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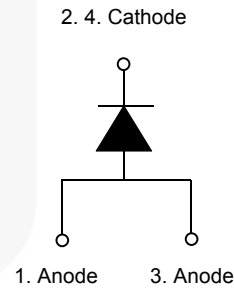
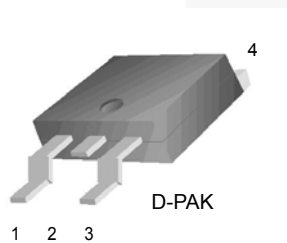
# FYD0504SA/FYD0504SATM Schottky Barrier Rectifiers

## Features

- Low Forward Voltage Drop
- High frequency properties and switching speed
- Guard ring for over-voltage protection
- “TM” is a packing option

## Application

- Switched mode power supply
- Freewheeling diodes



## Ordering Information

| Part Number            | Top Mark | Package | Packing Method |
|------------------------|----------|---------|----------------|
| FYD0504SA /FYD0504SATM | Y0504    | D-PAK   | Tape and Reel  |

FYD0504SA/FYD0504SATM — Schottky Barrier Rectifiers

## Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

| Symbol      | Parameter                                                     | Ratings     | Unit             |
|-------------|---------------------------------------------------------------|-------------|------------------|
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage                            | 40          | V                |
| $V_R$       | Maximum DC Reverse Voltage                                    | 40          | V                |
| $I_{F(AV)}$ | Average Forward Rectified Current @ $T_C = 135^\circ\text{C}$ | 5           | A                |
| $I_{FSM}$   | Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave  | 80          | A                |
| $T_J$       | Operating Junction Temperature Range                          | -65 to +150 | $^\circ\text{C}$ |
| $T_{STG}$   | Storage Temperature Range                                     | -65 to +150 | $^\circ\text{C}$ |

## Thermal Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

| Symbol                | Parameter                            | Value | Unit                      |
|-----------------------|--------------------------------------|-------|---------------------------|
| $R_{\theta Jc}^{(1)}$ | Thermal Resistance, Junction-to-Case | 0.75  | $^\circ\text{C}/\text{W}$ |

### Note:

1. Measurement under infinite cooling condition.

## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

| Symbol   | Parameter                                                          | Conditions                                   | Value | Unit |
|----------|--------------------------------------------------------------------|----------------------------------------------|-------|------|
| $V_{FM}$ | Maximum Instantaneous Forward Voltage <sup>(2)</sup>               | $I_F = 5\text{ A}, T_A = 25^\circ\text{C}$   | 0.55  | V    |
|          |                                                                    | $I_F = 5\text{ A}, T_A = 125^\circ\text{C}$  | 0.49  |      |
|          |                                                                    | $I_F = 10\text{ A}, T_A = 25^\circ\text{C}$  | 0.67  |      |
|          |                                                                    | $I_F = 10\text{ A}, T_A = 125^\circ\text{C}$ | 0.65  |      |
| $I_{RM}$ | Maximum Instantaneous Reverse Current @ rated $V_R$ <sup>(2)</sup> | $T_A = 25^\circ\text{C}$                     | 1     | mA   |
|          |                                                                    | $T_A = 125^\circ\text{C}$                    | 40    |      |

