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May 2016

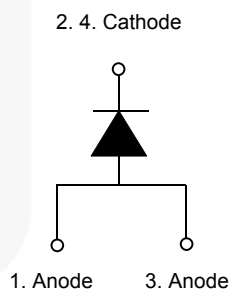
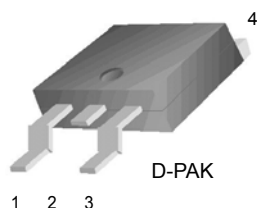
## FYD0504SA/FYD0504SATM Schottky Barrier Rectifiers

### 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

## 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	$^\circ\text{C/W}$

### 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  $PW = 300\text{ }\mu\text{s}$ , 2% duty cycle

## Typical Performance Characteristics

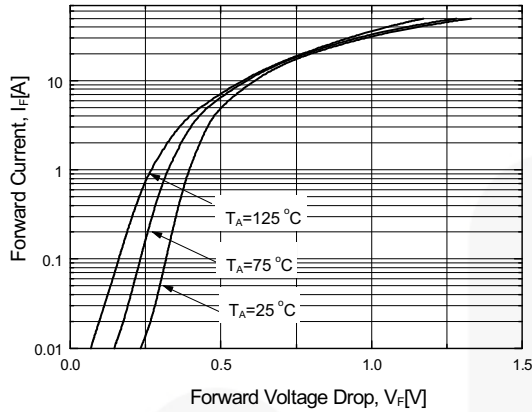


Figure 1. Typical Forward Characteristics

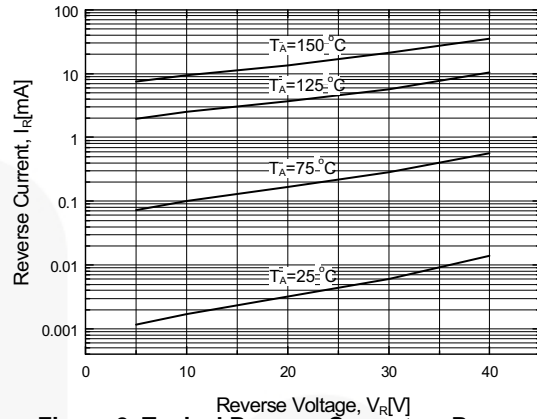


Figure 2. Typical Reverse Current vs. Reverse Voltage

