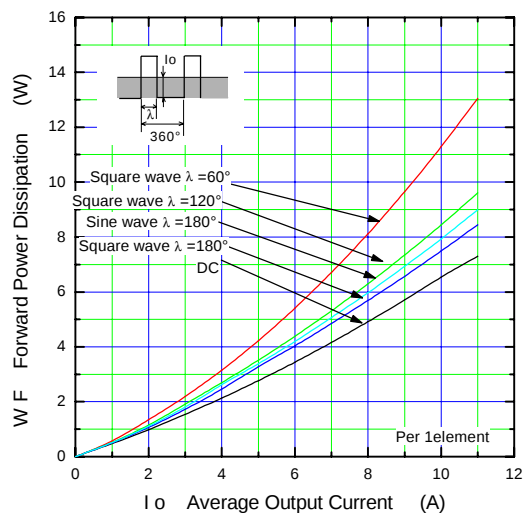
Forward Characteristic (typ.)



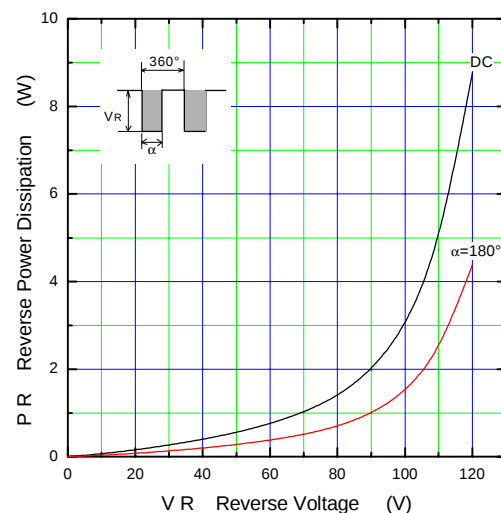
Reverse Characteristic (typ.)



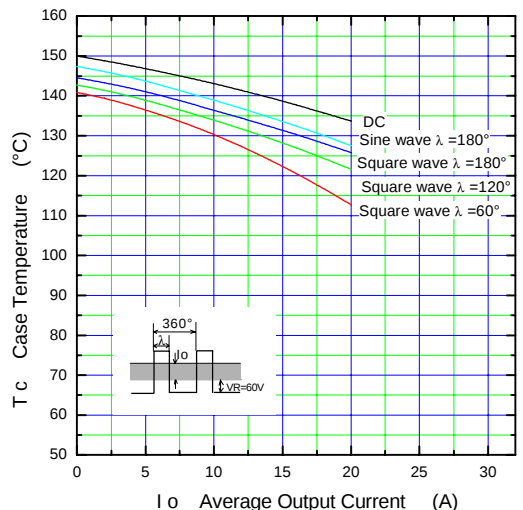
Forward Power Dissipation (max.)



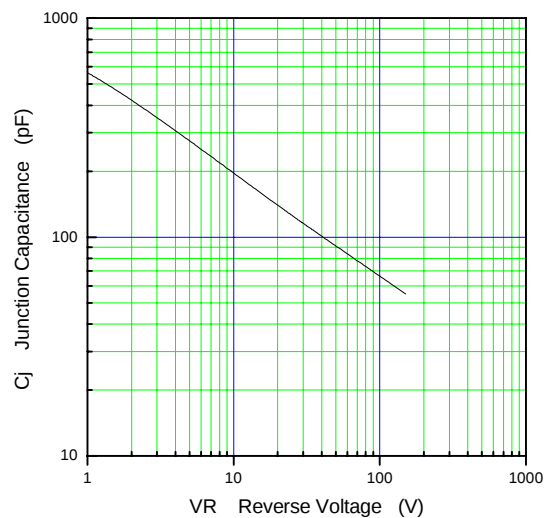
Reverse Power Dissipation (max.)



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



Junction Capacitance Characteristic (max.)

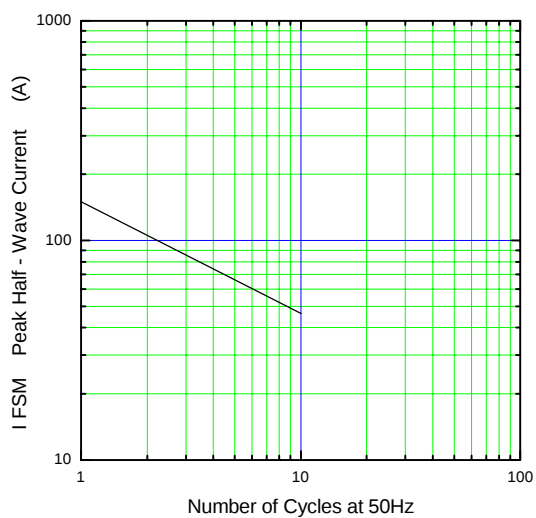


$\lambda$ : Conduction angle of forward current for each rectifier element  
 $I_o$ : Output current of center-tap full wave connection

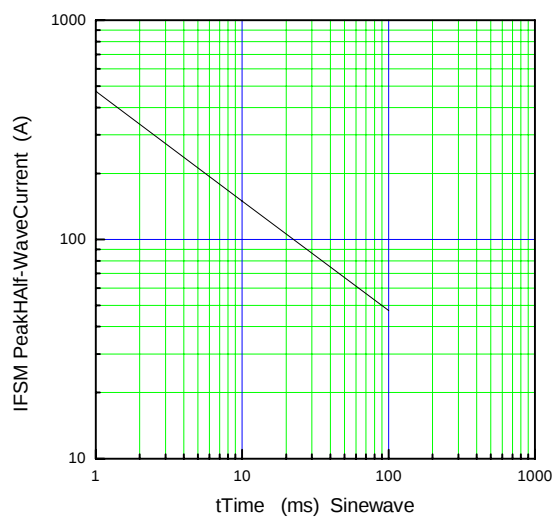
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Surge Capability (max.)



Surge Current Ratings (max.)



Transient Thermal Impedance (max.)