### Note:

2. Pulse test with  $PW = 300\ \mu\text{s}$ , 2% duty cycle

Typical Performance Characteristics

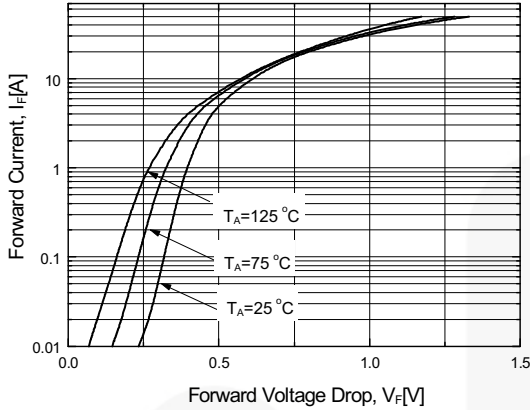


Figure 1. Typical Forward Characteristics

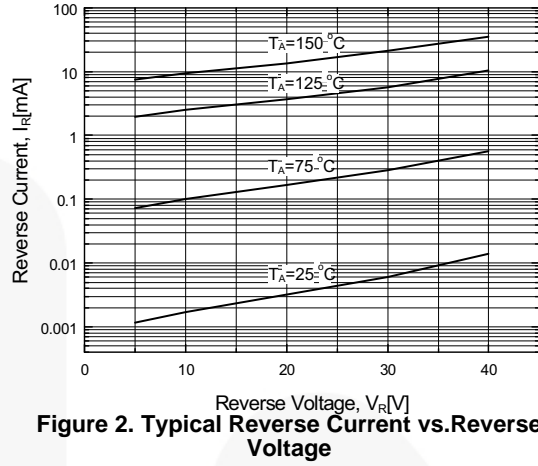


Figure 2. Typical Reverse Current vs. Reverse Voltage

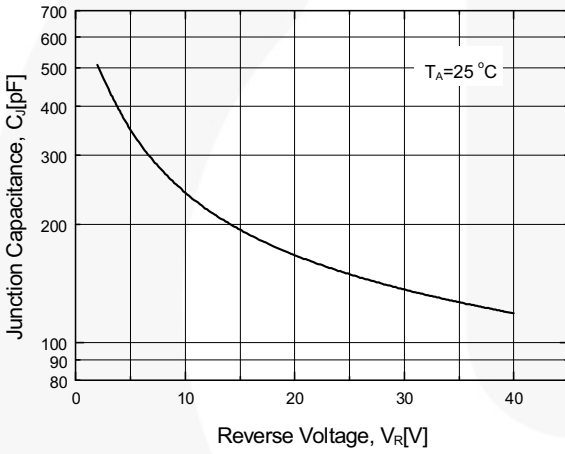


Figure 3. Typical Junction Capacitance

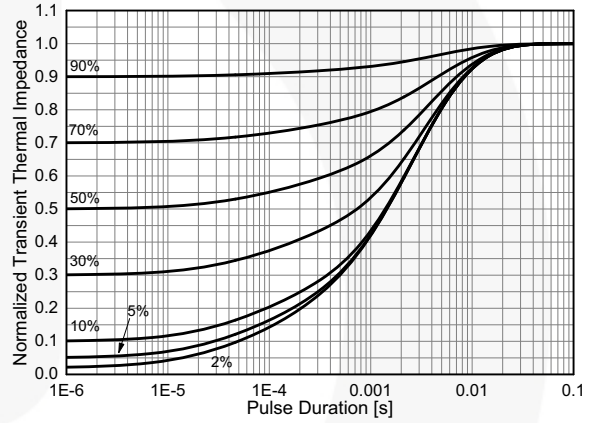


Figure 4. Thermal Impedance Characteristics