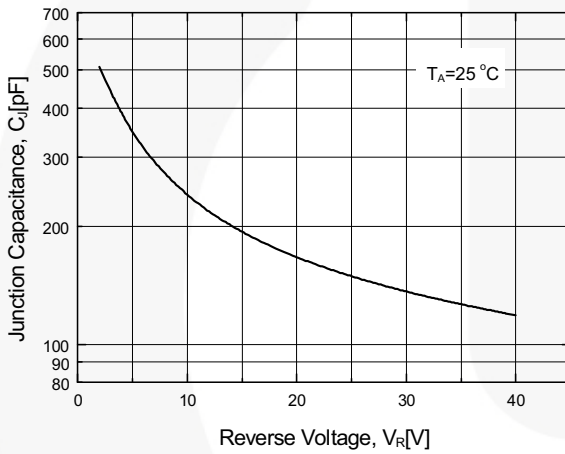


Figure 3. Typical Junction Capacitance

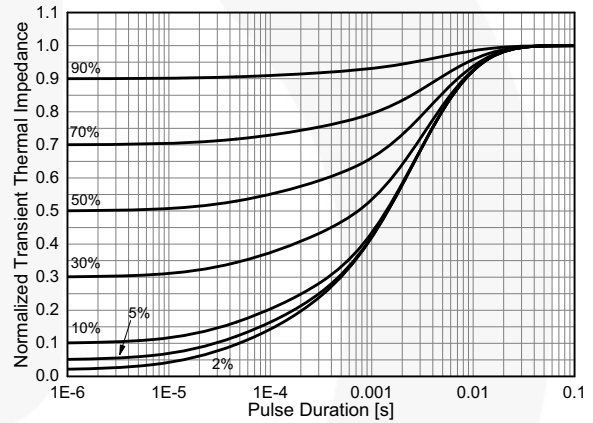


Figure 4. Thermal Impedance Characteristics

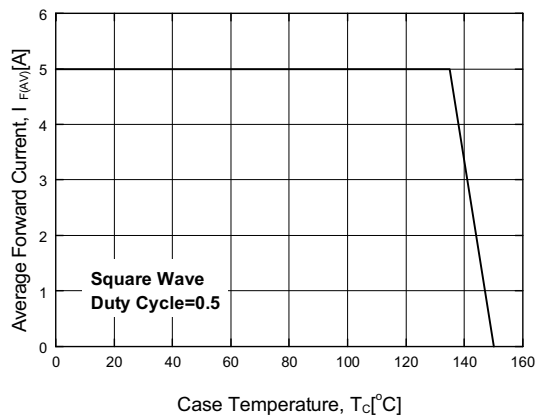


Figure 5. Forward Current Derating Curve

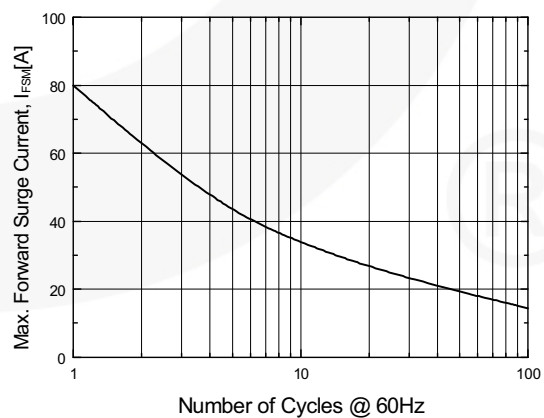
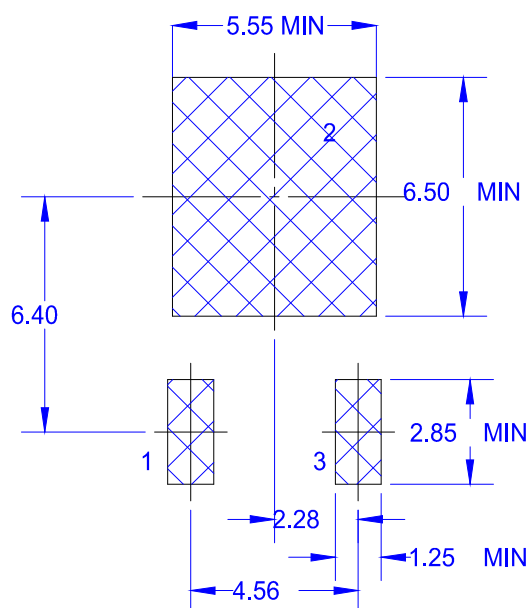
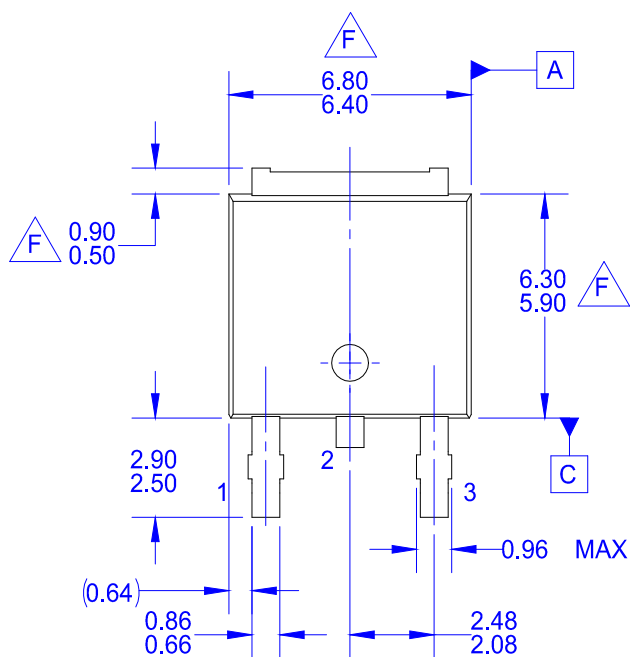
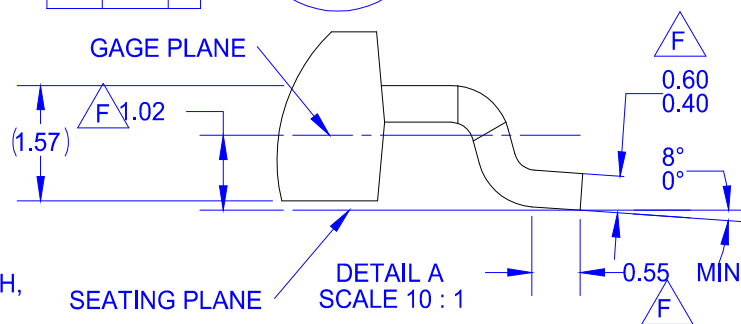
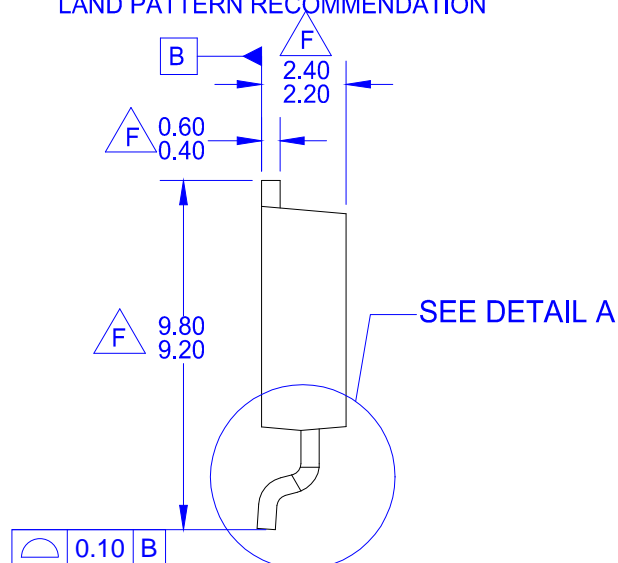
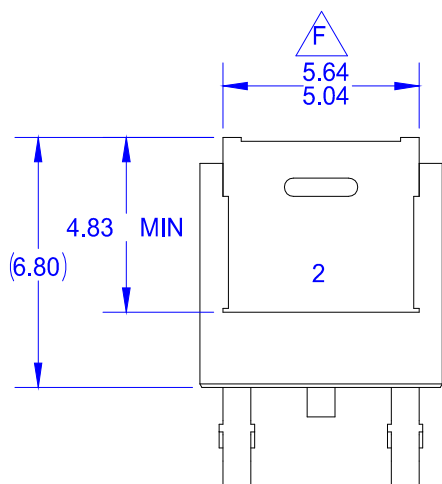


Figure 6. Non-Repetitive Surge Current



LAND PATTERN RECOMMENDATION



NOTES: UNLESS OTHERWISE SPECIFIED

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