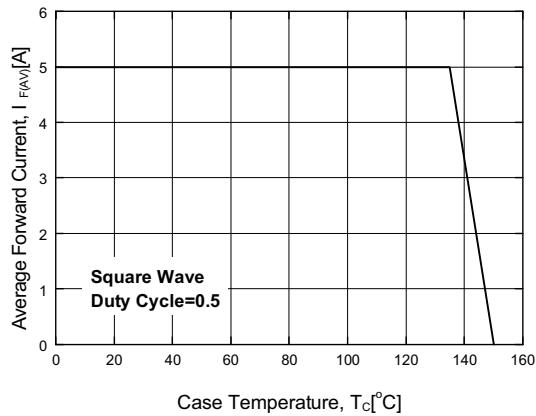


Figure 5. Forward Current Derating Curve

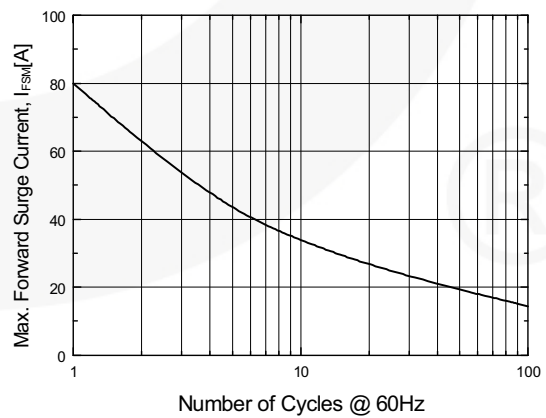
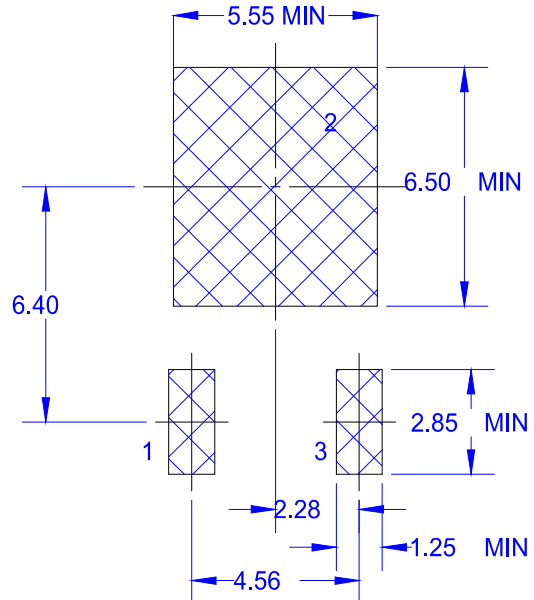
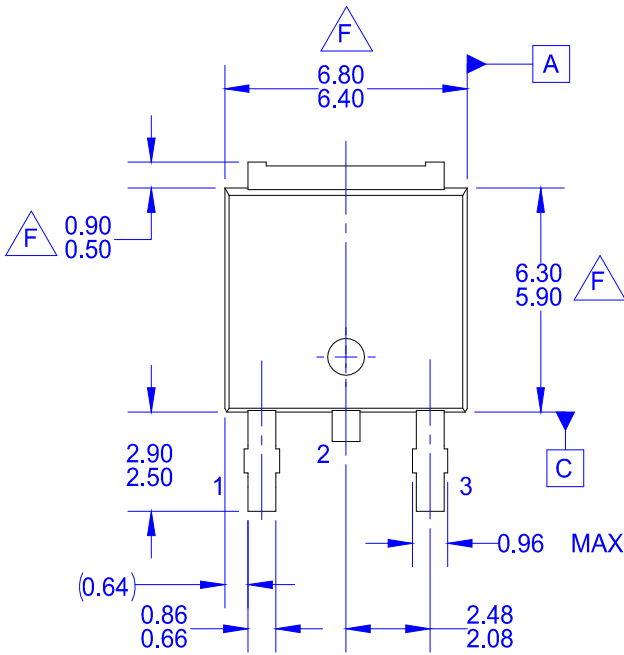
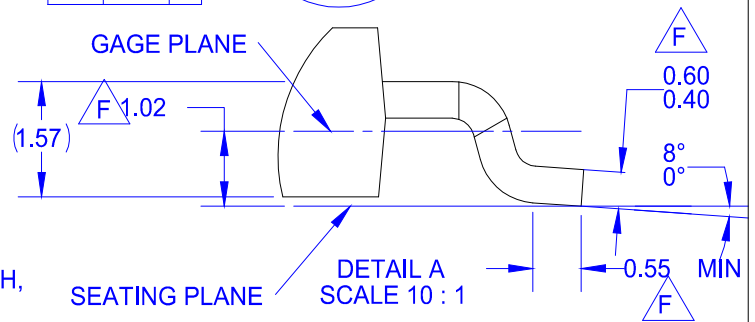
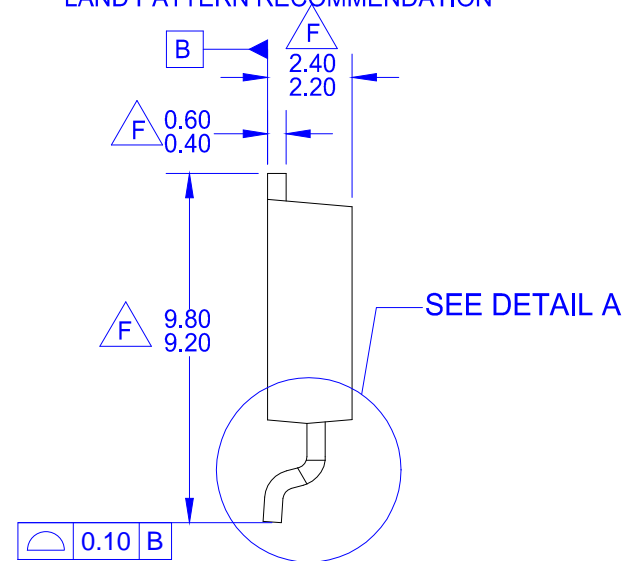
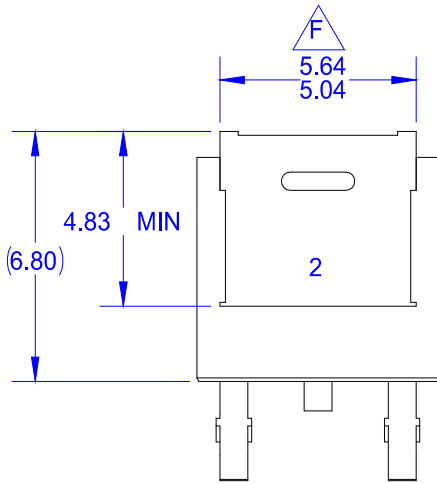


Figure 6. Non-Repetitive Surge Current



LAND PATTERN RECOMMENDATION



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